United Utilities Water Limited
PR14 Reconciliation

July 2018

Background and purpose of this document

During 2018, all Water companies including United Utilities will be publishing both their Annual Performance Reports (APR) and their 2019 price review (PR19) business plans.

Our Annual Performance Report, which we have published alongside this submission, provides customers and other stakeholders with a detailed and transparent commentary on our performance in 2017/18. Our PR19 business plan, which will be published in September, sets out the detail of our proposals for the 2020 to 2025 period.

Although the focus of our PR19 business plans is the 2020-25 period, the plan needs to take account of the incentive regimes that apply to our actual and anticipated performance in the 2015 to 2020 period. We have therefore added additional information to our 2017/18 Annual Performance Report setting out how we anticipate we will perform in the remaining two years of the 2015 to 2020 period.

This document, which is being provided in advance of the main PR19 business plan submissions, sets out how we have performed against the PR14 incentive regimes for the first three years of the AMP6 period and how we expect to perform in the final two years of the period. It also sets out how this performance is reflected in revenue and the opening RCV adjustments that would be made as part of the PR19 process.

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Executive summary

1. **Delivery in AMP 6 against a challenging set of performance commitments across water and wastewater:** We expect to earn a £10m net ODI reward over the regulatory period
2. **Top half sector performance on SIM overall, ending the AMP as upper quartile WASC:** Eligible for a £12.69m reward, based on consistent application of PR14 methodology
3. **Recognised as a strongly performing company across a range of metrics:**
    a. Four star EA rating – third consecutive year of industry leading environmental performance
    b. World Class status on Dow Jones Sustainability Index
    c. Retained "self-assurance" status on Ofwat company monitoring framework
    d. Top water and sewerage company on UK Customer Service Institute rankings

- **Strong performance in delivering West Cumbria pipeline ahead of schedule:** Early completion of work expected in first year of AMP7
- **£100m totex outperformance against AMP6 scope:** Targeted £250m reinvestment for resilience leads to £150m reported overspend against PR14 totex assumption
  Proposed reconciliations developed using relevant PR14 rulebook: Net impact of AMP6 adjustments increase average customer bills in 2024/25 by less than £1

1 Overview of PR14 Reconciliation

At PR14, Ofwat set companies stretching performance and efficiency targets for performance during the period from April 2015 to March 2020. UUW was set a significant efficiency challenge over and above those reflected in its plan and allowed menu totex in the final determination was £140m lower than in our final proposals. Targets for a number of performance commitments were also increased, notably sewer flooding performance and our performance under our water quality service index measure.

We have had to deliver on a number of fronts to meet these challenge. In particular, we have had to challenge costs, rework scope and find innovations in efficiency and delivery. During AMP6 we continued a company-wide modernisation programme based on "Systems thinking". This approach optimises end-to-end business processes, making better use of data and information technology, supported by targeted upskilling of employees. This capability allows us to capture large volumes of data and to monitor and control our systems centrally from our Integrated Control Centre and has facilitated a more proactive approach to our operations, which is delivering enhanced levels of service and resilience along with sustainable improvements in efficiency.

We are seeing the benefits of this approach. In 2017/18 we achieved our best ever scores against Ofwat's qualitative Service Incentive Mechanism (SIM), positioning us first in the industry in the final qualitative survey of the year. In July 2017, we retained our Industry Leading Company status, for the second year, in the Environment Agency's Environmental Performance Assessment and expect to retain our 4* rating for three years in a row in July 2018.

We have maintained our strong environmental, social and governance credentials, throughout the period, retaining a World Class rating in the Dow Jones Sustainability Index for the tenth consecutive year against a benchmark of ever-rising standards. And in July 2018 we ranked the top water and sewerage company by the UKCSI.

During AMP6, the retail non-household market was opened to competition. UUW exited this market and transferred this area of the business to a joint venture with Severn Trent - Water Plus - on 1st April 2016.

We have also experienced a number of significant operational incidents during the period. Severe winter storms in 2016/17 and a major water quality incident at our Franklaw WTW in Lancashire both resulted in major service disruptions to customers. Following these incidents we undertook comprehensive lessons learnt exercises and have shared the lessons with industry stakeholders.

In early 2018 the country suffered a severe weather event with a sharp freeze followed by a rapid thaw. This event presented significant operational challenges for UUW, although we were able to minimise the impact on customers by implementing many of the lessons that we had learnt from Franklaw, from deeper understanding of customers and by successfully utilising the systems thinking approach and managing the incident from our internal control centre.

1.1 Wholesale performance commitments

Performance against our performance commitments and outcome delivery incentives is reported within our Annual Performance Report (APR). To support this submission our 2017/18 APR contains additional detail on our predicted performance in the remaining two years of the AMP6 period.

The detailed review of the performance against each measure for the first three years of the period, together with our prediction of likely performance against each measure for the remaining two years of the period, from this year's APR, has been reproduced as **Appendix A** to this document.

A number of our performance commitments measured the delivery of the outcomes from the AMP6 quality enhancement programmes or other similar programmes of work. Full details on the delivery of all the projects within these programmes is set out in **Appendix C** to this document.

Our AMP6 performance commitments set through the PR14 process were challenging and required significant improvement to our operational performance in order to avoid a net penalty and earn a net reward.

Although our performance levels have generally improved – in many cases significantly so - we have not always been able to meet or outperform the performance targets set. Our performance to date on the wastewater service has been positive and in the first three years of the period, has generated a net outperformance payment of £31.28m. Performance against the water service measures has been more challenging and has generated a net penalty of £29.11m.

The performance targets for some of our measures also become increasingly challenging in the latter years of the period. Overall we estimate that we will end the five year period with a net ODI reward of £10m across water and wastewater. This includes the £21m reward that we anticipate as a consequence of accelerating the major scheme that we are implementing in Cumbria to allow us to supply the West Cumbria area with water from Thirlmere reservoir.

Experience of our ODIs over AMP6 has demonstrated that several measures are highly sensitive to external factors which are partially or substantially outside our control, for example if the dry spell that we were experiencing in the spring of 2018 continued for an extended period. Therefore it is difficult to accurately predict the exact penalty or reward that we will achieve against our measures, although we would expect to probably end the period with a net reward of between zero and £30m.

1.2 Wholesale totex incentives

As part of the PR14 process we made a totex menu choice of 106.2 for wastewater and 100.5 for the water service. This resulted in an assumed totex for the water service of £2.348bn and an assumed totex for the wastewater service of £2.940bn.

During the AMP6 period, we significantly accelerated our investment programmes to deliver a better performance against our performance commitments to support the implementation of our systems thinking

capability. We expect to be able to deliver the AMP6 programme of work on a like for like and outturn cost basis, for approximately £100m lower than the totex assumed at PR14.

We have however, committed to an additional £250 million of investment to support resilience projects bringing additional customer benefits both over the next three years and in the longer term. Therefore, we are anticipating that total totex spend will be approximately £150m higher than assumed within PR14 price limits.

1.3 Household Retail incentives

During the AMP6 period we implemented a major transformation programme designed to allow us to both reduce our cost to serve and improve customer service, with investment in this programme being underpinned by an ODI. As we have revised the scope of this programme and have been able to deliver the programme at lower cost than anticipated, we will be returning £4.27m (2017/18 prices) of allowed depreciation to customers. Full details of this programme of work and the basis for the proposed adjustment are set out in **Appendix B** to this document.

The success of this programme has been an important driver in the 25% reduction planned to our costs in the AMP6 period. Our customer service as measured through the Service Incentive Mechanism (SIM) has also significantly improved. Although final performance against this measure is dependent upon the relative performance of other companies, using the PR14 approach to calculating SIM rewards we are predicting that our improved position will generate reward of £12.69m nominal (£11.45m 2017/18 prices).

1.4 Other incentive mechanisms

Wholesale Revenue Forecasting Incentive Mechanism (WRFIM) - The WRFIM incentivises companies to improve their revenue forecasting by adjusting future revenues during the AMP6 period to account for any over or under recovery in previous years and applying a penalty if companies over or under recover by 2% more or less than the allowed revenue. Since 2015/16, the wholesale water variance has been no more than 1.3%, being at 1.3% in 2015/16, and 0.2% and 0.4% in 2016/17 and 2017/18 respectively. The wholesale wastewater variance has been no more than 0.2% this AMP. Therefore we have not incurred any penalty against this mechanism to date and, based on our latest forecasts, we do not expect to incur one in the remaining two years.

Household retail mechanism - The household retail price control also provides for annual revenue adjustment factors to reflect differences between actual and expected customer numbers and numbers of metered customers. Customer numbers have been slightly above PR14 assumptions. We are proposing to recover £6.34m (2017/18 prices) of additional revenue, in line with this mechanism.

Land Sales - The land disposals mechanism returns money to customers via reductions to the RCV, from the net proceeds of disposals of land during the period, after the deduction of all offsetting costs. The value of this during the AMP6 period is £6.57m.

Water trading incentives - To encourage better, more sustainable use of water resources within the UK, incentives designed to encourage efficient water trading between companies were introduced for AMP6. We do not expect to benefit from this incentive during the AMP6 period.

Reconciling 2010-15 performance - The PR14 price review and final determination made revenue and RCV adjustments that reflected the anticipated AMP5 outturn position against the AMP5 incentive mechanisms. Due to the timing of the review, these adjustments were based upon four years of actual performance and one year of predicted performance. Ofwat published the final position on these measures in December 2017 and these adjustments have been reflected within this submission.

CIS RCV inflation adjustment - Following the PR14 final determination Ofwat identified an adjustment to indexation that should be made in determining the starting RCV for AMP7. The value for each company was set out in its 2010-2015 reconciliation document published in December 2017. This adjustment has also been reflected within this submission.

1.5 Application of adjustments to revenue and regulatory capital value

As part of the PR19 process we will adjust the required revenue and wholesale regulatory capital value (RCV) to account for our actual and forecast performance against the incentive mechanisms set out above.

The incentive mechanisms cover the full range of activities within the wholesale and retail businesses, rewarding or penalising companies to ensure that customer bills reflect actual performance and actual customer service. Revenue requirements and wholesale regulatory capital value (RCV) adjustments are calculated using the process and models set out within Ofwat's relevant "PR14 reconciliation rulebook" methodology[1] [2].

As part of the PR14 process, the wholesale incentive mechanisms were applied to the water and wastewater price controls. However, for PR19, the impact of these incentives will need to be attributed across four PR19 wholesale price controls. We have therefore made a number of assumptions in attributing these incentives, which are set out in Section 2 of this document.

At aggregate level the adjustments would increase allowed revenues by £12.38m (2017/18 prices), which translates to £13.22m when applied during the AMP7 period, taking account of financing adjustments. The adjustments also reduce the starting RCV by £14.82m.

The following five tables provide a summary of how we are proposing that these revenue or RCV adjustments are applied to each of the five PR19 price controls.

Table 1 Reconciling AMP6 performance for Water network plus (17/18 CPIH FYA)

Water network plus (£m)	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Total revenue adjustment	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	**(1.35)**
RCV adjustment	17.94					**17.94**

Table 2 Reconciling AMP6 performance for Water resources (17/18 CPIH FYA)

Water Resources (£m)	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Total revenue adjustment	0.16	0.16	0.16	0.16	0.16	**0.78**
RCV adjustment	0.00					**0.00**

Table 3 Reconciling AMP6 performance for Wastewater network plus (17/18 CPIH FYA)

Wastewater network plus (£m)	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Total revenue adjustment	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	**(0.30)**
RCV adjustment	(32.76)					**(32.76)**

Table 4 Reconciling AMP6 performance for Bioresources (17/18 CPIH FYA)

Bioresources (£m)	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Total revenue adjustment	0.00	0.00	0.00	0.00	0.00	**0.00**
RCV adjustment	0.00					**0.00**

Table 5 Reconciling AMP6 performance for Retail household (17/18 CPIH FYA)

Retail Household (£m)	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Total revenue adjustment	2.82	2.82	2.82	2.82	2.82	**14.09**

The aggregate adjustments shown in the tables above are made up from adjustments through eight separate incentive mechanisms. The impact of each of these mechanisms on PR19 revenues or the PR19 opening RCV value are summarised below and set out in detail in Section 2 of this document.

[1] UUW's PR14 outcomes are aggregated at service level with the net value being applied as a RCV adjustment (reward) or revenue adjustment (penalty). As such, the rulebook models have been applied in this way.
[2] UUW has a financial ODI which applies to the household retail control, as no model exists for household retail ODIs a wholesale model has been used to determine the impact of this ODI on PR19 revenue.

Revenue adjustments by component

The revenue adjustments resulting from each of the AMP6 reconciliation mechanisms that apply to each PR19 price control are set out in ***Tables 6 to 8*** below.

Table 6 Water Service revenue adjustments £m 2017/18 CPIH FYA prices (post profiling adjustment)

Water Revenue Adjustments	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
Final 2010-15 reconciliation	**(12.493)**	(2.499)	(2.499)	(2.499)	(2.499)	(2.499)
Water trading	**0.00**	0.00	0.00	0.00	0.00	0.00
WRFIM	**0.00**	0.00	0.00	0.00	0.00	0.00
Outcome delivery incentive (net penalty)	**(25.088)**	(5.018)	(5.018)	(5.018)	(5.018)	(5.018)
Totex menu revenue adjustment	**37.009**	7.402	7.402	7.402	7.402	7.402
Water service: revenue adjustment	**(0.572)**	(0.114)	(0.114)	(0.114)	(0.114)	(0.114)

Table 7 Wastewater network plus revenue adjustments £m 2017/18 CPIH FYA prices (post profiling adjustment)

Wastewater Revenue Adjustments	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
Final 2010-15 reconciliation	**(12.747)**	(2.549)	(2.549)	(2.549)	(2.549)	(2.549)
WRFIM	**0.00**	0.00	0.00	0.00	0.00	0.00
Outcome delivery incentive (net penalty)	**0.00**	0.00	0.00	0.00	0.00	0.00
Totex menu revenue adjustment	**12.448**	2.490	2.490	2.490	2.490	2.490
Wastewater service: revenue adjustment	**(0.299)**	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)

Table 8 Household retail revenue adjustments £m 2017/18 CPIH FYA prices (post profiling adjustment)

Household Retail Revenue adjustments	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
Household retail revenue	**6.438**	1.288	1.288	1.288	1.288	1.288
Service Incentive Mechanism (SIM)	**12.225**	2.445	2.445	2.445	2.445	2.445
Customer Experience (CEP)	**(4.565)**	(0.913)	(0.913)	(0.913)	(0.913)	(0.913)
Household retail revenue adjustment	**14.098**	2.820	2.820	2.820	2.820	2.820

As can be seen from ***Tables 6 to 8*** above the PR14 incentive mechanisms generate:

- A net reduction to wholesale water revenues of £0.57m
- A net reduction to wholesale wastewater revenues of £0.30m and,
- A net increase to household retail revenues of £14.1m

Regulatory Capital Value adjustments by component

The adjustments for each mechanism that we are proposing to make to the opening water network plus and wastewater network plus RCV are set out in ***Tables 9 to 12*** below.

Table 9 PR14 Water service RCV reconciliation adjustments expressed in 2017/18 FYA CPIH deflated price base

Water RCV Adjustments excluding the PR09 CIS correction	£m
Net PR14 RCV adjustment carried forward to PR19	36.69
Outcome delivery incentives net reward	0.00
AMP6 Totex menu RCV adjustment	67.86
NPV effect of 50% of proceeds of land disposals 2014-20	(6.26)
Other adjustment to wholesale water RCV	0.000
Total Water RCV Adjustment	98.29

Table 10 All Water Service RCV adjustments expressed in 2017/18 FYA CPIH deflated price base

Water RCV Adjustments (total)	£m
Net impact of PR14 mechanisms	98.29
PR09 CIS RCV indexation adjustment	(80.35)
Total Water RCV Adjustment	17.94

Table 11 PR14 Wastewater service RCV reconciliation adjustments expressed in 2017/18 FYA CPIH deflated price base

Wastewater RCV Adjustments excluding the PR09 CIS correction	£m
Net PR14 RCV adjustment carried forward to PR19	52.93
Outcome delivery incentives net reward	35.20
Totex menu RCV adjustment	15.51
NPV effect of 50% of proceeds of land disposals 2014-20	(0.31)
Other adjustment to wholesale wastewater RCV	0.000
Total Wastewater RCV adjustment	103.33

Table 12 All Wastewater Service RCV adjustments expressed in 2017/18 FYA CPIH deflated price base

Wastewater RCV Adjustments	£m
Net impact of PR14 mechanisms	103.33
CIS RCV indexation adjustment as at 31 March 2015	(136.09)
Total Wastewater RCV adjustment	(32.76)

As can be seen from ***Tables 9 and 11*** above the PR14 incentive mechanisms generate a net increase to the opening RCV for both the water and wastewater services. As shown in ***Tables 10 and 12***, this increase is however offset by a reduction to each RCV as a consequence of the PR09 CIS indexation adjustment.

The net impact of these adjustments is to increase the Water RCV by £17.94m and to reduce the Wastewater RCV by £32.76m.

1.6 Impact of the adjustments on customer bills

Customer bills in the AMP7 period will be made up from separate wholesale and retail components.

The PR19 process will determine the revenue that UUW can recover through the wholesale and retail price controls. This revenue is obtained through household customer or non-household customer bills.

Impact of the adjustments on wholesale component of customer bills

There are two forms of wholesale adjustments: direct adjustments to revenue or indirect adjustments to revenue made through "midnight adjustments" to the opening AMP7 RCV. The adjustments to the RCV are recovered over the longer term with only a proportion of this value being recovered through bills in the AMP7 period.

UUW also needs to pay tax, so if the adjustments increase revenue we pay more tax and if they reduce revenue we would pay less tax. The total adjustment to AMP7 wholesale revenue is the sum of these three components. The wholesale water and wastewater revenue adjustments are set out in Figure 1 and 2 below.

Figure 1 Impact of the adjustments on Water Service revenues (expressed in outturn prices).

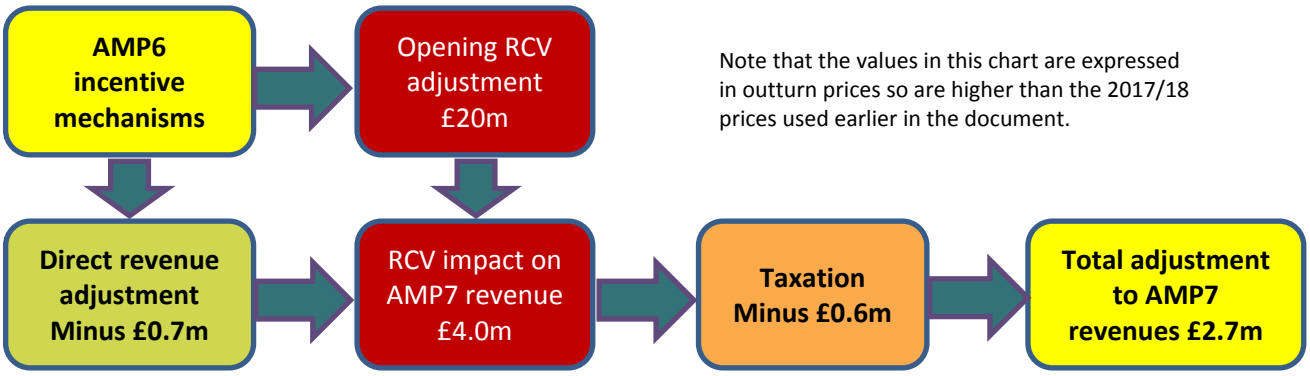
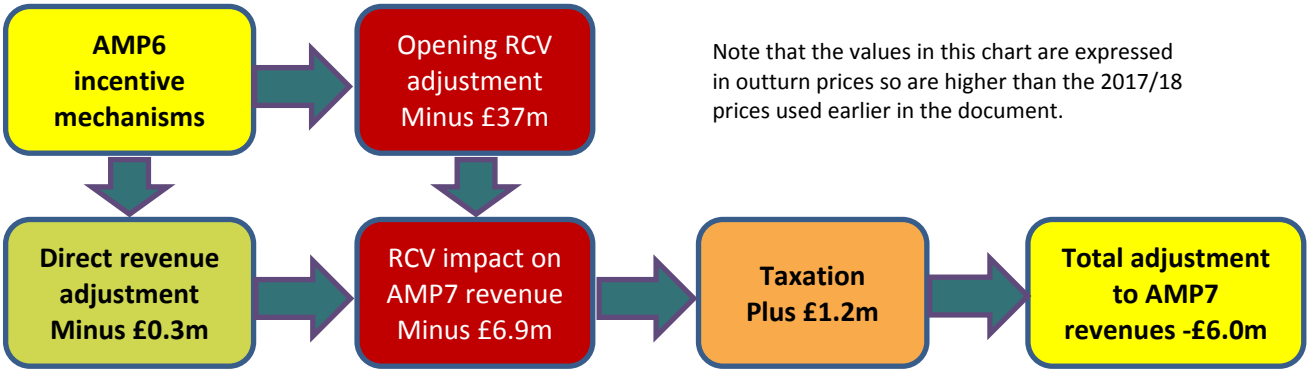


Figure 2 Impact of the adjustments on Wastewater Service revenues (expressed in outturn prices).



Approximately two thirds of this wholesale revenue is recovered through household customer bills, with the household revenue being recovered through UUW s approximately 3.1m customers and then divided by 5 to produce an annual average bill impact. This process is demonstrated in ***Table 13*** below.

Table 13 Indicative impact on average household bills expressed in 2017/18 FYA CPIH deflated price base

	Adjustment to UUW revenue in AMP7 (£m)	Revenue impact through Non Household bills (£m)	Revenue impact through Household bills (£m)	5 year household bill impact (£)	Annual average household bill impact (£)
Water	**2.7**	0.9	1.8	0.58	0.12
Wastewater	**(6.0)**	(2.0)	(4.0)	(1.29)	(0.26)
Wholesale total	**(3.2)**	**(1.2)**	**(2.2)**	**(0.71)**	**(0.14)**

Impact of the retail adjustments on customer bills

The net impact of the PR14 incentive regimes will be to increase household retail revenues by £14m (2017/18 prices, which equates to approximately £16.5m at outturn prices or £3.3m for each year of the AMP7 period.

As UUW has approximately 3.1 million household customers this would increase the average annual household retail charge by approximately £1.07 per year.

Combined impact on average household bills

Table 14 below shows how the adjustments to wholesale and retail revenues are combined to produce the net impact of the adjustments on an average household customer bill.

Table 14 Indicative impact on average household bills expressed in 2017/18 FYA CPIH deflated price base

Bill component	Impact of the adjustments on annual average household bills (£)
Wholesale water impact (£)	0.12
Wholesale wastewater impact (£)	(0.26)
Household retail impact (£)	1.07
Net impact on average household bill (£)	0.93

As can be seen the impact of the adjustment mechanisms would be to increase average household bills by approximately £0.93 per annum for the AMP7 period.

The impacts of each incentive mechanism on average household bills is set out in ***Table 24*** within Section 2 below.

1.7 Engagement on our AMP6 performance

Regular, transparent reporting of progress

As part of our last price review submission, we committed to providing annual reporting on progress against our targets during the AMP6 period. We also committed that our reporting would be overseen by YourVoice, the North West Customer Challenge Group, which had overseen our engagement with customers during the development of our PR14 business plan.

In line with this commitment, we currently develop and publish an **Annual Performance Report** and a range of supporting publications, which are designed to transparently set out our progress against our AMP6 commitments and targets.

To minimise the potential for ambiguity in the interpretation of our performance commitments, we also developed and published a performance commitment definition document. This document is designed to complement the information contained with the United Utilities company specific appendix to the PR14 final determination and provides detailed definitions and interpretations for all of our performance commitments. Our definition document for AMP6 is published on our web site and is available via this link.

Two key aspects of our annual reporting are the consultation and the publication of our annual assurance plans and the publication of a customer-focused version of the APR, which achieves the Crystal Mark for plain English. We also use other channels to explain our performance to customers and other stakeholders.

We have worked with YourVoice to review and continually enhance the coverage and clarity of our reports and by taking on board their comments, we have sought to improve both the presentation of, and engagement with our reporting.

Feedback on our reporting

To obtain feedback - and to continue to improve the coverage and clarity of our Annual Performance Report - over two weeks in October 2017 we posted items on social media about our APR, using advertising and geographical targeting to gain large exposure to the North West.

One set of posts was targeted to drive online traffic towards detailed information about current performance levels and this achieved 10,000 views (6,000 to the annual performance webpage, the rest across blogs used to raise awareness on specific points such as water efficiency).

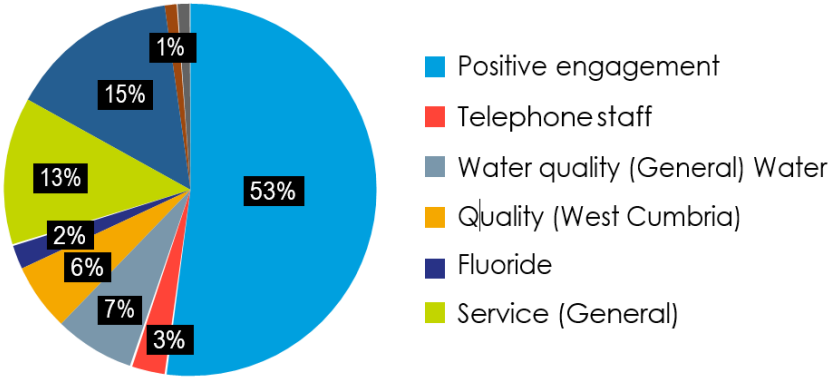
Prior to this campaign, we received just 120 page views over a two week period so this was a marked contrast. The table below summarises the scale of engagement achieved on the APR.

Table 15 Scale of engagement

Platform	Total reach	Total engagements
Facebook	311,895	6,566
Twitter	289,786	13,879
LinkedIn	40,580	678

Our posts were designed to encourage two way dialogue with customers and generated exchanges on a variety of topics. The chart opposite shows a breakdown of the 380 social media conversations.

Feedback topics on social media campaign October 2017



A range of targeted publications

The Annual Performance Report (APR) is one of a number of publications on our website that together are designed to ensure that the reporting of the performance of UUW and the United Utilities Group is reliable, accurate and transparent.

The key report from a corporate and financial perspective is the **United Utilities Group PLC Annual Report and Financial Statements**[3]. This report is now published as an interactive web page on a dedicated micro site within the UU website and is designed to provide detailed information on the financial position and governance of the group, mainly targeted at equity and debt investors.

To complement this report, the **United Utilities Water Limited Annual Report and Financial Statements**[4] provides detailed information on the financial position of UUW and forms the basis of the Regulatory Accounts, which are set out within the Annual Performance Report.

Information to describe the way that the group has operated and demonstrate the extent to which we have upheld the highest standards of performance with respect to the way we work with employees, customers and our impact on the environment, is published on our **corporate responsibility website**[5]. This website is used to communicate relevant information more regularly than would be the case through a traditional annual report.

Engagement on the outcome of the PR14 reconciliation process

We have actively engaged with YourVoice on our performance against our performance commitments and where necessary on our improvement plans, throughout the AMP6 period.

We have also reviewed in more detail with YourVoice our approach to the three performance commitments where there is potential ambiguity of the outcome assessment. These are:

- A1: Drinking Water Safety Plan risk score (Wholesale Water price control)
- S-D3: Rivers improved wastewater (Km) (Wholesale Wastewater price control)
- R-A2: Customer experience programme (Household retail price control)

We proposed changes to the two wholesale ODIs, with these changes being reflected in a corrigendum published on Ofwat's website. The basis and potential impact of these revisions had been reviewed in detail in advance by members of YourVoice, which provided support for the revisions.

The customer experience measure and the impact of the improvements that this measure has been designed to generate, has also been reviewed with YourVoice several times during the period. We reviewed details of the programme, including the rationale for the revised scope of the programme, with the group. Details of this measure and the reviews and assurance that have been applied are set out in **Appendix B**.

The PR14 reconciliation submission, including the results of the PR14 incentive mechanisms and the impact that this will have upon AMP7 bills was reviewed with YourVoice meetings and sub-group meetings in May, June and July 2018. As part of this review it was agreed that anticipated future performance levels would be added to the customer summary of our 2017/18 APR, which is available via the attached link.

[3] The United Utilities Group PLC Annual Report and Financial Statements is available via the following link: http://unitedutilities.annualreport2018.com/

[4] The United Utilities Water Limited Annual Report and Financial Statements is available via the following link: https://www.unitedutilities.com/corporate/investors/reports-and-results/company-reports/

[5] The corporate responsibility website is available via the following link: https://corporate.unitedutilities.com/corporate/responsibility/

1.8 Assurance

The data used to populate the data tables and models for this submission has been derived from three main sources:

- **Actual data for the first three years of the AMP6 period:** this data has been subject to detailed assurance processes as set out within each year's APR
- **Predicted data for the remaining two years of the AMP6 period:** this data has been subject to level 1 (Executive director) review and sign off and has been subject to independent review
- **Historic data from AMP5 or previous periods:** this data has already been determined by Ofwat and has been used without any subsequent adjustments within this submission

The actual data for the first three years of the period, has been subject to a detailed three lines of assurance approach.

- Data providers, their managers and business unit directors have produced and approve the data and audit trails that were developed to support the values and data reported within this submission. Reported data is reviewed and signed off before presentation to the UUW Board.
- The Economic Regulation team has provided the assurance and governance framework for the data collection and review process and has provided oversight of the application of this process. UU Corporate Audit has undertaken a review of the accuracy of the data within the submission and to confirm that the assurance framework has been fully applied.
- The UUW Financial auditor (KPMG) or the UUW Independent Technical Auditor (Halcrow Management Sciences (HMS)) has reviewed each of the data methodologies and audit trails and have provided audit opinions or independent technical assurance statements for the UUW Board. These opinions or statements are published within each year's Annual Performance Report.

The data for the final two years has been based upon predicted performance. Assumptions for the final two years have been developed on a bottom up basis and have been developed to be consistent with historic performance or expenditure levels, but taking account of ongoing plans and proposed future interventions. The predicted performance levels have been reviewed and endorsed by the director accountable for delivering the performance or expenditure levels.

The methodology used to undertake the analysis and the checks and controls that have been put in place to confirm that this data has been transposed and analysed correctly has been fully documented, with these documents and supporting data being subject to detailed internal governance and review processes.

The information within the submission has also been subject to an independent review undertaken by UU Corporate Audit. This review had the objectives of confirming:

- The validity and consistency of the data reported in the supporting data tables
- Consistency of the commentary with the underlying data
- Compliance of the reported data and commentary with key aspects of PR19 methodology and PR14 reconciliation rulebook
- Overall governance arrangements in place to ensure the regulatory data is complete & accurate and reported in line with the required timescales
- Confirmation that assurance activities have been completed
- Board Assurance statements are supportable, in particular in respect of the stated assurance activities

The review concluded that: "*Based on the work carried out, we are satisfied that the overall governance and assurance arrangements in place to ensure the accuracy and completeness of PR14 reconciliation early submission data, have been followed. Our sample testing also confirmed that the submission data reported is supported by underlying records and systems, is consistent with previously reported data within the Annual Performance Report, and has been compiled in accordance with the PR14 Rulebook.*

In addition, we are satisfied that the statements within the associated Board Assurance Statement are supportable."

The scope of the UUW Technical Auditors review of the 2017/18 regulatory reporting process (RR18) was also extended this year to review the forecast data for the remaining two years of the period.

This review is published within our 2017/18 Annual Performance Report and concluded that "*On the basis of our audit work and with exceptions as noted in Appendix 1 and 2, we are satisfied that the information within and which supports the RR18 has been assembled using appropriate data and methodologies and provides a reliable representation of Company performance. There is also good evidence of senior management engagement, governance and programme management".*

The PR14 reconciliation submission and the results of the assurance process were reviewed at the June 2018 UUW Board meeting, which endorsed the submission and approved the signature of a supporting Board Assurance statement.

Board Assurance statement

We, the Board of United Utilities Water Limited (UUW, or the Company) are satisfied that:

- The data and information contained within this submission has been subject to the same robust approach to assurance and governance that we are using for our PR19 business plan submission
- The information provided sets out how the company has performed, and is forecast to perform, over the 2015-20 period, against the PR14 Final determination and our statutory and licence obligations
- The proposed adjustments follow the PR14 reconciliation rulebook methodology, with any variations to the default application of the rulebook clearly identified

In making this statement we have considered the evidence provided by the Executive to the UUW Board, the assurance provided by KPMG and CH2M on the factual AMP6 data reported for the first three years of the submission and the review of the submission undertaken by UU Corporate Audit.

The Corporate Audit review had the objectives of assuring:

- The validity and consistency of the data reported in the supporting data tables
- Consistency of the commentary with the underlying data
- Compliance of the reported data and commentary with key aspects of PR19 methodology and PR14 reconciliation rulebook
- Overall governance arrangements in place to ensure the regulatory data is complete & accurate and reported in line with the required timescales
- Confirmation that assurance activities have been completed
- Board Assurance statements are supportable, in particular in respect of the stated assurance activities

Signed on behalf of the Board

Steve Mogford

Chief Executive Officer

This board assurance statement was approved at a meeting of the board of directors of United Utilities Water Limited on 25 June 2018 and signed on its behalf by Steve Mogford, Chief Executive Officer.

2 Impact of the reconciliation mechanisms

Overview of the incentive mechanisms

As part of the PR19 process, we will make adjustments to the AMP7 required revenue and starting RCV to account for our actual and forecast performance within the current AMP6 period against the assumptions made at PR14. We will make these adjustments using the prescribed incentive mechanisms.

These mechanisms cover the full range of activities within the Wholesale and Household Retail businesses, rewarding or penalising the company to ensure that customer bills are a fair reflection of actual performance compared to the assumptions made in the PR14 final determination. The ten adjustment mechanisms are summarised below:

Outcome delivery incentives (wholesale water / wholesale wastewater / household retail)

Outcome Delivery Incentives (ODIs) were new mechanisms for AMP6 that were designed to incentivise companies to deliver and outperform performance targets, and to protect customers where companies did not deliver against the range of performance commitments embedded in their final determinations. They also provide incentives to companies to improve performance beyond these commitments, where it is cost beneficial to do so. Each measure is defined individually within the company specific appendix to the PR14 Final Determination. UUW's measures all apply at the end of the period with adjustments made by:

- Summing the aggregate five year penalties and rewards for all measures within a service to produce a net penalty or reward for each service.
- If this generates a net penalty this is applied as an AMP7 revenue reduction at the service level. If this generates a net reward this is applied as an increase to the AMP7 starting RCV for the service.

Service Incentive Mechanism (SIM)

Ofwat's Service Incentive Mechanism (SIM) encourages water companies in England and Wales to provide better service to their customers by measuring customer satisfaction. The SIM allows a comparison of companies' performance by measuring the following aspects of service delivery:

- The number of occasions where customers have made contact when something has gone wrong or appears to have gone wrong, for example, phoning about a billing error or writing to complain about a water supply problem.
- A customer survey measuring how well companies have handled all types of customer contacts, not just when things have gone wrong.

An aggregate SIM score is calculated based on performance against these two elements. At PR14 penalties and rewards were then based on the degree of variance between each company's final score and the corresponding industry average, with standard deviations used to set maximum reward/penalty thresholds.

Companies which have a strong performance on SIM - as measured by their ranking relative to other companies – can earn a financial reward. Companies with a weaker performance can receive a financial penalty.

Totex menu reconciliation

The PR14 final determination set total expenditure (totex) for the 2015-20 period for UUW's wholesale water and wholesale wastewater revenue allowances. The totex menu incentive mechanism accounts for variances against the totex assumptions embedded in the company's final determination. The detail of this mechanism is complex, although it is based upon three main principles.

- All expenditure incurred in the five year period is treated the same whether that expenditure is capital expenditure ("capex") or operating expenditure ("opex").

- Variances in expenditure levels result in revisions to AMP7 revenues and opening regulatory capital values (RCV). An increase in expenditure results in an increase in revenue and RCV (using PR14 PAYG rates).
- Variances in expenditure levels are also subject to a pain/gain mechanism, which provides revenue incentives for companies to deliver lower expenditure and penalties where companies overspend.

These principles work together in a way such that if companies deliver their programme for a lower level of totex than assumed in the FD then this saving is shared between customers and the company. Equally, where the company spends more than was allowed at PR14, then both the company and customers contribute towards the additional expenditure.

Wholesale revenue forecasting incentive mechanism (WRFIM)

The Wholesale Revenue Forecasting Incentive Mechanism (WRFIM) is a new mechanism for AMP6 that replaces the PR09 Revenue Correction Mechanism (RCM). The design of the mechanism incentivises companies to improve their revenue forecasting within the wholesale price controls and reduces the impact on customer bills arising from revenue forecasting deviations by:

- Applying a financial penalty if over or under recovery of revenue falls outside the set error tolerance range (2%)
- Permitting the adjustment of future allowed revenues during the AMP to take account of over and under recoveries in previous years.

Household retail mechanism

The household retail price control is a total revenue control with annual revenue adjustment factors to reflect differences between actual and expected customer numbers and meter penetration. Total estimated allowed revenues are based on the projected numbers of customers and meter penetration set out in our business plan. If actual customer numbers or meter penetrations differ from these projected values, then a modification is required to allow household retail revenues to account for this.

Uncertainty mechanism (water rates)

The only uncertainty mechanism (notified item) within the AMP6 final determination is for water business rates. This mechanism reflected that there was uncertainty around the 2017 revaluation exercise and that these costs are outside of management control but still provided incentives to companies to engage with stakeholders to minimise the impact on customers. This was done by applying a cost sharing rate of 75% to the customer and 25% to the company.

Water trading

In order to encourage better, more sustainable use of water resources within the UK, water trading incentives designed to encourage efficient water trading between companies have been introduced. These incentives apply to both new water exports (sellers) and new water imports (buyers) for all new qualifying trades in 2015-20.

Land disposal

The land disposals mechanism has formed part of the regulatory price setting process since PR94. It ensures that customers benefit from land sales and is based on the net proceeds - after the deduction of all offsetting costs from disposals of protected land - including those already subject to regulation through Condition K of the licence.

Final reconciliation of 2010-15 performance

The PR14 final determination made revenue and RCV adjustments reflecting the anticipated AMP5 outturn position against the AMP5 targets and incentive mechanisms, which were set at PR09. Due to the timing of the review, these adjustments were based upon four years of actual performance and one year's predicted performance. Following company submissions and consultations during 2016 Ofwat published a determination in October 2016 and subsequently provided an update and revised adjustment values to the change protocol and overlap mechanisms in December 2017.

PR09 capital incentive scheme RCV inflation correction

The company's RCV varies in with inflation and relative additions/depreciation to the asset base. Following the PR14 FD Ofwat identified an indexation adjustment that should be applied in determining the starting RCV for AMP6. The value for each company was set out in the 2010-2015 reconciliation document published in December 2017 and it was determined that this adjustment should be applied to the RCV through the PR19 process.

Revenue adjustments summary

Several of the reconciliation mechanisms result in adjustment to revenues where there are variances to the assumptions set out at PR14. The revenue feeder model collates the outputs from the various reconciliation mechanisms and calculates a net revenue adjustment to apply to the AMP7 revenue requirements (and converts the adjustments into base year prices). ***Table 16*** summarises the adjustments that we have calculated based on our performance across the various mechanisms in AMP6.

Table 16 Summary of the revenue adjustments to be made to AMP7 £m 2017/18 CPIH FYA prices

	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
Water Resources	**0.779**	0.156	0.156	0.156	0.156	0.156
Water Network plus	**(1.352)**	(0.270)	(0.270)	(0.270)	(0.270)	(0.270)
Bioresources	**-**	-	-	-	-	-
Wastewater Network plus	**(0.299)**	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)
Retail Household	**14.098**	2.820	2.820	2.820	2.820	2.820

As part of our ongoing engagement with customers, we have sought their preference for how any required adjustments should be incorporated into their future bills. Research for PR14 told us that customers want certainty and consistency in their future bills. We have initiated similar research for PR19 and will ensure that the results of this research are reflected in the final bill profiling within the PR19 plan. For this submission, we have profiled the net adjustments on a constant annuity basis using a discount rate of 3.40% (the Appointed CPI(H) stripped cost of capital[6]) in order to smooth the impact over the 5 year period, thereby preventing any excessive spikes in bill profiles.

The adjustments for the reconciliation mechanisms within each price control are in ***Table 17 to Table 21*** below.

Table 17 Water Resources revenue adjustments to be made to AMP7 £m 2017/18 CPIH FYA prices

	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
ODI in-period revenue adjustment	-	-	-	-	-	-
ODI end of period revenue adjustment	**0.779**	0.156	0.156	0.156	0.156	0.156
Water trading total value of export incentive	**-**	-	-	-	-	-
Water trading total value of import incentive	**-**	-	-	-	-	-
Water resources revenue adjustment	**0.779**	**0.156**	**0.156**	**0.156**	**0.156**	**0.156**

[6] This WACC has been selected to align with Ofwat's response to query 398 within https://www.ofwat.gov.uk/publication/pr19-final-methodology-queries-answers-15-may-2018/

Table 18 Water network plus revenue adjustments to be made to AMP7 £m 2017/18 CPIH FYA prices

	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
Further 2010-15 reconciliation total adjustment revenue carry forward to PR19	**(12.493)**	(2.499)	(2.499)	(2.499)	(2.499)	(2.499)
ODI in-period revenue adjustment	**-**	-	-	-	-	-
ODI end of period revenue adjustment	**(25.868)**	(5.174)	(5.174)	(5.174)	(5.174)	(5.174)
Totex menu revenue adjustment	**37.009**	7.402	7.402	7.402	7.402	7.402
Water trading total value of export incentive	**-**	-	-	-	-	-
Water trading total value of import incentive	**-**	-	-	-	-	-
WRFIM total reward / (penalty) at the end of AMP6	**-**	-	-	-	-	-
Water network plus revenue adjustment	(1.352)	(0.270)	(0.270)	(0.270)	(0.270)	(0.270)

Table 19 Bioresources revenue adjustments to be made to AMP7 £m 2017/18 CPIH FYA prices

	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
ODI in-period revenue adjustment	-	-	-	-	-	-
ODI end of period revenue adjustment	-	-	-	-	-	-
Bioresources revenue adjustment	-	-	-	-	-	-

Table 20 Wastewater network plus revenue adjustments to be made to AMP7 £m 2017/18 CPIH FYA prices

	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
Further 2010-15 reconciliation total adjustment revenue carry forward to PR19	**(12.747)**	(2.549)	(2.549)	(2.549)	(2.549)	(2.549)
Wastewater: Totex menu revenue adjustment	**12.448**	2.490	2.490	2.490	2.490	2.490
ODI in-period revenue adjustment	**-**	-	-	-	-	-
ODI end of period revenue adjustment	**-**	-	-	-	-	-
WRFIM total reward / (penalty) at the end of AMP6	**-**	-	-	-	-	-
Wastewater network plus revenue adjustment	**(0.299)**	**(0.060)**	**(0.060)**	**(0.060)**	**(0.060)**	**(0.060)**

Table 21 Household retail revenue adjustments to be made to AMP7 £m 2017/18 CPIH FYA prices

	Subtotal	2020-21	2021-22	2022-23	2023-24	2024-25
ODI in-period revenue adjustment	**-**	-	-	-	-	-
ODI end of period revenue adjustment	**(4.565)**	(0.913)	(0.913)	(0.913)	(0.913)	(0.913)
Residential retail revenue adjustment	**6.438**	1.288	1.288	1.288	1.288	1.288
SIM forecast revenue adjustment	**12.225**	2.445	2.445	2.445	2.445	2.445
Household retail revenue adjustment	**14.098**	**2.820**	**2.820**	**2.820**	**2.820**	**2.820**

RCV adjustments summary

Several of the reconciliation mechanisms result in adjustment to the RCVs where there are variances to the assumptions set out at PR14. The RCV feeder model collates the outputs from the various reconciliation mechanisms and calculates the adjustment required to at the end of AMP6 - the "midnight adjustment" - and converts the adjustments into base year prices. The adjustments, which will be made to the Water and Wastewater RCVs before they are split out into the AMP7 price control components, are summarised in ***Table 22Table 22*** and ***Table 23*** below.

Table 22 Water midnight adjustments before allocation to AMP7 price control £m 2017/18 CPIH FYA prices

Water - Total adjustment RCV carry forward to PR19	36.690
Water - CIS RCV inflation adjustment as at 31 March 2015	(80.353)
Water - NPV effect of 50% of proceeds from disposals of interest in land	(6.264)
ODI end of period RCV adjustment - Water resources	-
Water - Totex menu RCV adjustment	67.863
Water - Other adjustment to wholesale RCV	-

Table 23 Wastewater midnight adjustments before allocation to AMP7 price control £m 2017/18 CPIH FYA prices

Wastewater - Total Adjustment RCV carry forward to PR19	52.930
Wastewater - CIS RCV inflation adjustment as at 31 March 2015	(136.086)
Wastewater - NPV effect of 50% of proceeds from disposals of interest in land	(0.307)
ODI end of period RCV adjustment - Wastewater network plus	35.197
Wastewater - Totex menu RCV adjustment	15.508
Wastewater - Other adjustment to wholesale RCV	-

Bill impacts

Company performance against the AMP6 incentive mechanisms impacts upon company revenues in AMP7 and in the longer term, with this adjustment in revenues being reflected in customer bills. The impact of each incentive mechanism on an average household bill is shown in the table below.

Table 24 Impact of adjustments on an average annual household bill (£)

Incentive mechanism	Bill Impact[7] (£)
Outcome delivery incentives - water	(1.48)
Outcome delivery incentives - wastewater	0.25
Outcome delivery incentives – retail household	(0.34)
Service Incentive mechanism (SIM)	0.92
Totex menu reconciliation - water	2.76
Totex menu reconciliation - wastewater	0.77
Wholesale revenue forecasting incentive mechanism	0
Household retail mechanism	0.49
Uncertainty mechanism (water rates)	0
Water trading	0
Land disposals	(0.06)
Final reconciliation of 2010 15 performance	(0.72)
PR09 Capital incentive scheme RCV inflation correction	(1.66)
Total	**0.93**

[7] Bill impact is calculated based on the average household bill

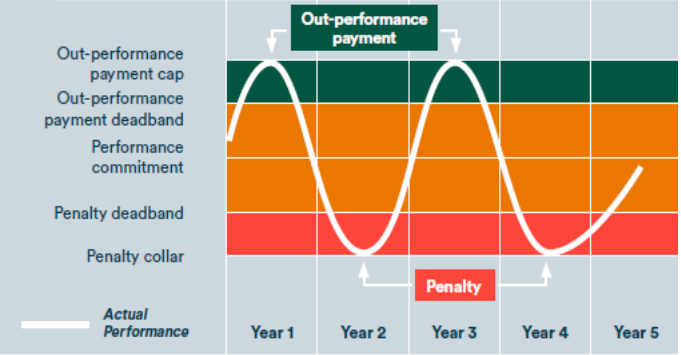
2.1 Outcome delivery incentive (ODI) mechanisms

Background on ODI mechanisms

At the 2014 Price Review, we set annual performance commitments based on what our customers and stakeholders told us about how they valued our services or the cost of service failure. Many of our 2015-2020 performance commitments were challenging and required a significant improvement on our 2010-2015 levels of performance.

Some of our performance commitments do not carry a penalty or reward, but they do have a 'reputational incentive', which means our success or failure in this area can affect how we are seen as a company.
Some reputational incentives may also be a focus for other regulators. For example, if we failed to maintain our Drinking Water Safety Plan score this would affect our reputation and the Drinking Water Inspectorate could take enforcement action against us.

Figure 3 how our AMP6 outcome delivery incentives work



Most of the performance commitments carry a financial penalty if we do not achieve them. For some performance commitments we can earn a financial reward if we outperform the commitment.

If we meet the performance commitments we 'break even' and do not earn a reward or a penalty. We only start to earn outperformance payments once we beat the target, or have to pay a penalty for underperformance if we drop below a target.

There is a limit or 'cap' to the amount we can be rewarded for each measure in any given year. Similarly, there is a limit (known as a 'collar') to the amount we can be penalised for underperforming.

However, we don't always enter penalty or reward territory immediately. For some measures, we have to outperform (or underperform) beyond a certain level before there is a financial impact. This is to ensure that rewards and penalties are applied where there is significant deviation from a target and not where the under or out-performance is attributable to natural or random variations only.

For example, where our assets are heavily influenced by third parties it might be difficult to meet our commitments. That is why there is a margin or buffer built into some measures (known as the 'deadband'), which means we do not immediately incur a penalty as soon as we fall below target. Similarly, for some measures we don't enter instant reward as soon as we outperform a target. We have to get beyond the reward 'deadband' to start earning a reward – to guarantee our great performance is the result of our own efforts and not the result of external factors, such as a mild winter, for example.

The financial and non-financial (reputational) ODIs as summarised in ***Table 25Table 25***.

Table 25 Composition of the package of ODIs for AMP6

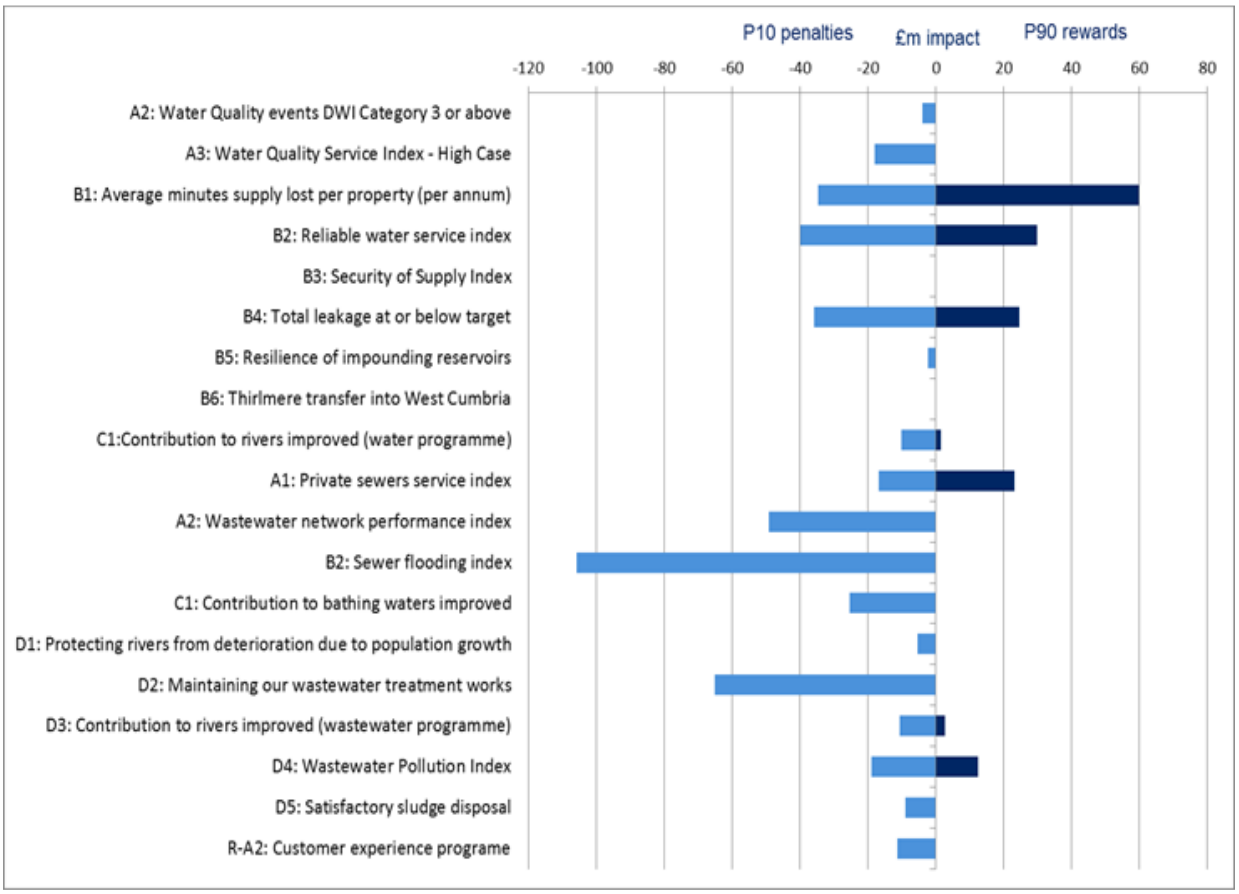
	Reward and penalty	Penalty-only	Non-financial incentive
Wholesale Water	6	3	3
Wholesale Wastewater	4[8]	6	1
Retail Household	1	1	2
Total	**11**	**10**	**6**

[8] Counting two performance commitments for pollution incidents separately

Wholesale Outcome delivery - overview and AMP6 challenge

The performance commitments that were determined through the PR14 process were challenging. As set out within the UU company specific appendix to the final determination the likelihood of a net penalty was significantly higher than the likelihood of a net reward.

Figure 4 Overview of UUW financial ODIs (taken from FD14 figure AA4.1)



To seek to address this challenge we accelerated many of our investment programmes to address key risks and to implement and develop the capability to much more effectively and proactively target our investment or to be able to respond to incidents when they do occur. This approach is beginning to show benefits and has allowed us to earn a modest cumulative outperformance payment of £2m (2012/13 prices) in the first three years of the period.

Many of the targets become increasingly challenging in the latter years of the period. We are estimating that we will end the period with a cumulative net reward, although this includes a reward that we are predicting due to the acceleration of the major scheme we are implementing in Cumbria to allow us to supply the West Cumbria area with water from Thirlmere reservoir.

It should also be recognised that many of these measures are highly sensitive to factors which are at least partially outside our control, such as bad weather or a major mains bursts. Therefore it is difficult to accurately predict the exact penalty or reward that we will achieve against our measures, although we would expect to probably end the period with a net reward of between zero and £30m.

For full details of our performance against the wholesale ODIs are set out in each year's APR. The relevant areas of this year's APR are reproduced in **Appendix A**.

For the 2017/18 financial year, we achieved a net penalty of £7.03m, comprising an £18.11m penalty in the water service and a £11.08m reward in the wastewater service. Our cumulative position for the first three years of the AMP6 period stands at a £2.24m outperformance payment.

Table 26 Wholesale operational performance summary 2017/18

	Actual Performance			2018 Performance Commitment		Incentive(£m 2012-13 prices)	
	2015/16	2016/17	2017/18	2017/18 Performance Target	Pass/ Fail	Impact	2017/18 Annual
Water							
A1: Drinking Water Safety Plan risk score	4.3	4.3	4.3	<= 4.3	Pass	Reputational	N/A
A2: Water quality events DWI category 3 or above	35	22	27	<= 10	Fail	Penalty	(0.75)
A3: Water Quality Service Index	120.465	116.923	98.645	>= 145.9	Fail	Penalty	(3.62)
B1: Average minutes supply lost per property (a year)	16:42	13:33	13:09	<= 12:00	Fail	Penalty	(5.96)
B2: Reliable water service index	16.447	77.840	70.827	>= 100	Fail	Penalty	(7.97)
B3: Security of supply index	100	100	100	= 100	Pass	At target	-
B4: Total leakage at or below target	10.8	23.4	9.1	>= 0	Pass	Deadband	-
B5: Resilience of impounding reservoirs	161.61	164.25	165.42	>= 164.44	Pass	No reward	-
B6: Thirlmere transfer into West Cumbria	2	5	25	>= 21	On Track	At target	-
C1: Contribution to rivers improved - water programme	36.84	82.55	80.56	>= 6.6km	Pass	Reward	0.18
D1: Delivering our commitments to developers	95.20%	97.50%	93.83%	>= 93%	Pass	Reputational	N/A
E1: Number of free water meters installed	27,197	32,447	36,615	>= 57,393	Fail	Reputational	N/A
						Total incentive for 2017/18	**(18.11)**
Wastewater							
S-A1: Private sewers service index	91.70	91.90	85.00	<= 100	Pass	Reward	7.38
S-A2: Wastewater network performance index	90.95	93.60	86.17	<= 99.4	Pass	No reward	-
S-B1: Future flood risk	16,472	16,418	16,395	<= 16,341	Fail	Reputational	N/A
S-B2: Sewer flooding index	100.80	94.40	70.00	<= 73.9	Pass	No penalty	-
S-C1: Contribution to bathing waters improved	0.47	0.66	1.49	>= 1.49	Pass	At target	-
S-D1: Protecting rivers from deterioration due to growth	48.00	48.00	210.50	>= 190.1	Pass	No reward	-
S-D2: Maintaining our wastewater treatment works	91.48	58.71	30.47	<= 83	Pass	No reward	-
S-D3: Contribution to rivers improved wastewater (Km)	0.76	46.98	120.73	>= 121.83	On track	Reward	0.43
S-D4a: Wastewater (category 1 & 2) pollution incidents	4	2	0	<= 3	Pass	No reward	-
S-D4b: Wastewater category 3 pollution incidents	136	150	129	<= 198	Pass	Reward	3.28
S-D5: Satisfactory sludge disposal	100	100	100	<= 100	Pass	At target	-
						Total incentive for 2017/18	**11.08**

We expect to end the AMP6 period in a net positive position across the two wholesale price controls with a net reward of £10.2m, made up from a reward in the wastewater service partially offset by the penalty from the water service. This view is, however, subject to a number of factors that are not entirely within our control, most notably the weather and, as such, actual performance could vary from the values shown in the below table.

Table 27 Wholesale forecast performance for the 2015-2020 period (£m 2013-13 prices)

	Incentive Type	Cumulative Incentive Position 2017/18	Forecast Incentive			Applied to PR19 Price Control
			2018/19	2019/20	AMP6 Total	
Water						
A2: Water quality events DWI category 3 or above	Penalty only	(1.79)	(0.89)	(1.19)	**(3.87)**	Water Network
A3: Water Quality Service Index	Reward and penalty	(7.01)	(3.62)	(3.62)	**(14.25)**	Water Network
B1: Average minutes supply lost per property (a year)	Reward and penalty	(5.96)	-	1.33	**(4.63)**	Water Network
B2: Reliable water service index	Reward and penalty	(23.92)	(7.97)	-	**(31.90)**	Water Network
B3: Security of supply index (SoSI)	Penalty only	-	-	-	**-**	Water Resources
B4: Total leakage at or below target	Reward and penalty	9.15	1.65	1.65	**12.44**	Water Network
B5: Resilience of impounding reservoirs	Penalty only	-	-	-	**-**	Water Resources
B6: Thirlmere transfer into West Cumbria	Reward and penalty	-	-	21.20	**21.20**	Water Network
C1: Contribution to rivers improved - water programme	Reward and penalty	0.43	0.18	0.02	**0.63**	Water Resources
Totals		**(29.11)**	**(10.66)**	**19.38**	**(20.38)**	
Wastewater						
S-A1: Private sewers service index	Reward and penalty	22.10	7.38	7.38	**36.85**	Wastewater Network
S-A2: Wastewater network performance index	Penalty only	-	-	-	**-**	Wastewater Network
S-B2: Sewer flooding index	Reward and penalty	(1.48)	(8.94)	(8.74)	**(19.16)**	Wastewater Network
S-C1: Contribution to bathing waters improved	Penalty only	-	-	-	**-**	Wastewater Network
S-D1: Protecting rivers from deterioration due to growth	Penalty only	-	-	-	**-**	Wastewater Network
S-D2: Maintaining our wastewater treatment works	Penalty only	-	-	(4.39)	**(4.39)**	Wastewater Network
S-D3: Contribution to rivers improved wastewater (Km)	Reward and penalty	0.82	0.07	(0.05)	**0.84**	Wastewater Network
S-D4a: Wastewater (category 1 & 2) pollution incidents	Penalty only	-	-	-	**-**	Wastewater Network
S-D4b: Wastewater category 3 pollution incidents	Reward and penalty	9.83	3.28	3.28	**16.39**	Wastewater Network
S-D5: Satisfactory sludge disposal	Penalty only	-	-	-	**-**	Bioresources
Totals		**31.28**	**1.79**	**(2.52)**	**30.54**	

In developing our proposed adjustments we have complied with the October 2016 publication 'Ofwat PR14 reconciliation rulebook' and other published guidance for this submission and have:

- Explained the impact that our adjustments, due to rewards and penalties, will have on customer bills. We have also provided details of our engagement in Section 1.7 of this document.
- Considered that we will not need to implement measures to smooth bills as we do not consider that our performance on any of our ODIs is exceptional.
- We have not applied any mitigating factors (e.g. weather, third party actions or exceptional events) in determining our reported performance for each ODI, except where clearly documented within the performance commitment definition set out within the final determination.
- Explained what internal and external assurance, including input from the Customer Challenge Group Your Voice, we have obtained for our ODI proposals in Section 1.8 of this document.
- Explained any ambiguity in the definition of each of our ODIs, how we have interpreted the ambiguity and what assurance we have obtained on our interpretation of the ambiguity.

With three exceptions, the reported performance and resultant incentive payments against our outcome delivery incentives have been developed using the automatic operation of the ODIs as set out in our final determination company specific appendix and detailed within our published definition documents. The three measures where there is potential ambiguity about the derivation of the performance value or incentive payments are:

- A1: Drinking Water Safety Plan risk score (Wholesale Water price control)
- S-D3: Rivers improved wastewater (Km) (Wholesale Wastewater price control)
- R-A2: Customer experience programme (Household retail price control)

Information on the two wholesale ODIs was reviewed with YourVoice and has been previously provided to Ofwat in 2016, with revisions to the measures published in a PR14 corrigendum. Our approach to R-A2 is described in full in **Appendix B** of this document.

Water Price Control: Drinking Water Safety Plan risk score – Following the final determination the DWI changed its process for calculating the drinking water safety plan risk score. As our performance commitment was to maintain risk levels, we proposed - and Ofwat accepted - that the target should be revised to reflect the revised calculation. This measure is a reputational commitment and as such does not directly impact upon the value of this reconciliation.

Wastewater Price Control: Rivers improved – Following the final determination the delivery date of a number of ongoing projects was revised, with the impact of the changes in delivery dates being reflected in the PR14 reconciliation. We proposed - and Ofwat accepted - that these revised dates should be used within an adjusted target that was published within the corrigendum. The submission also highlighted that as part of the finalisation of the National Environmental Programme (NEP) a number of projects had been swapped and the dates for some other projects had been revised. Ofwat stated that we should report against both the original (post corrigendum) target and against a revised target, which reflected the finalised NEP.

Our subsequent APRs have reported against both measures. A detailed summary of the potential performance and incentive payments under the corrigendum and final NEP programmes being set out within **Appendix C**: Delivery of our AMP6 outputs.

Household Retail Price Control: Customer experience programme – This ODI monitors delivery of the household retail customer experience programme and compares actual depreciation that has been incurred on the programme against the levels of depreciation assumed in the final determination. The wording of the ODI leaves some potential ambiguity in the way that delivery of the programme should be measured and how this should be reflected in the ODI outcome.

We reviewed the options and effectiveness of our approach to delivery of this programme with YourVoice and engaged Halcrow Management Sciences (HMS) to independently confirm which elements of the originally assumed scope has been delivered and reviewed the effectiveness of the programme and the proposed

adjustment with YourVoice. More detail of the proposed adjustment for this measure and the basis and support for this proposal is set out in **Appendix B**: Customer Experience Programme.

We have completed the assessment of our performance commitments and associated outcome delivery incentives (ODIs) for AMP6 in accordance with the guidance set out in the PR14 reconciliation rulebook. For our wholesale water and wastewater performance commitments:

- We have input all PR14 final determination information using the source specified within the Ofwat PR14 reconciliation rulebook.
- We utilised the recalibrated ODI rates resulting from our menu choices rather than those stated in the PR14 final determination that assumed 50% customer/company sharing rates.
- Our final determination performance commitments have been updated in line with the published corrigenda[9]. Further details about the wastewater contribution to rivers improved performance commitment are set out within **Appendix C**.
- We have used actual performance levels for the first three years of the AMP (for both calendar and financial year performance commitments), which are consistent with the audited data published within our Annual Performance Report.
- Our latest best estimate of future performance as reviewed and agreed at executive level has been applied.
- We have rounded both actual and forecast performance to the specific number of decimal places which is set out within the performance commitment definitions and APR table 3A.
- We have aggregated the net results from the water and wastewater ODIs independently to produce a net position per service, which is in line with the statements in the company specific appendix of the PR14 final determination[10] and subsequent correspondence with Ofwat[11].
- We have applied adjustments to AMP7 revenues and opening RCV at the price control level. Although adjustments from AMP6 are calculated at the water and wastewater service level, they must be applied to AMP7 opening RCV at the water resources, water network plus, wastewater network plus and bioresources level. Therefore we have applied the adjustments to the PR19 price controls as set out below and shown in ***Table 27*** of this document:
    - The cumulative net penalty in the PR14 water services price control of £20.38m has been applied to the PR19 price controls as a revenue adjustment. This has been allocated to water network plus as a reduction to revenue of £21.02m and to water resources as an uplift to revenue of £0.63m (12/13 price base). This is based on the type of ODI giving rise to the revenue adjustment, and which sub-price control it relates to.
    - The cumulative net reward in the PR14 wastewater services price control of £30.54m (12/13 price base) has been applied to the PR19 price controls as an adjustment to RCV. The total has been allocated to wastewater network plus as an uplift to RCV and we have not applied any adjustment to the bioresources RCV. This is because the ODIs giving rise to the adjustments relate to wastewater network plus activities, not bioresources activities.
- We have identified the resulting reward/penalty for each price control based on performance up to the end of the period in line with our final determination.
- The resultant reward/penalty for each PR14 price control has been allocated across the PR19 price controls in line with the allocation of ODIs to price controls set out within table App5.

[9] https://www.ofwat.gov.uk/publication/united-utilities-company-specific-appendix-corrigenda/

[10] This stated that we "*calculate a cumulative net penalty or reward for all of UUW's financial measures within a price control. Where a cumulative net penalty is calculated for a price control, this will be applied as a revenue adjustment to ensure customers are fully compensated for any underperformance. Where a cumulative net reward for a price control is calculated, this will be applied as an upward adjustment to the RCV, to minimize the short-term impact on customer bills*." (Ofwat, 2016).

[11] See email from James Bullock (United Utilities) to Keith Mason (Ofwat) dated 9 November 2015, document reference "UUW_014_AFPD_ES Ofwat email 1 sent". Also email confirmation from Andrew Chesworth (Ofwat) dated 21 June 2016: document reference "UUW_015_AFPD_ES Ofwat email 2 received".

- We have claimed the full net reward or penalty implied by the automatic operation of our ODIs and input the resulting adjustments to the RCV and revenue feeder models to calculate the adjustments at FY18 CPIH prices to be applied at PR19.

Having applied the assumptions and method set out above, the combined performance and resulting adjustment required in AMP7 for each of the water, wastewater and retail performance commitments is summarised in ***Table 28***.

Table 28 Summary of adjustments required to reconcile the delivery of our AMP6 performance commitments £m 2017/18 CPIH FYA prices (all values stated prior to profiling)

ODI end of period adjustment	AMP7 revenue adjustment (£m)	RCV adjustment (£m)
Water resources	0.730	-
Water network plus	(24.221)	-
Bioresources	-	-
Wastewater network plus	-	35.197
Residential retail	(4.274)	n/a

Household retail performance

Four performance commitments were defined for the household retail control. Two were reputational, with performance against these measures being discussed in our Annual Performance Report. The two financial measures were SIM - which is discussed in detail in Section 2.2 of this document - and delivery of the customer experience programme.

The customer experience programme ODI is a bespoke measure supporting the implementation of a system enabled change programme. It compares actual depreciation levels to depreciation levels assumed in the final determination, returning money to customers where efficiencies have been made. A detailed explanation of the actual and forecast performance for this measure is set out in **Appendix B** to this document.

Table 29 Retail Household AMP6 performance commitments - reward / (penalty) summary £m nominal prices

	Incentive type	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
Service incentive mechanism (SIM)	Reward and penalty	n/a	n/a	n/a	n/a	n/a	**12.690**
Customer experience programme	Penalty only	0.000	0.000	0.000	0.000	(4.738)	**(4.738)**
Customers saying that we offer value for money	Reputational	n/a	n/a	n/a	n/a	n/a	**0.000**
Per household consumption	Reputational	n/a	n/a	n/a	n/a	n/a	**0.000**
Retail household reward / (penalty)							**7.951**

Household retail assumptions and method

We have completed the assessment of our performance commitments and associated outcome delivery incentives (ODIs) for AMP6 using Ofwat's reconciliation feeder model in accordance with the guidance set out in the October 2016 publication 'Ofwat PR14 reconciliation rulebook'. For our Retail Household performance commitments, we have

- Used our actual performance levels for the first three years of the AMP and our latest best estimate of our future performance.
- Discussed and agreed the interpretation of the performance and application of the adjustment mechanism with YourVoice.
- Crystallised the resulting reward/penalty at the end of the period in line with the definition set out in our company specific appendix to the final determination.
- Converted the resultant adjustment at nominal prices into 2012/13 and 2017/18 prices to populate the relevant PR19 tables.
- Input the resulting adjustments to the revenue feeder model to calculate the AMP7 adjustment required.

Having applied the assumptions and method set out above the resulting adjustment required in AMP7 for the Retail performance commitments is summarised in ***Table 30***.

Table 30 Summary of adjustments required to reconcile the delivery of our AMP6 performance commitments £m nominal prices

		AMP7 revenue adjustment (£m)	RCV adjustment (£M)
Retail household	ODI in-period adjustment	0.00	n/a
	ODI end of period adjustment	**(4.738)**	**n/a**

2.2 Service Incentive Mechanism (SIM)

Background

We are committed to delivering the best possible service for customers. Boosting customer engagement in the water sector is a crucial element of maintaining the industry's legitimacy in the long term. Throughout AMP6 we have sought to offer customers the service that they want and value.

We have delivered a substantial improvement in customer service levels in AMP6, as indicated by steady improvement in Service Incentive Mechanism (SIM) performance. We are averaging top half sector performance on SIM overall, and are ending the AMP as an upper quartile WaSC. On the assumption that Ofwat applies a reward/deadband/penalty mechanism at PR19 that is consistent with our understanding of the approach it applied in PR14, we estimate that current performance yields a reward of £12.690m to UUW (nominal prices). This improvement is mirrored by strong improvements in our UK Customer Service Index scores, where we have been the most improved utility company for the last two waves and are now the top rated WaSC.

We have also achieved substantial reductions in unwanted contacts, stage one and stage two complaints. This has been achieved through a focus on swift proactive engagement with customers, and a willingness to listen when a customer expresses dissatisfaction. We are continuing to improve customer service quality and levels of engagement, seeking to achieve standards that are stretching not just for the water sector but also for wider service industries.

Ofwat's service incentive mechanism (SIM) encourages water companies in England and Wales to provide better service to their customers. The SIM allows a comparison of companies' performance by measuring the following aspects of service delivery:

- Quantitative element- Where customers have made contact when something has gone wrong or appears to have gone wrong, for example, phoning about a billing error or writing to complain about a water supply problem.
- Qualitative element - A customer survey measuring how well companies have handled all types of customer contacts, not just when things have gone wrong.

Performance against these two aspects of service quality result in a quantitative (out of 25) and qualitative (out of 75) score which when added together results in each company's 'SIM score' (out of 100). These scores can be compared with one another when companies publish their SIM score each year alongside other information about their performance. To ensure that the position can be finalised by the PR19 final determination, relative performance in the first four years of the AMP6 period will be used to determine the adjustment made at PR19.

In March 2018 we received the quarter 4 SIM results which placed us at 1st out of 18 companies, our highest ever company score. This gave us a score of 4.49 for the year, placing us at a record high of 3rd out of all 18 water companies for 2017/18.

The improvements in SIM performance is also echoed by the UK Institute of Customer Service rankings. The UKCSI is a national survey which looks at the customer service offered by many brands, from Amazon and Mercedes to British Gas. This year United Utilities is the most improved utility brand in the rankings and we are currently the number one Water and Sewerage Company.

Assumptions and method

We have developed an assessment of SIM performance for the first four years of AMP6 for both ourselves and other companies and have based our proposed adjustment on our understanding of the approach that was adopted at PR14. In particular we have:

- Calculated our actual performance using the component parts of both the quantitative and qualitative (rounded) elements of the SIM utilising actual performance for the first three years and our current best estimate for the final year.
- Forecast our performance for 2018-19 at an aggregate level for each of the quantitative and qualitative elements.
- Utilised 2 years of actual information as reported in APR table 3D of the Annual Performance Report for other companies' actual performance.
- Estimated 2017-18 performance for other companies based on our latest best estimate of actual performance and then assumed that company SIM scores continue on trend for the remaining year of the measure.
- Maintained Bournemouth Water as a separate entity rather than combining with South West Water since their merger in April 2016.
- Calculated the resulting SIM scores as being the average of all four years for each company, deriving the industry average SIM score and standard deviation in the process.
- Calculated each company's performance relative to the average SIM score and then ranked all companies according to their standard deviation from the average.
- Applied penalty and reward deadbands alongside caps and collars (consistent with the approach adopted at PR14), with deadbands set at ±0.2 standard deviation and the cap/collar set at ±1.0 standard deviation
- Assumed that rewards and penalties are calculated from the average rather than from the deadband.
- Used a reward and penalty rate of 6% and 12% (of Retail revenues) respectively.
- Applied any resulting penalty or reward percentage to forecast Retail Household revenue for 2019/20 multiplied by 5.
- In the absence of any formal reconciliation model we have provided a copy of our SIM model alongside this publication for transparency. We have used this model in calculating both our performance and any resulting rewards based on the assumptions set out above.

For the purpose of populating the PR19 data tables we have made adjustments to the input value in order to ensure that the correct value is used when deriving Retail revenues for the AMP7 period. This is due to the tables requiring values to be entered in specific price bases and subsequent feeder models using these inputs to populate the financial model to generate a nominal revenue requirement.

As discussed in our Annual Performance Report, we have significantly improved the quality of service that we provide to our customers from historic levels, which has been reflected in our improving SIM scores over the period.

Additionally, our performance has also improved relative to other companies within the industry, resulting in us moving from being one of the poorer performers in AMP5 to now being consistently amongst the better performers in the industry in customer surveys. On average over the four years of the assessment, we believe that we will be ranked 8th overall and 4th amongst Water and Sewerage companies, with our ranking increasing from 13th to 6th (amongst all companies) during the period.

The combination of the improvements in (relative) performance with the assumptions listed above result in a reward of £12.69m (nominal prices) being achieved for the SIM for the first four years of the AMP6 period.

Table 31 Retail Household AMP6 performance commitments - reward / (penalty) summary £m nominal prices

	Incentive type	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
SIM company ranking and end of period incentive	Reward and penalty	13th	8th	6th	6th	n/a	**£12.69m**

UUW performance on SIM

Our combined SIM score has increased in each of the first three years of the AMP6 period.

Qualitative performance has increased through the period with the 4th survey score for 2017/18 of 4.61 being the highest score for the quarter in the industry.

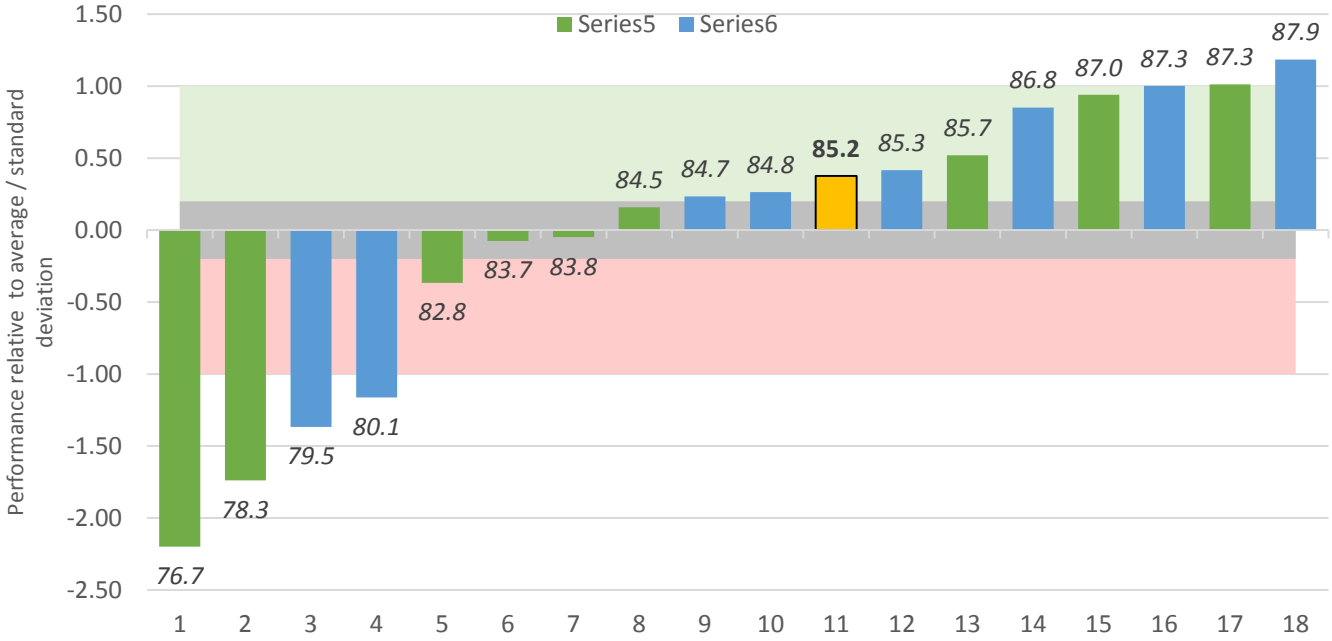
Quantitative Performance has also improved with substantial reductions in complaint numbers and particularly significant reductions in escalated complaints.

We are predicting that performance in 2018/19 will be broadly in line with performance in 2017/18. We expect to continue to see an improvement in underlying performance as a result of the implementation of new processes, which are more effectively supported by better systems and data.

Relative performance on SIM

In order to derive our relative performance and calculate any resulting reward/penalty, we have estimated the final outturn (average) position for the SIM for each company across the four years. This prediction utilises two years of actual SIM scores as stated in each company's historic Annual Performance Reports (for 2016 and 2017) as well as our best estimate of performance for 2017/18. Performance forecasts for 2018/19 have then been extrapolated from the preceding three years in order to capture expected improvements across the industry in the coming year.

Given that the SIM is averaged over four years for each company, and that Ofwat have not provided a definitive approach to calculating SIM rewards and penalties we believe that this approach of estimating other companies future SIM performance, and associated rewards/penalties is the best available to us at this time, and is appropriate for the purposes of informing PR19 business plan proposals in September 2018. We would however note that prior to the Final Determinations for every company that four years of actual SIM scores will be available and therefore an adjustment can be calculated and implemented without any need for a forecast of future performance.



In the chart above, we show that we forecast that 10 companies will achieve a SIM performance greater than the deadband of ±0.2 standard deviation (grey area within chart) and attain an outperformance payment, and that 5 will achieve a SIM performance lower than the deadband and attain a penalty.

- Of those companies that are predicted to earn a reward, two are expected to have a SIM score (standard deviation) greater than the cap, which we have assumed to be +1.0 standard (green area), and therefore will only receive the maximum reward.
- Of those companies that are predicted to earn a penalty, four are expected to have a SIM score (standard deviation) lower than the collar, which we have assumed to be -1.0 standard (red area), and therefore will receive the maximum penalty.
- The penalty or outperformance payment applied to companies within the penalty or reward zones has been calculated based upon a sliding scale between zero and the stated maximum outperformance payment or penalty of +6% and -12%, respectively, of Retail revenue.

For UUW, we predict that we will be 0.355 standard deviation above average, which when multiplied by 6% of our forecast Retail revenue produces our proposed adjustment of £12.69m. This calculation is summarised in the table below, with full details provided in UUW_008_AFPD_ES Retail Hh performance commitment feeder models.

Table 32 SIM reward/penalty calculation

SIM reward/penalty calculation	
4yr forecast average industry SIM score	84.03
Standard deviation SIM score	3.19
UU 4yr average SIM score	85.17
UU performance variance from industry average	+1.14
UU performance variance as % of 1 Standard Deviation	+35.49%
UU forecast Hh Retail revenue in 2019/20	£119.173m
UU max reward = Hh Retail revenue *5 years * 6%	£35.752m
UU forecast reward[12] (nominal prices)	**£12.690m**
UU forecast reward (2017/18 CPIH FYA prices)	£11.439m

[12] UU forecast reward = Max reward * performance variance as % of 1 Standard Deviation

2.3 Totex menu reconciliation

Background

The PR14 process and final determination (FD) set total expenditure (totex) assumptions for the 2015-20 period for UUW's wholesale water and wholesale wastewater services.

- The total assumed expenditure for the wholesale water service was £2.397 billion (in 12/13 prices)
  - £2.348 billion excluding non-menu items such as pension deficit repair costs
- The total assumed expenditure for the wholesale wastewater service was £2.979 billion (in 12/13 prices)
  - £2.940 billion excluding non-menu items such as pension deficit repair costs

The next price review process in 2019 (PR19) will review how our expected actual expenditure compares against these PR14 assumptions, with variances against the initial assumptions being accounted for through the totex menu incentive mechanism. The detail of this mechanism is complex, although it is based upon three main principles.

- For incentivisation purposes, all expenditure incurred in the five year period is treated the same whether that expenditure is capital expenditure ("capex") or operating expenditure ("opex").
- Variances to the expenditure levels assumed within the PR14 FD result in revisions to the revenue and opening regulatory capital value (RCV) for the AMP7 period to reflect actual expenditure levels. An increase in expenditure results in an increase in revenue and RCV (using PR14 PAYG rates).
- Variances to the assumed expenditure levels are also subject to a pain/gain mechanism, which provides revenue incentives for companies to deliver lower expenditure and penalties where companies overspend.

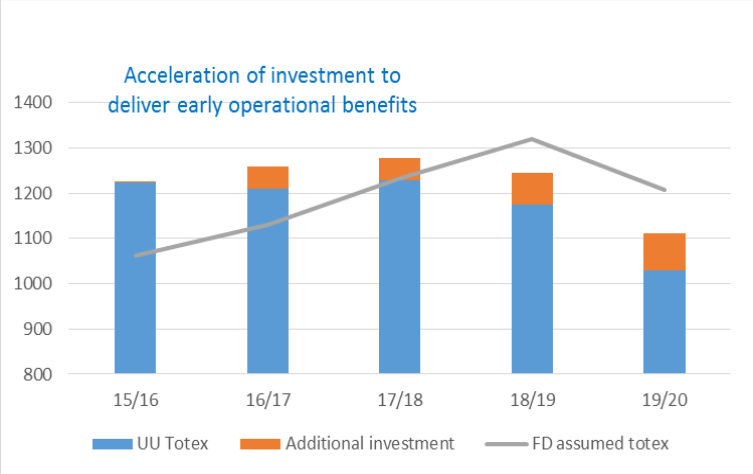
These principles work together in a way such that if companies deliver their programme for a lower level of totex than assumed in the FD then this saving is shared between customers and the company. Equally, where the company spends more than was assumed at PR14, then both the company and customers contribute towards the additional expenditure.

Some costs, including compensation payments and pension deficit recovery costs, are excluded from this incentive mechanism, which means that any increase in company expenditure cannot be passed on to customers. The remaining costs are subject to the cost sharing incentive mechanism, and are described in the PR14 FD and the APR pro forma tables as "menu costs".

Further details on our totex expenditure and how this compares to the assumptions made in PR14 are set out in our Annual Performance Report.

AMP6 Performance

Total expenditure levels in the first three years of the AMP6 period has been significantly higher than was assumed within the PR14 final determination company specific appendix. This has been as a result of the managed acceleration of our expenditure programmes to ensure the delivery of our regulatory commitments and to manage performance against our performance commitments.



On a like for like basis (i.e. expenditure incurred against planned scope) we are expecting to outperform the assumed wholesale totex by £100m. We have committed to investing an additional £250 million to deliver projects that were not part of our original PR14 settlement but that will help deliver improved long-term resilience for the benefit of customers and the environment, sooner than would otherwise have been the case.

Therefore, we expect to overspend the assumed wholesale totex expenditure by £150m on an outturn basis.

Assumptions and method

We have completed the assessment of our total expenditure (totex) menu performance for AMP6 using Ofwat's reconciliation feeder model in accordance with the guidance set out in the October 2016 publication 'Ofwat PR14 reconciliation rulebook'. In particular, we have

- Input all PR14 final determination information using the source specified within the Ofwat PR14 reconciliation rulebook.
- Utilised our actual menu choice to two decimal places rather than the implied menu choice in accordance with our menu choice confirmation letter sent on 16th January 2015 in response to IN14/15.
- Used our most accurate view of AMP6 total expenditure comprising actual (outturn) totex values for the three financial years to 2018 as reported in our APR table 4B and our latest best estimate for future expenditure on a consistent basis. All values are as reported in PR19 submission tables WS15 and WWS15.
- Restated 2015-16 Water actual expenditure and AMP6 transition investment in line with the corrigenda to APR16.
- Excluded AMP7 Transition investment from our forecast expenditure for FY2020.
- Allocated capital expenditure (capex) on a principal use basis consistent to the definitions set out within the Regulatory Accounting Guidelines.
- Used actual and forecast RPI values to deflate our expenditure into base year prices in order to compare to the final determination assumption (as stated in App23).
- Utilised the AMP6 Wholesale weighted average cost of capital (WACC) of 3.60% for making financing adjustments to account for the time value of money within AMP6.
- Left all information relating to a business rates IDoK (Water) blank as we have not sought to adjust the assumptions made at PR14.
- Input the resulting adjustments to the RCV and revenue feeder models to calculate the resulting AMP7 adjustment in PR19 base year prices.

Following the population of the totex menu reconciliation model on the above basis, we calculate that the adjustments shown in ***Table 33Table 33*** are required in order to correct for the assumptions set out in the AMP6 revenue allowance. These values are the inputs to the revenue and RCV feeder models for totex reconciliation that form part of the overall adjustment required in AMP7 that is summarised within ***Table 16, Table 22Table 22*** and ***Table 23***.

Table 33 Wholesale totex menu adjustments £m 2012/13 RPI FYA prices

	Revenue Adjustment	RCV adjustment
Wholesale Water	30.066	58.880
Wholesale Wastewater	10.113	13.456
Wholesale total	**40.179**	**72.336**

Wholesale Water

As described in our Annual Performance Report we have accelerated the pace of delivery of the AMP6 programme whilst we also delivered over £250m of additional investment to build resilience. As a result of this additional investment, we are forecasting to overspend the Water assumed totex prior to accounting for financing adjustments by £156.8m as shown in ***Table 34.***

Table 34 Wholesale Water (menu) totex performance £m 2012/13 RPI FYA prices

	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
	actual	actual	actual	*forecast*	*forecast*	
PR14 menu baseline	447.5	469.1	470.1	499.1	459.2	**2,345.1**
Assumed totex from final menu	448.1	469.7	470.6	499.7	459.7	**2,347.8**
Actual menu totex	478.6	531.1	518.4	531.8	444.7	**2,504.6**
Out / (under) performance	**(30.6)**	**(61.4)**	**(47.7)**	**(32.1)**	**15.0**	**(156.8)**

The anticipated overspend against the assumed totex generates a menu performance of 106.81 relative to the AMP6 baseline compared to an initial menu choice of 100.47. The sharing mechanism between the company and customers, which within Water is set at 49.9%[13], results in a menu penalty of 3.4% of the Water baseline which equates to £79.65m[14]. Because of our PR14 menu choice being greater than the baseline, £1.4m of the total penalty has already been applied to the AMP6 revenue allowances, therefore, a net penalty of £78.25m (£84.0m including financing costs) is applied to the AMP7 requirement to correct for the remainder of the variation. Balancing the menu reward/penalty, the totex adjustment remunerates companies for variances to the assumptions set out in the final determination. This reconciliation results in an adjustment of £173.0m which is apportioned between the RCV and revenue requirement for AMP7 based on the PR14 weighted PAYG ratio. The adjustments due to both elements of the totex reconciliation are summarised in ***Table 35*** below.

Table 35 Wholesale Water totex menu adjustments £m 2012/13 RPI FYA prices

	Revenue adjustment	RCV adjustment	Total adjustment
Net menu reward / (penalty)	(84.0)	n/a	(84.0)
Totex adjustment	114.1	58.9	173.0
Total	**30.1**	**58.9**	**88.9**

[13] "A cost sharing rate of 60% implies that the company retains 60% of any underspend but would incur 60% of any overspend relative to a companies' allowed expenditure" – Ofwat (2016), "*Ofwat PR14 reconciliation rulebook*", p24

[14] Excluding financing cost adjustments

Wholesale Wastewater

As described in our Annual Performance Report we are forecasting to overspend the Wastewater assumed totex prior to accounting for financing adjustments by £6.2m as shown in ***Table 36***.

Table 36 Wholesale Wastewater (menu) totex performance £m 2012/13 RPI FYA prices

	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
	actual	*actual*	*actual*	*forecast*	*forecast*	
PR14 menu baseline	545.3	565.1	617.7	626.9	539.7	**2,894.6**
Assumed totex from final menu	553.8	573.9	627.3	636.7	548.1	**2,939.8**
Actual menu totex	675.1	629.9	619.3	539.7	481.9	**2,945.9**
Out / (under) performance	**(121.3)**	**(56.0)**	**8.0**	**97.0**	**66.2**	**(6.2)**

The anticipated overspend against the assumed totex generates a menu performance of 101.77 relative to the AMP6 baseline compared to an initial menu choice of 106.24. The sharing mechanism between the company and customers, which within Wastewater is set at 48.8%, results in a menu penalty of 0.90% of the Wastewater baseline which equates to £26.1m. Because our PR14 menu choice was greater than the baseline, a £23.1m revenue penalty was applied to the AMP6 revenue allowances, therefore, a net penalty of £3.0m (£3.2m including financing costs) is applied to the AMP7 requirement to correct for this.

Balancing the menu reward/penalty, the totex adjustment remunerates companies based on variances to the assumptions set out in the final determination. This reconciliation results in an adjustment of £26.8m which is apportioned between the RCV and revenue requirement for AMP7 based on the PR14 weighted PAYG ratio. The adjustments due to both elements of the totex reconciliation are summarised in ***Table 37*** below.

Table 37 Wholesale Wastewater totex menu adjustments £m 2012/13 RPI FYA prices

	Revenue adjustment	RCV adjustment	Total adjustment
Menu reward / (penalty)	(3.2)	n/a	(3.2)
Totex adjustment	13.3	13.5	26.8
Total	**10.1**	**13.5**	**23.6**

2.4 Wholesale revenue forecasting incentive mechanism (WRFIM)

Background

The Wholesale Revenue Forecasting Incentive Mechanism (WRFIM) is a new mechanism for AMP6 that replaces the PR09 Revenue Correction Mechanism (RCM). The design of the mechanism incentivises companies to improve their revenue forecasting within the wholesale price controls and reduces the impact on customer bills arising from revenue forecasting deviations by:

- Applying a penalty if over or under recovery falls outside the set error tolerance range (2%)
- Permitting the adjustment of future allowed revenues during the AMP to take account of over and under recoveries in previous years.

Assumptions and method

We have completed the assessment of the WRFIM for AMP6 using Ofwat's reconciliation feeder model in accordance with the guidance set out in the October 2016 publication 'Ofwat PR14 reconciliation rulebook'. In particular, we have

- Input all PR14 final determination information using the source specified within the Ofwat PR14 reconciliation rulebook
- Applied the blind year adjustments required for 2014-15 revenue correction mechanism (RCM) as specified by Ofwat in guidance provided on 8th December 2016[15] rather than using the values provided in the PR09 legacy blind year feeder model.
- Used actual revenues recovered for the first three years of the AMP and expected revenues based on our charging structure for the final two years
- Used actual and forecast RPI values to inflate our allowed revenues into outturn prices in order to compare actual revenues recovered
- Used a discount rate of 3.6% in line with the PR14 assumptions
- Input the resulting adjustments to the revenue feeder model to calculate the AMP7 adjustment

Performance and value of adjustments

Following the population of the WRFIM model on the above basis for both the water and wastewater price controls, we have calculated that no penalty adjustment is required to either control for our AMP6 performance to date. Furthermore, we expect that our future wholesale charges and tariffs will be set at a level that enables us to recover all adjusted allowed revenues for the remaining years of AMP6 and therefore no adjustments to the AMP7 revenue requirements are required. The following tables summarise our performance against the Water and Wastewater price controls for AMP6.

Table 38 Water WRFIM performance, Outturn prices (£m)

	2015-16	2016-17	2017-18	2018-19	2019-20
Allowed Revenue from FD	703.4	721.7	744.7	779.5	811.6
Adjusted Allowed Revenue (AR)	703.4	721.7	731.4	774.1	804.6
Revenue Recovered (RR)	712.6	723.4	734.1	774.1	804.6
Over / (Under) recovery versus adjusted allowed revenue	9.1	1.7	2.8	-	-
Forecast error	1.3%	0.2%	0.4%	-%	-%
Is a penalty required?	No	No	No	No	No
Penalty adjustment - as incurred	0.0	0.0	0.0	0.0	0.0

[15] Revenue-correction-mechanism-2010-15-final-reconciliation.pdf

Table 39 Wastewater WRFIM performance, Outturn prices (£m)

	2015-16	2016-17	2017-18	2018-19	2019-20
Allowed Revenue from FD	834.4	856.8	885.3	927.3	961.0
Adjusted Allowed Revenue (AR)	834.4	856.8	884.8	924.3	962.4
Revenue Recovered (RR)	834.2	858.8	882.8	924.3	962.4
Over / (Under) recovery versus adjusted allowed revenue	(0.1)	2.0	(2.0)	-	-
Forecast error	(0.0%)	0.2%	(0.2%)	-%	-%
Is a penalty required?	No	No	No	No	No
Penalty adjustment - as incurred	0.0	0.0	0.0	0.0	0.0

2.5 Household retail mechanism

Background

The household retail price control is a total revenue control with annual revenue adjustment factors to reflect differences between actual and expected customer numbers and meter penetration. Total estimated allowed revenues are based on the projected numbers of customers and meter penetration set out in our business plan. As actual customer numbers or meter penetrations differ from these projected values, a modification is required to allow household retail revenues to account for this.

Assumptions and method

We have completed the assessment of the Household retail mechanism for AMP6 using Ofwat's reconciliation feeder model in accordance with the guidance set out in the October 2016 publication 'Ofwat PR14 reconciliation rulebook'. In particular, we have

- Input all PR14 final determination information using the source specified within the Ofwat PR14 reconciliation rulebook.
- Calculated reforecast customer numbers on an annual basis which are stated in the forecast charge multipliers at the beginning of each year (those used in setting the tariffs for the relevant year)
- The forecast customer numbers by category are consistent with both the changes in customer numbers and with the forecast charge multipliers
- The forecast retail revenues by category are consistent with both the changes in customer numbers and with the forecast charge multipliers. 2018-19 and 2019-20 use forecast charge multipliers against future forecast tariffs to obtain outturn revenues.
- The revenues in each reporting category include a revenue sacrifice due to offering Support and Social tariffs. This has been calculated as the total value of discounts, given to customers on the Support and Help To Pay social tariffs that has been funded by United Utilities and not cross-subsidised by other customers. The loss of revenue resulting from this Revenue Sacrifice is not recovered back from the Household Retail Mechanism
- Applied a discount rate of 3.74% (the appointed WACC from PR14) in reconciling AMP6 performance.

Performance and value of adjustments

Following population of the retail household feeder model on the above basis, we have calculated that the following adjustments are required to correct for variations from assumptions set out at PR14.

The first step of the reconciliation calculates the additional/(shortfall of) revenue expected from actual compared to reforecast customers as shown in ***Table 40***. This calculates the adjustment to be applied as a result of actual customer numbers being different to the reforecast customer numbers, by way of multiplying the difference by the relevant cost to serve allowance (the modification factor).

Table 40 Additional/ (shortfall of) revenue expected from actual compared to reforecast customers (Outturn, £m)

	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
Unmetered water-only customer	(0.02)	(0.04)	0.04	0.02	-	**(0.01)**
Unmetered wastewater-only customer	(0.07)	(0.04)	0.07	0.03	-	**(0.02)**
Unmetered water and wastewater customer	0.99	0.00	0.46	0.58	-	**2.03**
Metered water-only customer	(0.00)	0.04	0.01	0.01	-	**0.06**
Metered wastewater-only customer	0.04	1.01	0.24	(0.00)	-	**1.30**
Metered water and wastewater customer	(0.84)	0.18	(0.49)	0.11	-	**(1.05)**
Total	**0.10**	**1.16**	**0.31**	**0.74**	**-**	**2.31**

Secondly, the excess / (shortfall) of reforecast revenue from the table above compared to actual revenue collected is calculated as shown in ***Table 41***. This calculates the difference between the actual revenue collected, as compared to the revenue expected from the reforecast customer numbers.

Table 41 Excess / (shortfall) of reforecast revenue vs actual revenue collected (Outturn, £m)

	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
Unmetered water-only customer	0.32	0.33	0.21	0.19	0.23	**1.27**
Unmetered wastewater-only customer	0.36	0.31	0.18	0.18	0.22	**1.25**
Unmetered water and wastewater customer	(5.42)	(2.76)	(3.69)	(5.49)	(5.34)	**(22.70)**
Metered water-only customer	0.39	0.35	0.38	0.38	0.42	**1.91**
Metered wastewater-only customer	0.18	(0.13)	0.80	1.01	1.04	**2.89**
Metered water and wastewater customer	4.16	4.01	4.36	3.43	3.43	**19.40**
Total	**(0.02)**	**2.11**	**2.24**	**(0.30)**	**(0.00)**	**4.03**

Finally, the two calculations within ***Table 40*** and ***Table 41*** are summed across AMP6 to calculate the resulting total adjustment to be applied to the AMP7 revenue requirement as shown below in ***Table 42***.

Table 42 Total adjustment at the end of AMP6 (Outturn, £m)

	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
Unmetered water-only customer	0.30	0.29	0.25	0.20	0.23	**1.26**
Unmetered wastewater-only customer	0.29	0.27	0.25	0.21	0.22	**1.23**
Unmetered water and wastewater customer	(4.43)	(2.76)	(3.23)	(4.91)	(5.34)	**(20.67)**
Metered water-only customer	0.39	0.39	0.39	0.39	0.42	**1.97**
Metered wastewater-only customer	0.22	0.88	1.04	1.01	1.04	**4.19**
Metered water and wastewater customer	3.32	4.20	3.87	3.54	3.43	**18.35**
Total	**0.08**	**3.28**	**2.55**	**0.43**	**(0.00)**	**6.34**

The total adjustment for the period is entered into the revenue feeder models to form part of the overall adjustment required in AMP7 that is summarised within Application of the reconciliation adjustments.

2.6 Uncertainty mechanisms (Water cumulo rates)

Background

The only uncertainty mechanism (notified item) within the AMP6 final determination is for water cumulo rates. This mechanism reflected that there was uncertainty around the 2017 revaluation exercise and that these costs are outside of management control but still provided incentives to companies to engage with stakeholders to minimise the impact on customers. This was done by applying a cost sharing rate of 75% to the customer and 25% to the company.[16]

Assumptions and method

The 2017 revaluation of cumulo rates along with the refund from the 2005 revaluation has resulted in aggregate expenditure over AMP6 that is broadly in line with that which was assumed in setting the baseline for Water at PR14. The uncertainty mechanism allows companies that have experienced significant variances between their assumed cumulo rates and the subsequent revaluation to seek an interim determination (IDoK). Given that the variance we have between our actual and assumed rates is negligible, an IDoK is not required and any subsequent variance will be addressed through the Totex menu reconciliation mechanism.

Table 43 Water business rates £m 2012/13 RPI FYA prices

	2015-16	2016-17	2017-18	2018-19	2019-20	AMP6
PR14 assumed Water Cumulo rates	57.4	57.4	57.4	57.4	57.4	287.1
Actual Water Cumulo rates	61.1	59.5	57.1	55.6	54.0	287.4
Variance	3.7	2.1	(0.3)	(1.8)	(3.4)	0.3

[16] Ofwat, "Final price control determination notice: company-specific appendix – United Utilities", p29

2.7 Land disposals

Background

The land disposals mechanism has formed part of the regulatory price setting process since PR94. It ensures that customers benefit from land sales and is based on the net proceeds - after the deduction of all offsetting costs from disposals of protected land - including those already subject to regulation through Condition K of the licence.

Assumptions and method

Whilst a specific feeder model for calculating the adjustments required has not been issued as with the other correction mechanisms, we have completed the assessment of our actual and forecast sales for AMP6 in line with the method used within the forthcoming PR19 business plan table (App 9). In particular, we have

- Calculated the net adjustments required for 2014-15 by comparing actual sales to those forecast from PR14 in line with the value used within the 'Regulatory capital value midnight adjustment'[17] feeder model and apportioned them between Water and Wastewater based on the actual assets sold.
- Calculated 50% of the net proceeds for 2015-20 and 50% of the residual value for 2014-15
- Utilised the AMP6 Wholesale weighted average cost of capital (WACC) of 3.60% for ensuring that any adjustment is NPV neutral.
- Used the average of the actual and forecast RPI values for the period to convert the result into base year prices (2017-18) in line with the calculation steps within table App9.
- Input the resulting adjustments to the RCV feeder model to calculate the AMP7 adjustment.

Value of adjustment

Having completed our assessment of the expected net proceeds for both the Water and Wastewater businesses for the period 2014-20 on the above basis, we calculate the following adjustments are required to the respective RCVs. ***Table 44*** and ***Table 45*** set out both the calculation steps as well as the resulting adjustments to RCVs for Water and Wastewater.

Table 44 Adjustments to Water RCV from disposals of land £m

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2014-20
Forecast at previous review	1.868						**1.868**
Actual and current forecast sales	2.354	2.131	2.853	2.077	2.354	2.354	**14.122**
Impact of 50% of proceeds	0.243	1.065	1.426	1.039	1.177	1.177	**6.127**
WACC - fully post tax on notional structure	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	
RPI: Financial year average year on year %	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	
Discount rate (nominal)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	
Years for discounting purposes	-3	-2	-1	0	1	2	
Discount factor	0.83	0.88	0.94	1.00	1.06	1.13	
PV effect of 50% of proceeds	**0.202**	**0.943**	**1.342**	**1.039**	**1.251**	**1.330**	**(6.106)**

[17]http://webarchive.nationalarchives.gov.uk/20150624091829/http://www.ofwat.gov.uk/pricereview/pr14/pap_tec1412feederrcvfdnwt.xlsx

Table 45 Adjustments to Wastewater RCV from disposals of land £m

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2014-20
Forecast at previous review	0.044						**0.044**
Actual and current forecast sales	0.055	0.050	0.192	0.108	0.117	0.117	**0.638**
Impact of 50% of proceeds	0.006	0.025	0.096	0.054	0.058	0.058	**0.297**
WACC - fully post tax on notional structure	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	
RPI: Financial year average year on year %	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	
Discount rate (nominal)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	
Years for discounting purposes	-3	-2	-1	0	1	2	
Discount factor	0.83	0.88	0.94	1.00	1.06	1.13	
PV effect of 50% of proceeds	**0.005**	**0.022**	**0.090**	**0.054**	**0.062**	**0.066**	**(0.299)**

2.8 Reconciling 2010-15 performance: 2014-15 adjustments

Background

The PR14 price review and final determination (FD) made revenue and RCV adjustments, which reflected the anticipated AMP5 outturn position against the AMP5 targets and incentive mechanisms, which were set at PR09. Due to the timing of the review, these adjustments were based upon four years of actual performance and one year's predicted performance. This timing allowed some of the measures to be finalised, although other measures were still subject to subsequent confirmation of outturn performance.
The measures that were subject to further review were:

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

In February 2016 UUW (and other water companies) provided Ofwat with details of our actual outturn performance against each of these measures. This submission highlighted any differences to the assumptions made at PR14 and proposed how these differences should be reflected in adjustments to revenue or RCVs either during AMP6 or through the PR19 process.

Ofwat published an initial draft determination for consultation in early 2016. Following feedback it provided a final determination in October 2016. In addition, it subsequently provided an update and revised adjustment values to the change protocol and overlap mechanisms in March 2017, with a final update on 2010-15 reconciliations published in December 2017.

Assumptions and method

The adjustments we are proposing to make at PR19 reflect the additional adjustments that should be made, relative to the adjustments that were made at PR14.

The proposed additional adjustments are designed to be fully in line with the information published by Ofwat, either in their final determination on October 5, 2016, or where relevant, in the updated information published on 18th December 2017.

Value of adjustment

The adjustments that were determined by Ofwat in the October 2016 final determination were set out in Table A1 Revenue and RCV adjustments (2015-20 (£ million).

PR19 adjustments for Serviceability performance were nil. The Revenue correction mechanism (RCM) adjustments have been recovered during AMP6 through the WFRIM.

The impacts of the adjustments for the remaining measures on revenue and RCV are set out in the tables below.

Table 46 2014-15 revenue adjustments £m

Total Adjustment Revenue Carry Forward to PR19	2012-13 FYA (RPI)	2017-18 FYA (CPIH deflated)
Water Service	(10.150)	(11.698)
Wastewater Service	(10.356)	(11.935)

Table 47 2014-15 RCV adjustments £m

Total Adjustment RCV Carry Forward to PR19	2012-13 FYA (RPI)	2017-18 FYA (CPIH deflated)
Water Service	31.834	36.690
Wastewater Service	45.924	52.930

The RCV adjustments set out in the PR14 final determination did not include for the impact of an indexation correction that was identified following the FD but prior to the FD for the PR09 2014/15 blind year reconciliation. The values shown in the table above initially show the position excluding the indexation correction (in line with the PR14 FD) and post the correction (in line with the 2014/15 reconciliation FD). This correction does not change the proposed CIS RCV adjustment, which is shown above. The indexation correction is discussed separately in Section 2.10 below.

2.9 CIS RCV inflation adjustment

Background

The PR14 price review and final determination (FD) made RCV adjustments to reflect the actual (or anticipated) AMP5 outturn expenditure and indexation.

The company's RCV varies in with inflation and relative additions/depreciation to the asset base. Following the PR14 FD Ofwat identified an indexation adjustment that should be made in determining the starting RCV for AMP6. The value for each company was set out in the 2014/15 reconciliation final determination published in October 2016 and it was determined that this adjustment should be applied to the RCV through the PR19 process.

Assumptions and method

The proposed PR19 adjustments are designed to be fully in line with the information published by Ofwat, in their 2010-2015 reconciliation document published in December 2017.

Value of adjustment

The adjustments that were determined by Ofwat and published in the December 2017 2010-2015 reconciliation document were set out in Table 3.3 Inflation correction that will be applied at PR19 – Water and Table 3.4 Inflation correction that will be applied at PR19 – Wastewater.
The impact of these adjustments are set out in the table below.

Table 48 CIS indexation adjustments £m

CIS RCV inflation adjustment as at 31 March 2015	2012-13 FYA (RPI)	2017-18 FYA (CPIH deflated)
Water Service	(69.718)	(80.353)
Wastewater Service	(118.073)	(136.086)

2.10 Water trading incentives

Background

In order to encourage better, more sustainable use of water resources within the UK, water trading incentives designed to encourage efficient water trading between companies have been introduced. These incentives apply to both new water exports (sellers) and new water imports (buyers) for all new qualifying trades in 2015-20. Companies that export water to other regions are able to retain 50% of the lifetime economic profits (that is, the profits over and above the normal return on capital invested) whilst importers will benefit from totex efficiency and are able to retain 5% of their costs from new qualifying imports during 2015-20.

Assumptions and method

We have completed the assessment of the water trading inventive for AMP6 using Ofwat's reconciliation feeder model in accordance with the guidance set out in the October 2016 publication 'Ofwat PR14 reconciliation rulebook'. We can confirm that whilst we do have a number of trading arrangements with other companies, we have not entered into any new trades during the 2015-20 period over and above those that were in place prior to the beginning of the AMP as stated within our 2014 Water Resources Management Plan (WRMP).

Value of adjustment

Because no new trades occurred within the period, we are not adjusting the AMP7 revenue requirement.

Appendices

- Appendix A – Detailed review of our performance commitments - information duplicated in our Annual Performance Report
- Appendix B - Customer experience programme – justification for proposed adjustment
- Appendix C – Delivery of AMP6 outputs and impact on related outcome delivery incentives
- Appendix D - Supporting spreadsheets and models
- Appendix E – Table commentary

Appendix A: Detailed review of our performance commitments

This Appendix reproduces the performance information for each of our AMP6 performance commitments that is published within our 2018 Annual Performance Report.

For each performance commitment it provides details of performance in the first three years of the period, together with our view of likely performance levels for the remaining two years of the AMP6 period and highlights risks and opportunities that could affect future performance levels.

A.1 Water Service performance commitments

2017/18 Annual performance summary

Performance against our water service outcomes in 2017/18 and the cumulative performance in the AMP6 period to date, is set out in the table below. Further information on each measure is provided within this section of our Annual Performance Report, with details of the calculation of the index scores and associated incentives provided in Appendix 2.

Water Service Operational Performance Summary (2017/18)

Performance commitment	Actual Performance			Performance Commitments		Incentive		
	2015/16	2016/17	2017/18	2017/18	Pass / Fail	Impact	2017/18 Annual (£m)	2017/18 Cumulative (£m)
A1: Drinking Water Safety Plan risk score	4.3	4.3	4.3	<= 4.3	Pass	Reputational	N/A	N/A
A2: Water quality events DWI category 3 or above	35	22	27	<= 10	Fail	Penalty	(0.745)	(1.788)
A3: Water Quality Service Index	120.465	116.923	98.645	>= 145.9	Fail	Penalty	(3.619)	(7.011)
B1: Average minutes supply lost per property (a year)	16:42	13:33	13:09	<= 12:00	Fail	Penalty	(5.962)	(5.962)
B2: Reliable water service index	16.447	77.840	70.827	>= 100.0	Fail	Penalty	(7.974)	(23.922)
B3: Security of supply index (SoSI)	100.00	100.00	100.00	= 100.0	Pass	At target	0.000	0.000
B4: Total leakage at or below target	10.80	23.40	9.10	>= 0	Pass	Deadband	0.000	9.148
B5: Resilience of impounding reservoirs	161.61	164.25	165.42	>= 164.4	Pass	No reward	0.000	0.000
B6: Thirlmere transfer into West Cumbria	2	5	25	>= 21	On track*	At target	N/A	N/A
C1: Contribution to rivers improved - water programme	36.9	82.6	80.6	>= 6.6km	Pass	Reward	0.185	0.426
D1: Delivering our commitments to developers, local and highway authorities	95%	98%	94%	>= 93%	Pass	Reputational	N/A	N/A
E1: Number of free water meters installed	27,197	32,447	36,615	>= 57,394	Fail	Reputational	N/A	N/A
Water Service (net penalty) £m							(18.115)	(29.109)

*The Thirlmere ODI would only earn a penalty or out performance payments in 2019/20, annual performance assesses if delivery is on track to achieve this target.

Forecast future performance

Actual performance against our water service outcome delivery incentives in the first three years of the AMP6 period, together with forecast performance for the remaining two years of the period, is set out in the table below. Further information on each measure, including the rationale and potential risks and opportunities associated with the future performance projections is set out for each measure.

Information on the way that the predicted performance and incentive payments would impact upon bills in the 2020 – 2025 period (AMP7) is set out in "United Utilities Water PR14 reconciliation", which is available on our website.

It must be recognised that performance against many of the outcome delivery incentives in the table below will be subject to a number of factors, which are at least in part outside of our direct control. Therefore the projections set out in the table below are indicative values only.

Actual and forecast performance of the Water Services incentives and a projected view of financial performance at the end of AMP6

Performance commitment	Incentive type	Actual*				Forecast*		Projected AMP6 total
		15/16	16/17	17/18	Current financial position	18/19	19/20	
A2: Water quality events DWI category 3 or above	Penalty only	**-0.4**	**-0.6**	**-0.7**	-1.8	**-0.9**	**-1.2**	-3.9
A3: Water Quality Service Index	Reward and penalty	0.2	-3.6	-3.6	-7.0	**-3.6**	**-3.6**	-14.2
B1: Average minutes supply lost per property (a year)	Reward and penalty	-	-	**-6.0**	-6.0	-	**1.3**	-4.6
B2: Reliable water service index	Reward and penalty	**-8.0**	**-8.0**	**-8.0**	-23.9	**-8.0**	-	-31.9
B3: Security of supply index (SoSI)	Penalty only	-	-	-	-	-	-	-
B4: Total leakage at or below target	Reward and penalty	-	9.1	-	9.1	**1.6**	**1.6**	12.4
B5: Resilience of impounding reservoirs	Penalty only	-	-	-	-	-	-	-
B6: Thirlmere transfer into West Cumbria	Reward and penalty	-	-	-	-	-	-	21.2
C1: Contribution to rivers improved - water programme (NEP schemes and abstraction changes at 4 AIM sites)	Reward and penalty	0.1	0.2	0.2	0.4	0.2	0.0	0.6
Water services net: 2015/16-2017/18					-£29.1m	**Water services net AMP6**		-£20.4m

The numbers in table above have been rounded to one decimal place therefore the annual penalty and out performance payments may appear not to add up to the amounts reported in the current financial position and project AMP6 performance columns. Reputational only performance commitments are not included in the table.

Line 1 A1 Drinking Water Safety Plan risk score

Performance Summary

We met our performance commitment for this measure in 2017/18 and we are anticipating that we will continue to meet our performance commitments for the remaining two years of the AMP.

Measure description

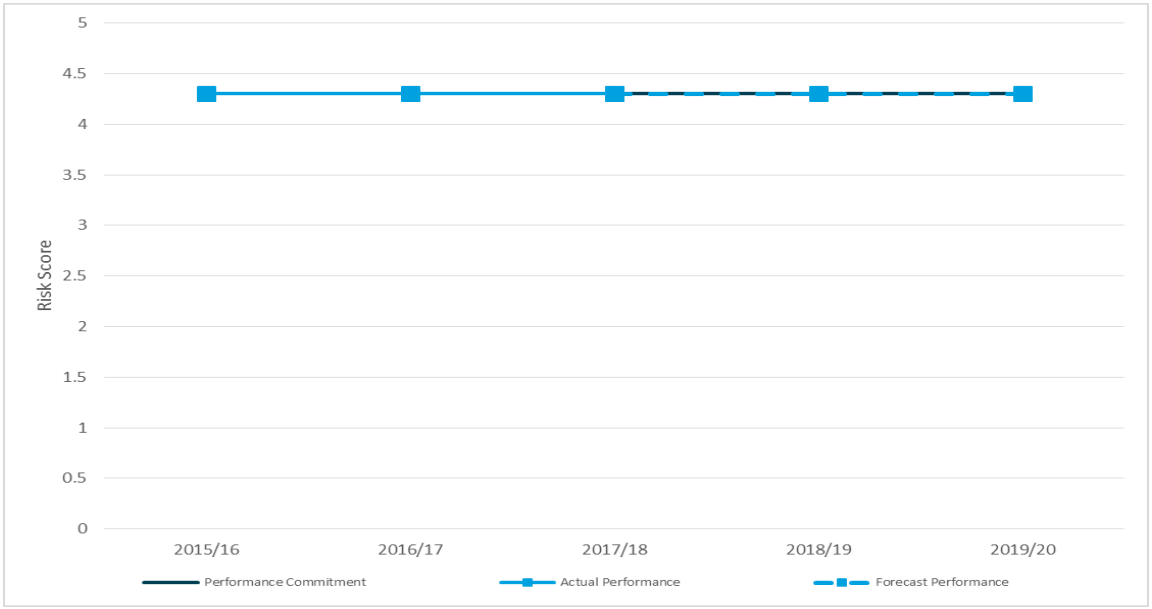
This performance commitment measures the level of risk identified through the drinking water safety plan process, with the target designed to ensure that risk levels do not increase. The original performance commitment target for this measure that was included within our business plan and confirmed in the FD was 3.9. This value was based upon the DWI reporting requirements at that time and which had been used for previous years reporting.

Since the FD was published, there has been a change in DWI reporting requirements as set out in DWI Information Letters 02/2014 and 01/2015. This means that risk reporting has moved away from hazardous events to hazards. One hazardous event may have several hazards associated with it and this has resulted in an increase in the number of risk scores and consequently the number of elevated risks scores. Based upon the revised methodology the like-for-like score would be 4.3.

Actual and forecast performance for the 'Drinking Water Safety Plan risk score' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	4.3	4.3	**4.3**	4.3	4.3
Actual/Forecast	4.3	4.3	**4.3**	4.3	4.3
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	Reputational	Reputational	**Reputational**	Reputational	Reputational

Drinking Water Safety Plan risk score - AMP6 actual and forecast performance against performance commitment



Overview of performance to date

From 2015 our average DWSP risk score has been consistent at 4.3, meaning that we have met our performance commitments for the first three years of AMP6. There have been no significant incidents or events which have affected the performance attained so far throughout the AMP.

Our AMP6 starting average DWSP risk score of 3.9 was calculated in July 2013 using data from the Drinking Water Safety Plan database at 30 June 2013. Following the setting of this position, DWI Information Letters 02/2014 and 01/2015 and their associated Annexes outlined updated regulatory reporting requirements for water company DWSP risk assessments. In response to these Information Letters we have carried out significant information technology alterations to the DWSP management system to ensure we meet the regulatory requirements. The main changes, which have impacted the average DWSP risk score are:

- Reporting by hazardous events rather than hazards. Each hazardous event may have more than one hazard associated with it resulting in an increase in the number of hazardous events.

- Splitting of consumer hazardous events from District Meter Zone (DMZ) level into Water Supply Zone (WSZ). This has resulted in an increase from 33 consumer risk assessments to 224 water supply zone risk assessments.

The changes above have resulted in an increase in the number of hazardous events, the average risk score and the number of hazardous events with a risk score of 10 and above.

Penalty or Out performance payments

This is a reputational measure with no financial incentive.

Lessons Learnt and Action Plan

It is in customers' interests not to increase unacceptable risk to water quality and we will continue to deliver activities to improve the robustness of our existing control measures as part of our water transformation programme.

There would need to be a significant change in the number of hazardous events that would be considered to be providing an unacceptable risk to water quality for there to be a change in this forecast.

Anticipated Performance Years 4 and 5

Performance throughout the remainder of the AMP is expected to remain at the risk level of 4.3.

Future performance - risk, issue, concern, change or opportunity

1. Changes to the Water Quality Regulations 2016 as a result of changes to the EC Directive to introduce risk based sampling - Amendments to the DWSP may be required in order to meet the revised regulatory requirements. This is likely to involve the addition of more hazards may result in additional lines within the data return which could potentially impact the overall risk score.

2. Ongoing review of the DWSP system - We are currently centralising our DWSP process. As part of this a comprehensive review is being carried out involving reassessment of risks and associated site visits, whilst this may lead to changes in risk scores on individual sites it should not impact the overall average risk score.

3. We are considering seeking accreditation of our DWSP process to ensure it is in line with BSEN (international standard for risk management) - Changes to the current DWSP methodology may be required to ensure accreditation is attained.

Line 2 A2: Water quality events DWI category 3 or above

Performance Summary

In 2017/18 we failed this measure and incurred a penalty of £0.745m and we are anticipating that over the five years we will incur a total penalty of £3.875m.

Measure description

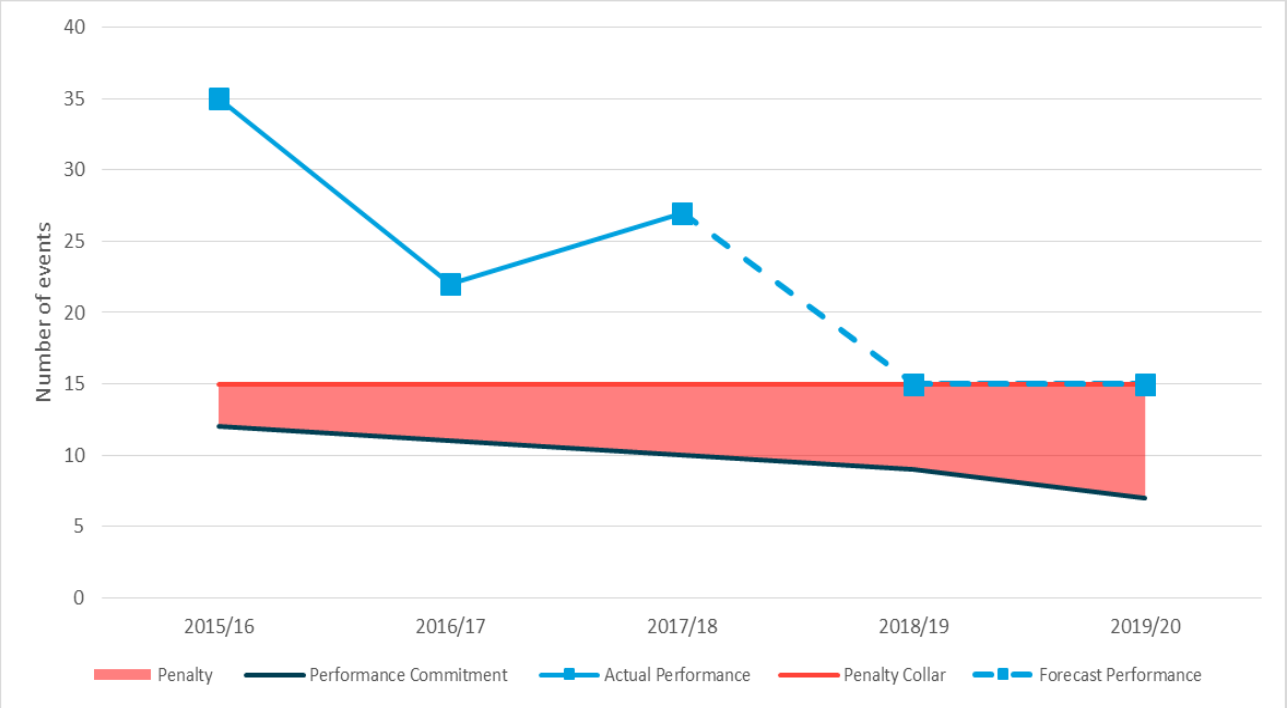
This performance commitment records the number of events with a categorisation of three or above (as defined by the Drinking Water Inspectorate (DWI)). The categories are as follows: category 3 (significant), category 4 (major) and category 5 (serious).

This measure is penalty only, therefore if we outperform on our performance commitment no out performance payments will be earned (only reputational benefit) but if we underperform then a penalty will be incurred.

Actual and forecast performance for the 'Water Quality Events DWI Category 3 or above' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	12	11	**10**	9	7
Actual/Forecast	35	22	**27**	15	15
Pass/Fail	Fail	Fail	**Fail**	Fail	Fail
Out performance payment/ Penalty	£(0.447)m	£(0.596)m	**£(0.745)m**	£(0.894)m	£(1.192)m

Water quality events DWI category 3 or above - AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of Performance

The performance commitment target for 2017/18 has not been achieved. There has been a decrease in the number of process events at our WTW. However there has been an increase in the number of network events in comparison to last year and an increase in single (or multiple) property "do not drink" events.

The root cause of the events in 2017/18 include internal plumbing, contaminated land, back siphonage and inadequate turnover and proximity to the end of the main, which are generally out of management's control but are still reportable to the DWI.

The number of water quality events associated with customers receiving discoloured water following both planned and unplanned activities on the network has increased. Of the category 3 or above events; 15 were events that included customers receiving discoloured water following both planned and unplanned activities on the network and events caused by contractors working for third parties. Even though the contractors are not working for United Utilities and the events are outside our direct control, we have received either customer contacts or have had to provide advice to our customers. Therefore these events are still reportable to the DWI.

Penalty or Out performance payments

The performance commitment has not been met for 2017/18 resulting in a penalty of £0.745 million this year.

Due to the challenging target that has been set for this measure over the remainder of the AMP there is a risk that further penalty may be incurred in some future years. In order to calculate any penalty the ODI performance is compared against the target performance. If the performance falls within the penalty zone then we multiply the resulting difference by the penalty rate of £0.149 million per event.

Lessons Learnt and Action Plan

We are implementing the following activities to reduce the number of water quality events and bring future performance in line with our performance commitments:

- We have delivered a comprehensive action plan to reduce the risk of further incidents by revising our discoloured water risk assessment process for planned work. We have updated the DWI on these actions and have completed classroom training to network operations staff.
- There has been an increase in the scale of our mains cleaning programme targeting water quality zones with the highest number of customer contacts.
- We are implementing 'start-up to waste' projects at water treatment works to allow for a more controlled start up following a shut down and therefore avoiding a potential water quality event.
- Programme of work completed to assess critical control points on all WTWs and Service Reservoirs and installation of additional instrumentation and assessment of control philosophies.
- Implementation of 24/7 manning at key water treatment works has been put in place.
- We have recruited additional Process Operators to take readings at set intervals from all unmanned sites to provide additional security for water quality compliance and process performance.
- We have continued development of algae management plans at all high risk WTWs to reduce the potential for algae to develop with the associated production of geosmin and 2-methylisoborneol (2 MIB). These compounds produce an earthy/musty taste which can be detected by customers.
- Implementation of the Aquavista system provides visibility of the activities the Company is carrying out on the network and the customer contacts received.

Anticipated Performance Years 4 and 5

Despite the additional activities that we are undertaking, the performance commitments are challenging and we anticipate further penalty may be incurred in future years. As such we are predicting a net penalty for this measure of £3.587m.

This figure is unlikely to move significantly. The risks and opportunities identified in the box below could impact upon reported numbers but are unlikely to materially affect the predicted penalty value.

Future performance - risk, issue, concern, change or opportunity

1. Water Transformation Programme - We are working with the DWI to deliver a comprehensive 'Transformation Programme' with continuous liaison, monthly updates and quarterly meetings. Completion of the transformation programme should result in a significant reduction in the number of water quality events.

2. Changes to regulation and/or guidance by DWI - Changes to regulations could impact on the number of events which become reportable and therefore change the volume of category 3 or above events

3. The number of Regulation 28 Notices and/or Enforcement orders could impact the volume of events - Additional reporting requirements within Regulation 28 notices or enforcement order could lead to an increase in the number of reportable events. Our processes ensure that lessons learnt from previous events are circulated to enable mitigating measures to be put in place and prevent potential reoccurrence.

4. Events caused by Third Parties - Although events caused by Third Parties are outside our control these events are still reportable to the DWI.

Line 3 A3: Water Quality Service Index

Performance Summary

We failed to meet our performance commitment target in this measure in 2017/18, incurring the maximum penalty. Although we anticipate an improvement in our performance for the remaining two years of the AMP, our target is tough and we expect we will remain within the penalty zone.

Measure Description

The water quality service index (WQSI) measures performance against six sub measures which each contribute to the overall index score, the sub measures are:

- Water treatment works coliform non-compliance
- Service reservoir integrity index
- Water treatment works turbidity fails
- Mean zonal compliance
- Distribution maintenance index
- Contacts for water quality

Only the 'contacts for water quality' sub measure contributes to both an out performance payments and penalty: the other five water quality sub measures carry a penalty only incentive.

Mean zonal compliance is a particularly important sub-measure that measures water quality against 39 water quality standards. To reflect the significance of this measure, from 2017/18 onwards we have a specific penalty incentive for this-sub measure, which generates a standalone penalty and acts as a "gateway check" for the overall index. This means that even if the Water Quality Service index score is above the reward deadband then an out performance payments would only be warranted if performance for the MZC sub-measure is also above the MZC penalty deadband (100%).

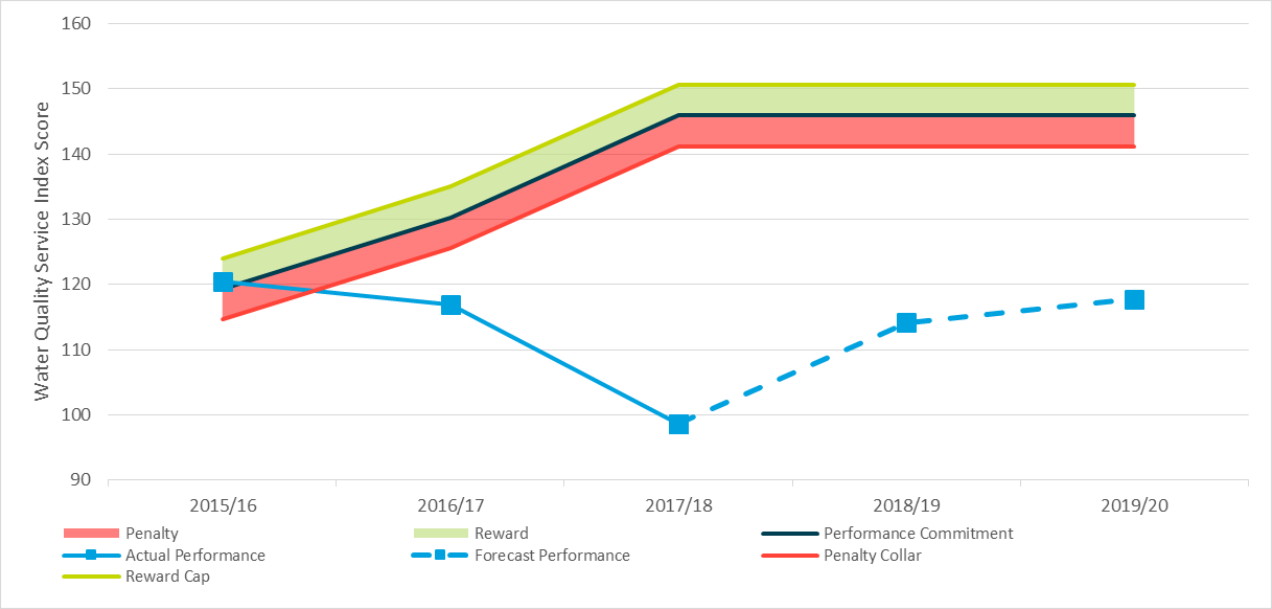
Actual and forecast performance for the 'Water Quality Service Index score' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	119.300	130.300	**145.900**	145.900	145.900
Actual/Forecast	120.465	116.923	**98.645**	114.119	117.791
Pass/Fail	Pass	Fail	**Fail**	Fail	Fail
Out performance payment/Penalty	£0.227m	£(3.619)m	**£(3.619)m**	£(3.619)m	£(3.619)m

2107/18 Actual performance and targets for the Water Quality Service Index submeasures

Sub measure	Indicative Target 2017/18	Performance 2017/18	Pass/Fail
WTW coliform non-compliance	0.04%	0.01%	Pass
SR integrity index	99.96%	99.97%	Pass
Index WTW turbidity fails	3 (number)	1 (number)	Pass
Index Mean zonal compliance	100.00%	99.97%	Fail
Distribution maintenance index	99.88%	99.89%	Pass
Contacts for water quality	6,904 (number)	11652 (number)	Fail

Water quality service index score - AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

The company achieved the performance commitment target in 2015/16 earning an out performance payment of £0.227m. However, the performance commitment was failed in 2016/17 and 2017/18 resulting in the maximum penalty of £3.619m in both years. Cumulatively this gives a penalty over the first three years of £7.011m.

WQSI performance has been impacted by the high number of customer contacts for water quality (brown/black/orange and blue/green appearance). There has been an improvement in the number of discoloured water events that are reported to the DWI (discoloured water contacts that are attributed to DWI events are exempt from this measure, they are covered by DWI water quality events category 3 and above). We have worked hard to deal with large events and reduce the risk of large scale discolouration, however, smaller issues on the network are continuing to impact on this measure.

We have continued to receive contacts relating to chlorine, other (metallic etc.) and musty taste and odour throughout the year.

Penalty or Out performance payments

In order to calculate any penalty or out performance payments the actual index score for the year is compared against the target index score. If the overall index score falls within the out performance payments or penalty-zone then the incentive is calculated by multiplying the difference by a penalty rate of £0.770 million per index point or the reward rate of £0.417 million per index point. Details of the calculation of this index measure as set out in Appendix 2 of the APR.

We have outperformed four of the six sub measures but we have missed the mean zonal compliance and number of water quality customer contacts target. Mean zonal compliance measures performance against 39 water quality standards. Performance this year improved to 99.97% but the performance commitment increased to 100% compliance. Achieving 100% compliance is challenging, not least due to the influence of customer internal plumbing on several water quality parameters.

Mains cleaning and large diameter mains cleaning projects are currently underway to reduce the risk of discolouration, turbidity, iron and manganese infringements. To further reduce the risk we have committed to undertake mains cleaning in an additional 70 water supply zones.

Discoloured water contacts that are attributed to DWI events are exempt from this measure - they are covered by DWI water quality events category 3 and above. It can be inferred that as we have improved how we manage large events and reduce the risk of large scale discolouration we have increased the number of near misses on the network, which are impacting this measure.

Lessons Learnt and Action Plan

We recognise the challenges faced with this measure and whilst we are predicting to underperform our performance commitment we have a number of activities in place in order to bring future performance back on track:

- We have an extensive mains cleaning programme to deliver a reduction in customer contacts helping us move towards achieving the performance contacts commitment for the final year of AMP6.
- Discoloured water risk assessment training and other operational training packages have been provided for operational staff.
- Continued deployment of turbidity monitors during network operations will improve control of the network and reduce the risk of iron, manganese and turbidity infringements.
- We are currently delivering a number of S19 Undertakings to reduce the risk of discolouration.
- We have a number of Regulation 28 notices for discolouration. As part of these notices, cleaning will be undertaken in order to reduce the risk of discolouration. The start of this work commenced in early 2017. The reduction of blue/green contacts will be facilitated by the optimisation of pressure in the distribution network to prevent against transient depressurisations and back siphonage from internal plumbing fittings. We are writing to manufacturers of carbonated drinks machines to raise awareness of copper pipe work.
- Development of algae management plans is continuing at all high risk water treatment works to reduce the potential for algae to develop with the associated production of geosmin and 2 MIB (compounds from algae degradation cause taste and odour). Algae management plans are now embedded as business as usual with regionally deployable powdered activated carbon dosing rigs available to remove geosmin and 2MIB if this is detected as part of the enhanced monitoring programme.
- Chlorine “heat maps” for the distribution network have been developed and chlorine reduction strategies have been implemented.

Anticipated performance Years 4 and 5

The performance commitment becomes increasingly challenging for the remainder of the AMP period and the current forecast for the WQSI is that we will underperform and incur penalties against the annual performance commitment for the remainder of the AMP.

Future performance - risk, issue, concern, change or opportunity

1. Factors outside our control - e.g. rainfall, can impact on raw water quality which can then impact on this measure.
2. Climate change could impact on the amount of algal growth.

3. Line 4 B1: Average minutes supply lost per property (per year)

Performance Summary

We have failed to meet our performance commitment against this measure for 2017/18, but we predict an improvement in performance and anticipate we will meet the target next year and outperform the target in the final year of the AMP.

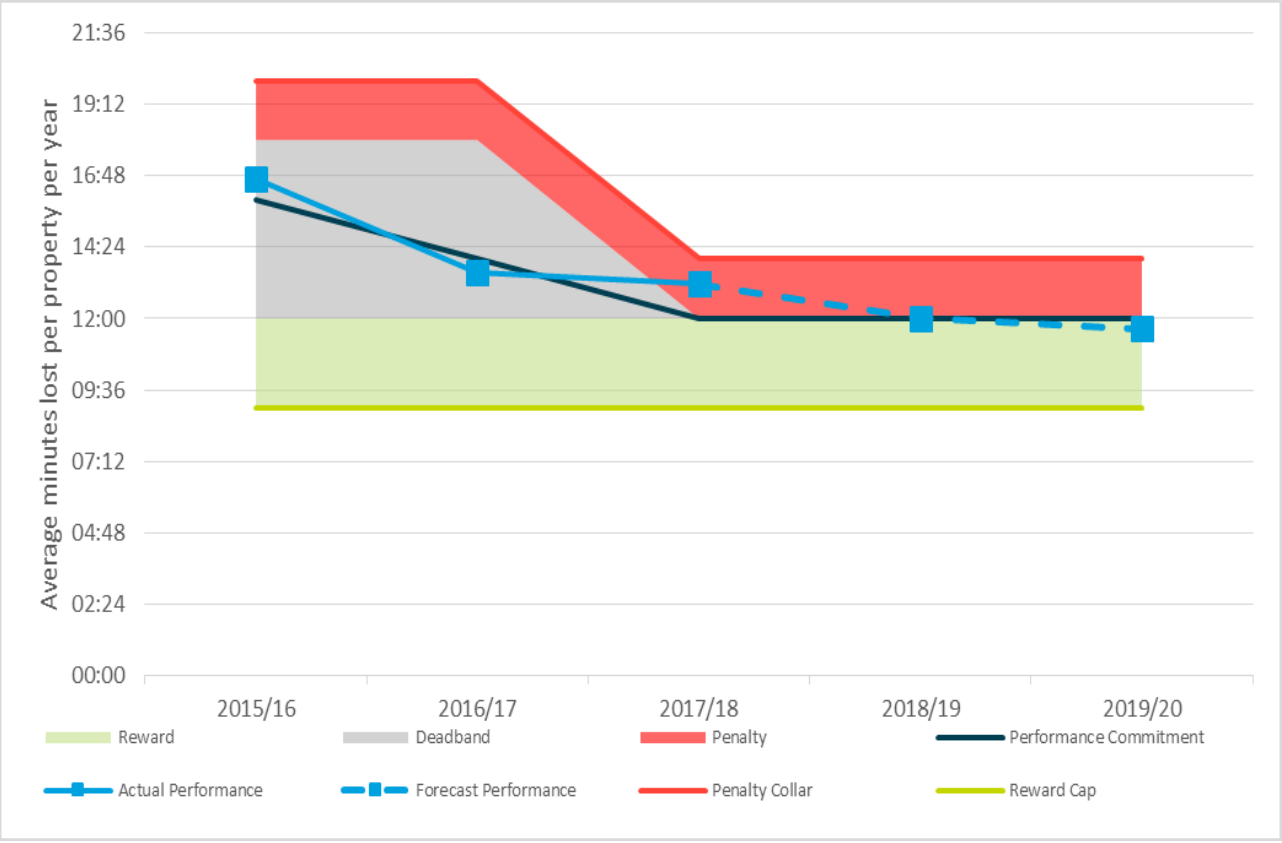
Measure description

This measure records (in minutes) the loss of supply to our customers which continues for greater than three hours whether the event was as a result of planned, unplanned or third party actions. The regulatory targets for this performance commitment are highlighted below

Actual and forecast performance for the 'Average Minutes Lost' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	16.00	14.00	**12.00**	12.00	12.00
Actual/Forecast	16:42	13:33	**13:09**	12:00	11:40
Pass/Fail	Fail	Pass	**Fail**	Pass	Pass
Out performance payment/ Penalty	£0m	£0m	**-£5.962m**	£0m	£1.326m

Actual and forecast performance for the 'Average Minutes Lost' - AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

Performance has improved compared to 2015/16 and 2016/17, but we have failed to meet our target in 2017/18. We have worked hard to improve our response and restoration of supplies. The measure is however significantly impacted by large loss of supply incidents that can cause significant variations in performance. One such event occurred in 2017/18 where a loss of supply event in Lytham in July 2017 equated to 02:27 (mm:ss) per property.

We are seeing an increase in the number of properties impacted by planned interruptions. This is due to a programme of planned activity specifically mains cleaning and non-core projects (diversions / mains laying).

Penalty or Out performance payments

In order to calculate any penalty or out performance payments the ODI performance is compared against the target ODI performance. If the performance falls within the out performance payments or penalty-zone then we multiply the resulting difference by the incentive rate. For average minutes lost the incentive penalty rate is £5.184 million and the out performance payments is £3.978 million per minute lost per property.

Performance against this measure has improved year on year since the start of the AMP6 period. However due to the tightening of the target year three has resulted in a penalty whilst the previous performance fell within the deadbands and therefore no out performance payments or penalty was earned.

Lessons learnt and action plan

Improving performance to meet the reducing targets is in both company and customer interests. This measure covers all interruptions greater than three hours and any improvement in this measure is of direct benefit to customers in terms of a reduction in the amount of time without water, this also has a reputational benefit.

We are making improvements in restoration and repair times which will facilitate a reduction in the average minutes lost measure. Loss of supply events impacting large numbers of properties are difficult to forecast. However a number of initiatives, such as our strategic mains replacements, should lead to long-term improvements in this measure.

Planned expenditure relating to regional pressure optimisation, strategic mains, strategic valves and crossings and replacement of 'poor condition' mains will facilitate long-term improvements in this measure. This should result in a reduction in mains bursts and the facility to isolate and re-zone in the event of a burst. Expenditure on mini alternative supply vehicles and response equipment should have an immediate impact allowing us to meet the reducing target throughout AMP6.

Anticipated performance Years 4 and 5

We are currently forecasting to meet the targets for the rest of the AMP. Performance is expected to continue to improve in line with the reducing targets throughout the AMP. Whilst there is some opportunity for us to outperform and earn out performance payments, this needs to be balanced with the potential impact of large loss of supply events.

Future performance – risk, issue, concern, change or opportunity

1. Failure of a strategic main - where a strategic main cannot be supported by alternative supplies or re-zone which could lead to a long loss of supply due to potential difficulties with access or repair.
2. Freeze-thaw events – A significant event could create additional leakage breakout which could be challenging to resolve.
3. Long-term changing climate - Increase in severe weather events such as those experienced in December 2015 can have an impact on this measure.

Line 5 B2: Reliable water service index (RWSI)

Performance Summary

Our performance was below target for 2017/18 and we anticipate that we will fail to meet our targets in the final two years of the AMP6 period.

Measure description

This performance commitment is an index which comprises four sub-measures, these are:

1. Total bursts
2. Interruptions >12 hours
3. Properties below reference level at end of year (DG2)
4. Unwanted customer contacts for water availability

The size of any penalty associated with the reliable water service index (RWSI) is determined by the under-performance of all four sub-measures. The size of any out-performance payments is based upon the out-performance of the customer service measures: customer contacts, poor pressure and interruptions greater than 12 hours. The asset health (total bursts) sub-measure does not contribute to the out-performance payments.

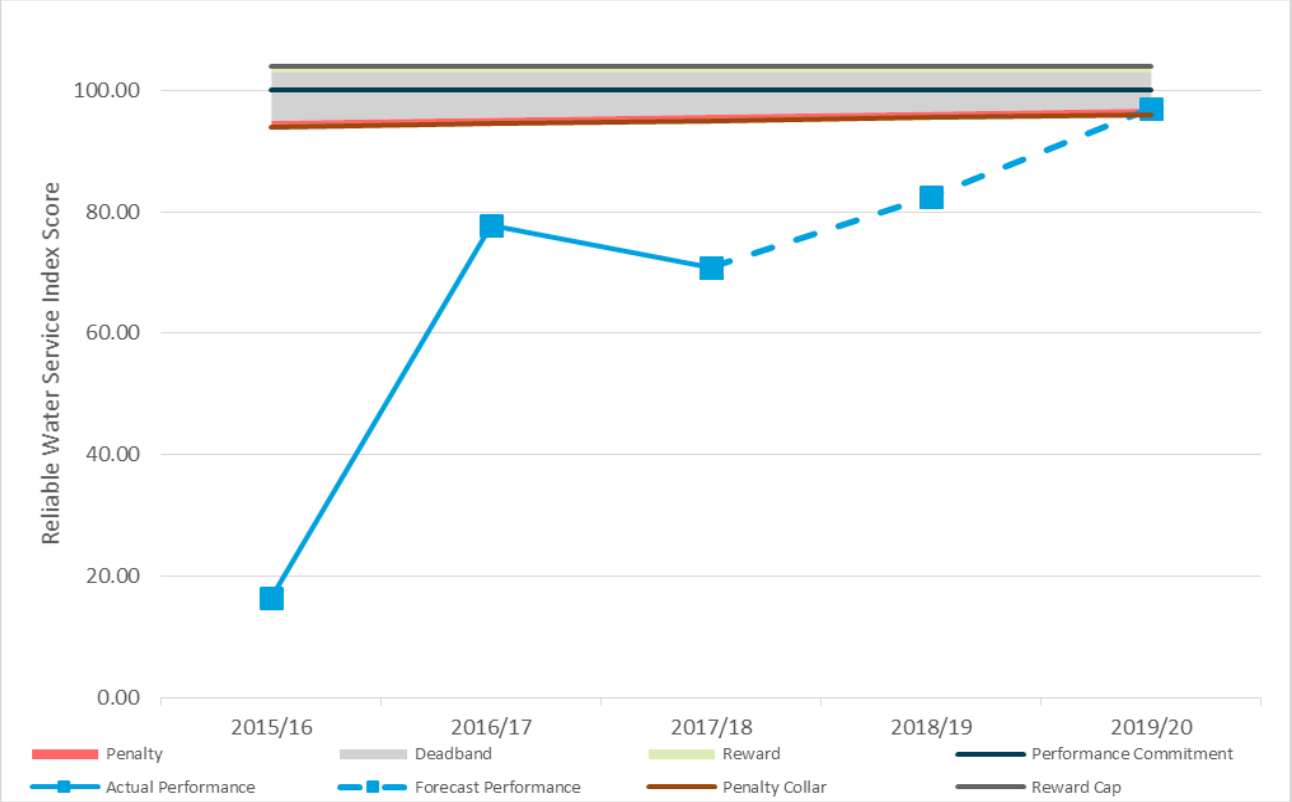
Actual and forecast performance for the 'Reliable Water Service Index' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	100.000	100.000	**100.000**	100.000	100.000
Actual/Forecast	16.447	77.840	**70.827**	82.563	97.043
Pass/Fail	Fail	Fail	**Fail**	Fail	Pass
Out performance payment/ Penalty	£(7.974)m	£(7.974)m	**£(7.974)m**	£(7.974)m	£0m

2107/18 Actual performance and targets for the Reliable Water Service Index submeasures

Sub measure	Indicative Target 2017/18	Performance 2017/18	Pass/Fail
Total bursts	5080	4484	Pass
Interruptions > 12 hours	730	4631	Fail
Properties below reference level at end of year (DG2)	272	278	Fail
Unwanted customer contacts for water availability	48000	46487	Pass

Actual and forecast performance for the 'Reliable Water Service index' - AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

We met two out of the four sub measure targets for the number of mains bursts and customer contacts about water availability but we failed to meet the target for the following two sub measures:

- Interruptions to supply greater than 12 hours sub measure.
- Properties on the poor property register.

We have reduced the number of interruptions to supply greater than 12 hours compared with the previous year however there was a large incident in Lytham in July 2017 that affected nearly 3,000 customers for greater than 12 hours that significantly impacted performance.

Low pressure performance marginally failed to meet the 2017/18 target. The increase is predominantly due to better analysis and control of our process. Properties suffering low pressure for a period of greater than four weeks are added to the low pressure register until it can be demonstrated that the property is receiving pressure at or above the standard. We remove properties from the low pressure register throughout the year following investigations and work such as service/repair to pressure management valves or mains laying/pumping schemes should also help this measure.

Penalty or Out performance payments

In order to calculate any penalty or out performance payments the annual index performance is compared against the target index performance. If the performance falls within the out performance payments or penalty-zone then we multiply the resulting difference by the incentive rate. The Reliable Water Service Index (RWSI) incentive penalty rate is £7.974 million and the out performance payments is £5.970 million per index point. Details of the calculation of this index measure are set out in Appendix 2 of the APR.

For 2015/16, 2016/17 and 2017/18 the RWSI target was not achieved due to poor performance in one sub measure 'Interruptions greater than 12 hours'. As such, we did not meet our performance commitment for years 1, 2 or 3 and a maximum penalty of £7.974m was incurred in each year. Performance in the two sub measures 'Total bursts' and 'unwanted customer contacts for water availability' are ahead of target.

Lessons learnt and action plan

There are a number of actions/initiatives in place that should deliver long-term improvements to this measure both in the remainder of this AMP and into the future, these include:

- Planned expenditure relating to regional pressure optimisation, strategic mains, strategic valves and crossings and replacement of 'poor condition' mains will facilitate long-term improvements through a reduction in mains bursts, this will also be supported by an increase in network knowledge and the facility to isolate and re-zone in the event of a burst.

- The introduction of mini alternative supply vehicles and interruption response equipment (including overland supply vehicles) will support the restoration of supplies during events.

- Reducing the number of properties on the low pressure register through improving the pressure experienced by customers.

Anticipated performance Years 4 and 5

Performance against this measure is greatly influenced by major loss of supply incidents. Performance in the sub measure 'Interruptions greater than 12 hours' can be variable based on incident performance. We have plans in place to improve performance particularly due to investment in Alternative Supply Vehicles, whilst we recognise the tight performance commitment and therefore are anticipating further penalties, we are aiming to meet the target in the final year of the AMP.

Future performance – risk, issue, concern, change or opportunity

1. Failure of a strategic main - where a strategic main cannot be supported by alternative supplies or re-zone which could lead to a long loss of supply due to potential difficulties with access or repair.
2. Freeze-thaw events – A significant event could create additional leakage breakout which could be challenging to resolve.
3. DG2 properties - Risk of identifying additional properties that need to be added to the register particularly where they are single properties and the only solution is to install a booster pump which can be cost prohibitive.

Line 6 B3: Security of supply index (SoSI)

Performance Summary

We have met our performance commitment for 2017/18 and anticipate that we will continue to do so for the remaining two years of the AMP6 period.

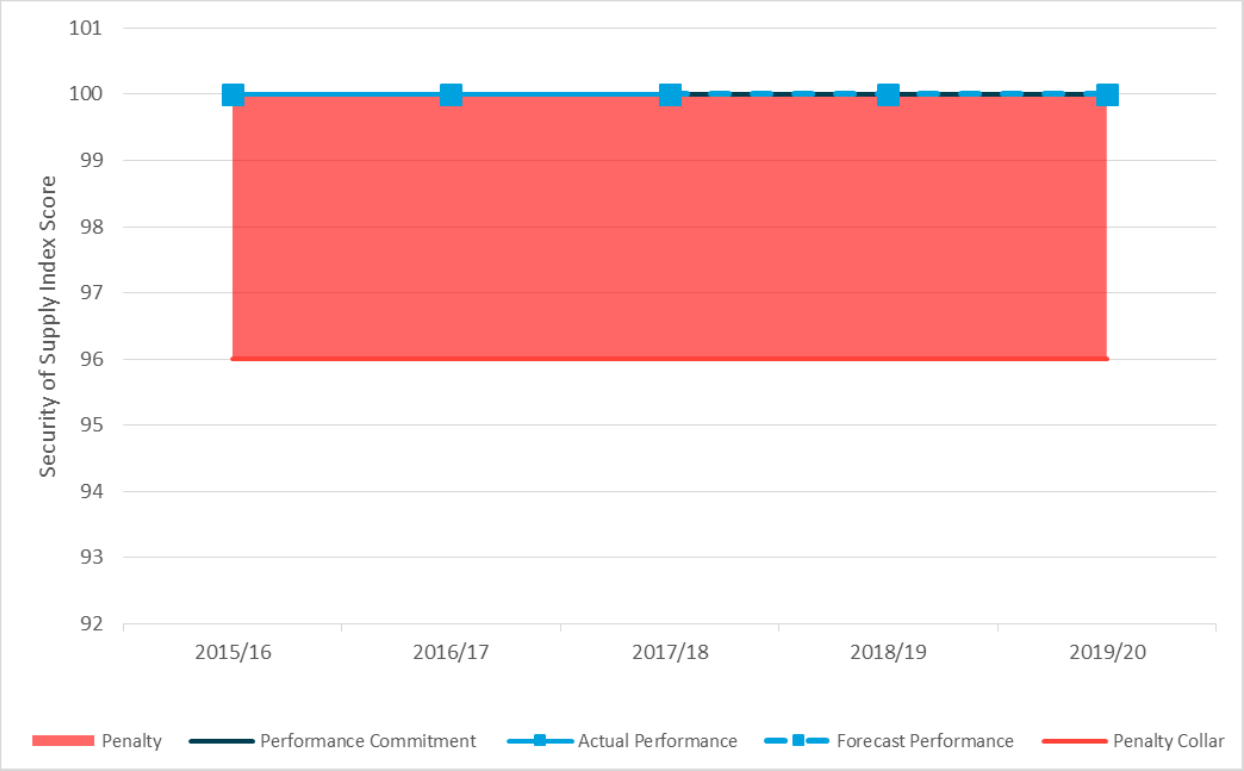
Measure description

The security of supply index (SOSI) measures our success in meeting the region's demand for water. The aim is to ensure a zero or positive supply-demand balance (no deficit) at all times throughout the planning horizon - from the current year through to 2040. The index is expressed out of 100 and the measure is penalty only, meaning that if a SOSI score of less than 100 is achieved then a penalty will be incurred.

Actual and forecast performance for the 'Security of supply' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	100.00	100.00	**100.00**	100.00	100.00
Actual/Forecast	100.00	100.00	**100.00**	100.00	100.00
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	£0m	£0m	**£0m**	£0m	£0m

Actual and forecast performance for the 'Security of Supply index' - AMP6 actual and forecast performance against performance commitment and financial incentive



Overview of performance to date

We have continued to focus on our supply demand balance across all our resource zones. Our methodologies are consistent with those used for the Water Resource Management Plan and performance to date has been good for this measure.

The performance commitment for 2015/16, 2016/17 and 2017/18 has been met however there is still a need to monitor this measure closely and take action where required, especially considering the fine supply-demand balance in our Cumbrian Resource Zones.

Penalty or Out performance payments

Security of supply index is a penalty only measure. To calculate any penalty the actual performance level is compared against the target performance level. If the performance falls within the penalty-zone then we multiply the resulting difference by the penalty incentive rate of £3.30 million per index point.

As our performance target has been met for 2017/18, we have not received a penalty.

Lessons learnt and action plan

To mitigate any risk to SoSI in future years, we are taking action to reduce the demand for water and have also improved supply side assets which will increase the water available for use.

Anticipated performance Years 4 and 5

Our target for the remainder of AMP6 is to maintain a SOSI score of 100.000. This is consistent with the aim to ensure a zero or positive supply-demand balance (no deficit) at all times from the current year through to 2040. Failing to meet the target level not only has incentive implications, but could also result in intervention by Defra if our water resources security of supply obligations are not met.

We do not anticipate any penalties during the AMP6 period, we are continuing to focus on demand management and are seeing improvements in leakage performance through the AMP6 period to date.

Future performance- risk, issue, concern, change or opportunity

1. Dry weather and revisions to the company Drought Plan - Outages and asset capability are continually under review, there is the potential that this could have an impact on SOSI in future years.

2. The supply-demand balance is maintained in the WRMP based on this demand reduction, which is consistent with historic trends and forecast trends in demand across the region. In the event that these demand reductions are not realised, there remains an increased risk to the supply-demand balance.

Line 7 B4: Total leakage at or below target

Performance Summary

We have out performed our performance commitment in 2017/18 and expect we will continue to do so for the remainder of the AMP.

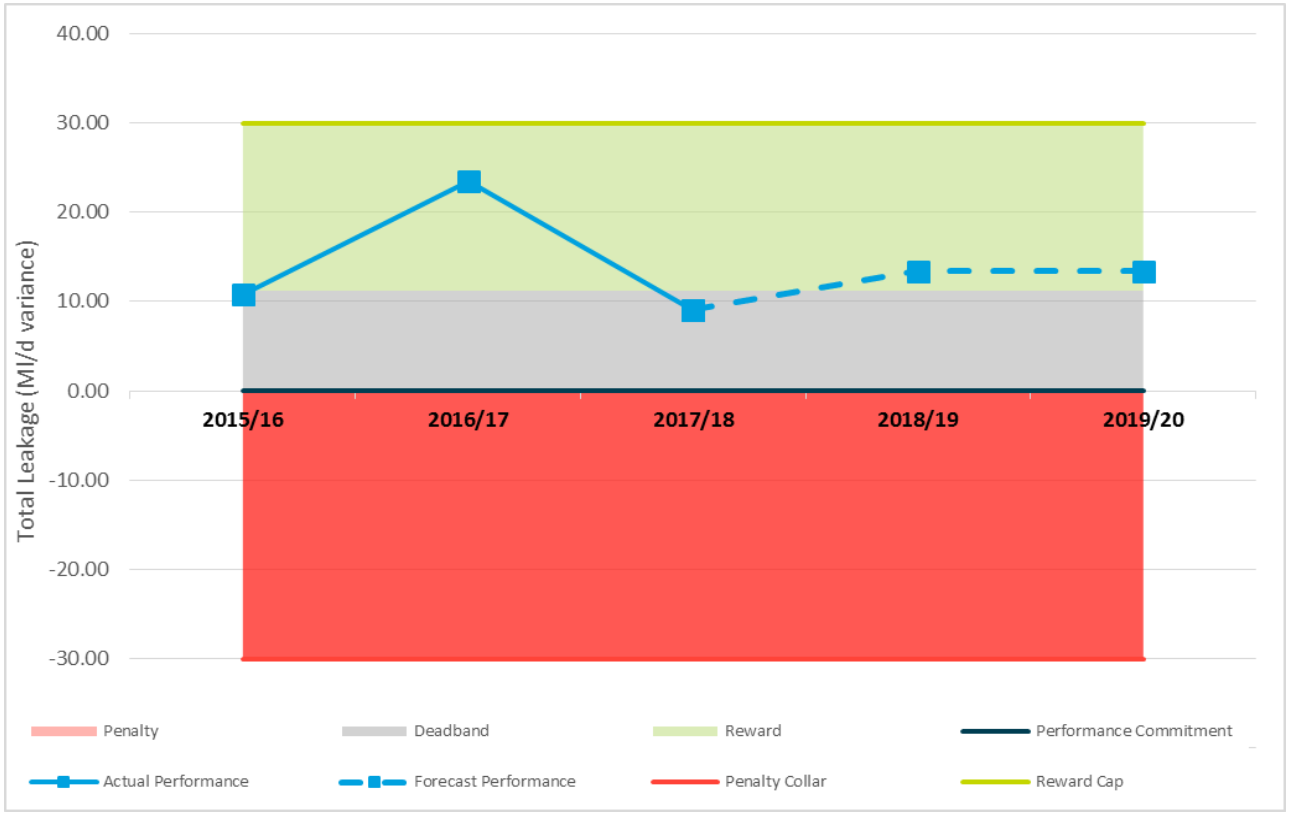
Measure description

This measure records the volume of water leaking from our network as a deviation from our overall target of 462.65Ml/d. The performance commitment has both out performance payments and penalty financial incentives.

Actual and forecast performance for the 'Total leakage at or below target' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	0.0	0.0	**0.0**	0.0	0.0
Actual/Forecast	10.8	23.4	**9.1**	13.4	13.4
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	£0m	£9.148m	**£0m**	£1.646m	£1.646m

Actual and forecast performance for the 'Total leakage at or below target' - AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

The performance commitment for 2015/16, 2016/17 and 2017/18 was met. Recognising the importance customers place on leakage, additional investment has been used to fund more leakage detection teams and repair gangs. We have also accelerated our pressure management programme in order ensure delivery of our targets. At the start of the AMP leakage performance has also benefitted from mild winters which have helped to deliver a favourable leakage position.

Penalty or Out performance payments

In order to calculate any penalty or out performance payments the actual performance level is compared against the target performance level. If the performance falls within the out performance payments or penalty-zone then we multiply the resulting difference by the incentive rate. For leakage, the incentive penalty rate is £1.458 million per Ml/day variance and the out performance payments is £0.748 million per Ml/day variance.
In 2017/18 we outperformed our target but not enough to receive an out performance payment.

Lessons learnt and action plan

Our current leakage levels are significantly below the economic level of leakage, which has been calculated at 682.9 Ml/d. This suggests that leakage reductions may not be economically beneficial. We are already performing below the sustainable economic level of leakage required to maintain the supply demand balance. However we recognise the importance that our customers place on reducing leakage and are therefore continuing to strive for improvements.
We reported our best ever performance in 2016/17. The severe weather and freeze thaw experienced in February 2018 has caused an increase in leakage compared with last year but the plans we have in place meant we were still able to outperform our target although not by enough to earn an out performance payments. We need to continue to manage all activities that drive the leakage calculation in order to continue to outperform targets in this area in future.

Anticipated performance Years 4 and 5

Our prediction for leakage performance is that we will be able to outperform our 2015/16 leakage level of 462.65 Ml/d and meet our performance commitment target of 0 Ml/d deviation from target. With the plans we have in place and assuming that there isn't any significant impact from severe winters we hope to be able to earn an out performance payments on this measure over the remainder of the AMP.

Future performance – risk, issue, concern, change or opportunity

1. Non-domestic consumption - From FY18 it will be necessary to closely monitor the quality and accuracy of data provided by the Market Operator to ensure any inaccurate meter readings are promptly corrected by the retailers and robust data is available for use in the non-household consumption element of the leakage calculation. Any issues with obtaining data from the Market Operator could have an impact on our leakage calculation.

2. Freeze-thaw events - Additional leaks/ bursts as a specific result of freeze-thaw events could be challenging to resolve.

Line 8 B5: Resilience of impounding reservoirs

Performance summary
We have out performed our target on this measure in 2017/18. We anticipate that we will meet our target in both of the next two years.

Measure description
The measure relates to our duty to maintain our statutory reservoirs and represents the resilience of these reservoirs using a total score from risk assessments.

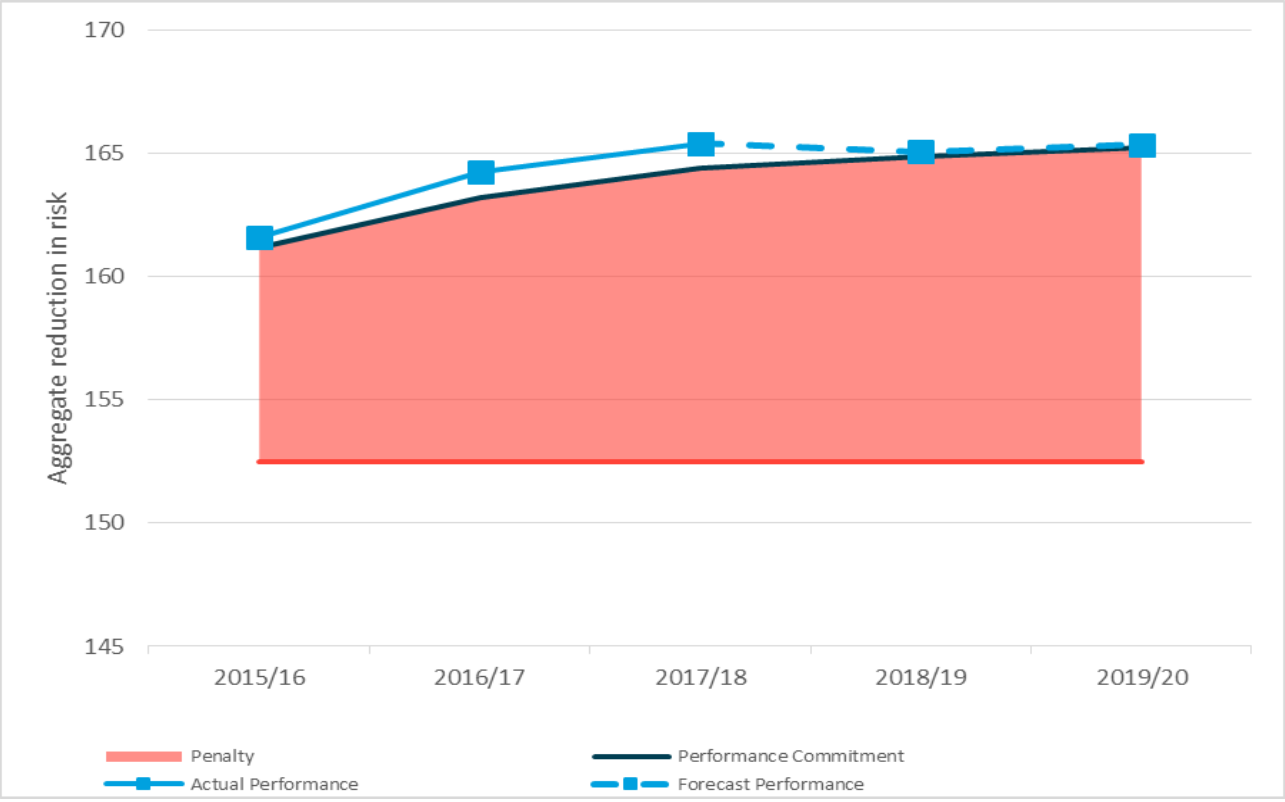
The scores are calculated using current international best practice and in compliance with Health and Safety Executive guidelines.

The measure is based upon a starting performance score of 151.86, with work undertaken to reduce risk levels increasing the performance score. The higher the performance score the greater the reduction in risk and therefore the better the performance. So the target is to be at or above the performance target in each year of the period.

Actual and forecast performance for the 'Resilience of impounding reservoirs' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	161.2	163.21	**164.44**	164.87	165.27
Actual/Forecast	161.61	164.25	**165.42**	165.09	165.37
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/Penalty	£0m	£0m	**£0m**	£0m	£0m

Actual and forecast performance for the 'Resilience of impounding reservoirs' - AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

This measure involves a rolling score starting from the base level in 2013/14 through the end of the AMP5 period and across the AMP6 period. Therefore out performance in one year can benefit the subsequent year. As such, the out performance in FY16 has enabled continued out performance in FY17 and FY18.

There was a slight out performance of the target in 2015/16 due to early completion of key projects, implementation of operational solutions, and the reduction in cumulative risk following the completion of site surveys and analysis by the Risk Estimation Team (this includes members of our Reservoir Safety Team and independent, government appointed, Panel Engineers). It is in customers' interests to implement these no-build operational solutions immediately as they lower risk at no major cost.

Full details of these schemes are available in Appendix C. In order to calculate any penalty for this measure, the actual performance is compared against the target performance. If the performance falls within the penalty-zone then we multiply the resulting difference by the incentive rate. For impounding reservoirs, the incentive penalty rate is £0.250 million per risk unit.

Penalty or Out performance payments

In order to calculate any penalty for this measure, the actual performance is compared against the target performance. If the performance falls within the penalty-zone then we multiply the resulting difference by the incentive rate. For impounding reservoirs, the incentive penalty rate is £0.250 million per risk unit.

We outperformed against our performance commitment in 2015/16 which enabled continued outperformance in 2016/17 and 2017/18. The measure is a penalty only measure and therefore no out-performance payment has been accrued.

Lessons learnt and action plan

The resilience of impounding reservoirs programme is entirely focused on securing the safe, efficient, long term future of our reservoir assets. These assets are likely to increase in their utility and value to the company, as opportunities develop for water trading.

Securing the long term future of reservoir assets will also help to ease the transition of our water storage assets to any future water resources company that may emerge as part of future market reform.

Out performance is forecast for the remainder of AMP6 for the following reasons:

- The resilience of impounding reservoirs programme is currently ahead of the minimum delivery schedule.
- The programme has delivered positive risk reduction benefit for customers in the early years of the AMP.
- The programme has achieved some early success, with slight out performance against the target, this will help to offset any future slippage in projects if challenges arise later in the AMP.

The 'resilience of impounding reservoirs programme' delivers both civil engineering and operational solutions in order to reduce the risk of dam failure. In order to continue delivering against this measure we are exploring alternative, operational measures which may be available to reduce risk such as lowering of water levels, or increased inspection frequency.

Anticipated performance Years 4 and 5

A slight out performance against the performance commitment target is forecast for future years. Out performance early in the AMP benefits future years as this is a cumulative performance commitment and therefore out performance assists with meeting the future years' targets.

There are no penalties anticipated for this measure. However the programme has a number of challenging projects to deliver before the end of the AMP, and therefore any delivery issues that arise could result in a failure to achieve our performance commitment.

Future performance – risk, issue, concern, change or opportunity

1. Project Delivery Timescales - The majority of projects undertaken in the resilience of impounding reservoirs programme are major capital projects. Major engineering projects can often have long lead-in times. If project delivery is delayed there is a danger that projects may slip into subsequent financial years, placing the annual performance commitment targets at risk.

2. Unscheduled projects - The resilience of impounding reservoir programme was developed with a focus on dam safety only. Increasingly we are starting to operate reservoirs in new ways, to offer flood mitigation, environmental protection, raw water quality improvements, floating solar power generation, and unscheduled safety interventions delivered for a variety of customer and stakeholder reasons. We will need to manage and balance risk in these areas to ensure that transferring expenditure has minimal impact on our ability to deliver our original programme of work.

Line 9 B6: Thirlmere transfer into West Cumbria

Performance summary

We have made very good progress on the delivery of this scheme and now significantly ahead of the originally planned schedule for the project.

Our plans also show that we should be able to complete the project approximately one year ahead of the originally planned date, although there are inevitably risks associated with any project of this scale and complexity.

Measure description

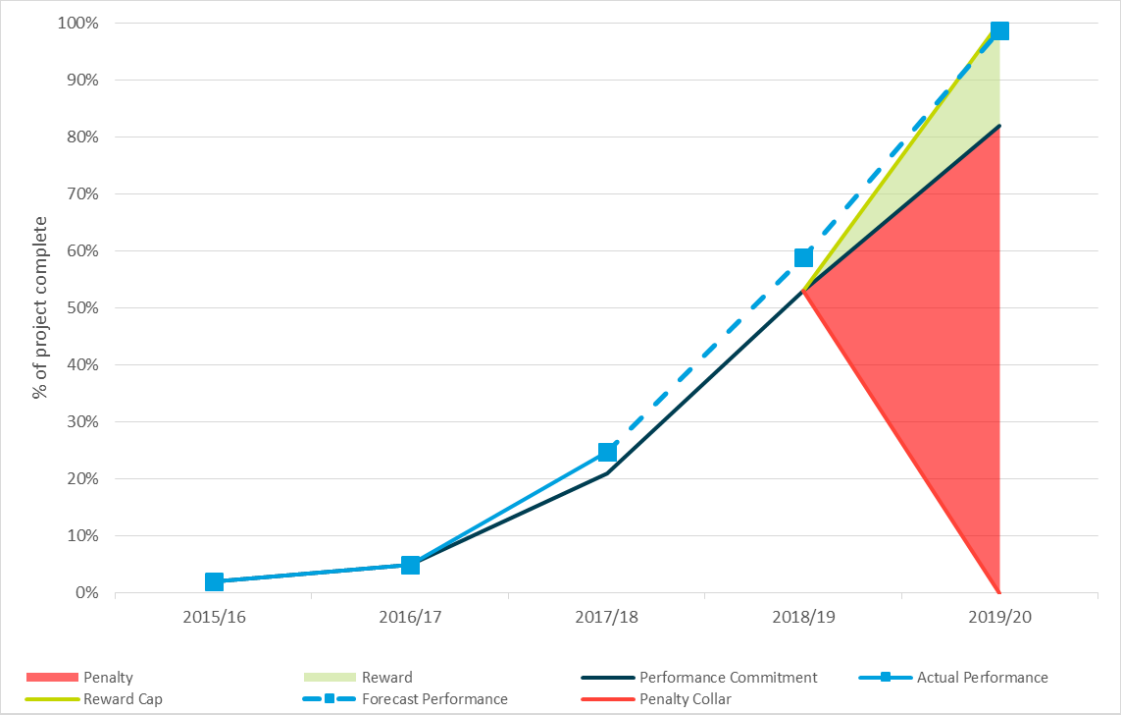
This performance commitment measures the progress of our major project to provide an additional water supply from Thirlmere reservoir to our West Cumbria supply zone. As the project will be completed in the AMP7 period, the PC tracks the earned value of the project with an end of AMP6 target of 82% delivery.

Details of our plans for West Cumbria can be found on our website. The breakdown of the project stages that make up the performance commitment in both AMP6 and AMP7, and the percentage allocated to each year as shown below.

Actual and forecast performance for the 'Thirlmere transfer' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	2	5	**21**	53	82
Actual/Forecast	2	5	**25**	57	99
Pass/Fail	On track	On track	**On track**	On track	Outperformed
Out performance payment/Penalty	-	-	**-**	-	£21.226m

Actual and forecast performance for the 'Thirlmere transfer into West Cumbria' performance commitment



Overview of performance to date

Milestone	Planned delivery year	Actual delivery year	Earned value (%)	Early / late
Tender documents (scope book) submitted to bidders	FY16	FY16	1.00	On time
Planning application submitted	FY16	FY16	1.00	On time
Contract awarded	FY17	FY17	1.50	On time
Planning application approved	FY17	FY17	1.50	On time
Construction started on site	FY18	FY18	7.66	On time
First 23.12% of main in the ground	FY18	FY18	8.34	On time
Thirlmere Bridge End connection works complete	FY20	FY18	3.68	Early

Our commercial strategy of splitting the project into five contracts and the setting up of a dedicated commercial team has enabled the project team to achieve the required contract awards in 2016/17.

We have also set up a planning performance agreement with various authorities and carried out extensive stakeholder management to ensure successful achievement of the planning approved milestone.

In 2015/2016 we achieved the two milestones of 'tenders issued' and 'planning application submitted'. This amounted to 2% of project completion in line with the performance commitment target. In 2016/2017 we achieved the two milestones of 'contracts awarded' and 'planning application approved'.

In 2017/18 we delivered the two planned milestones of 'construction started on site' and 'first 23.12% of main in the ground'. We also delivered the milestone of 'Thirlmere Bridge End construction works complete'. This work delivered a total earned value for the three years to date of 24.68%, which is ahead of the of project completion in line with the performance commitment target of 21%.

Anticipated performance Years 4 and 5

We are planning to deliver this project as soon as possible.

We are planning to deliver the three milestones required in 2018/19, with the substructures of the Water Treatment Works (WTW) and service reservoirs being completed and the next 27.27% of main being laid. We are also planning to complete the superstructure of the WTW earlier than originally planned. This would take the total earned value up to 58.86%.

We now expect to be able to lay the remainder of the transfer main during 2019/20, which was originally due for completion in FY22. This would take the total earned value of the project by the end of the AMP6 period up to 98.70% and only leave the work to complete the service reservoirs and water treatment works remaining to be completed in AMP7.

Subject to potential construction delays we would hope to be able to complete the service reservoirs in late summer of 2020 and complete the WTW and complete the project towards the end of 2020/21.

Penalty or Out performance payments

Penalty and out performance payment incentives for this measure are only applicable in FY20 and not before.

In order to calculate if any out performance payment has been incurred the actual performance is compared against the target performance level.

If the performance falls within the out performance payment zone then we multiply the resulting difference by the incentive rate. For the Thirlmere transfer into West Cumbria the incentive rate is £1.271 million per percent project completion.

By the end of the AMP6 period we are planning to have completed 98.70% of the project in terms of earned value milestones.

This is an out performance of 16.7% (98.7-82)

The out performance payment is equal to the out performance multiplied by the reward rate of £1.271m/earned value %.

End of AMP incentive = 16.7% x £1.271m/% = £21.2257m

Lessons learnt and action plan

The project is on track to outperform the targets as outlined in the performance commitment for the Thirlmere Transfer ensuring we deliver the environmental benefits from the project earlier than originally planned and avoid any financial penalties for underperformance.

Future performance – risk, issue, concern, change or opportunity

1. Weather - Drought/excessive rain could slow delivery of the project.

2. Geotechnical tunnelling difficulties - This could result in delays to the scheme.

3. Environmental and archaeological discoveries - Should these be discovered it could potentially slow delivery of the project.

Line 10 C1: Contribution to rivers improved - water programme (NEP schemes and abstraction changes at four Abstraction Incentive Mechanism (AIM) sites)

Performance summary

We have outperformed our target on this measure in 2017/18 through the early delivery of National Environment Programme (NEP) schemes and out performance of the AIM. We anticipate that we will meet our target in both of the next two years.

Measure description

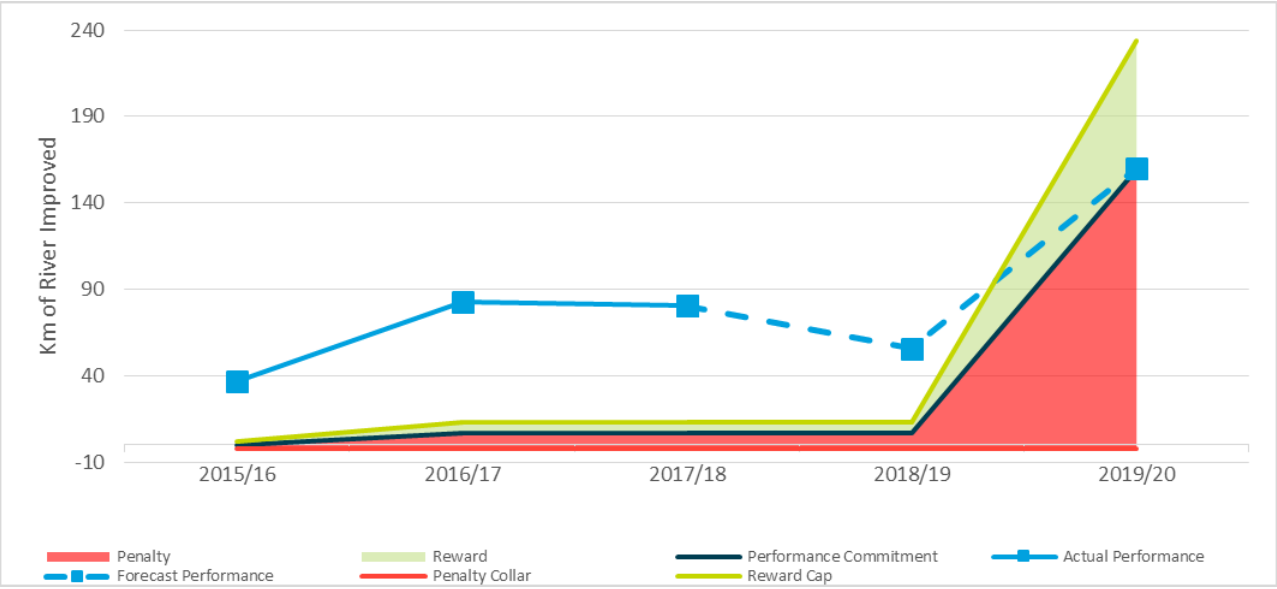
The contribution to rivers improved (water) measure of success is delivered through two main programmes:

- The delivery of an agreed number of kilometres of river improvement through completion of schemes agreed with the EA in the (NEP)
- Additional kilometres improved through changing United Utilities abstraction at the four abstraction incentive mechanism (AIM) sites.

Actual and forecast performance for the 'contribution to rivers improved' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	0	6.6	**6.6**	6.6	159.5
Actual/Forecast	36.9	82.6	**80.6**	55.7	160.3
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment /Penalty	£0.0560m	£0.1848m	**£0.1848m**	£0.1848m	£0.0227m

Actual and forecast performance for the 'contribution to rivers improved' performance commitment



Contribution to rivers improved sub-measures

Sub measure	Performance 2017/18	Target 2017/18
Cumulative length of river improved by NEP (km)	**45.73**	
Length of river improved by AIM (km)	34.83	
Total cumulative length of river improved (km)	80.56	6.6

Overview of performance to date

In order to calculate any penalty or out performance payments the actual performance level is compared against the target performance level. If the performance falls within the out performance payment or penalty-zone then we multiply the resulting difference by the relevant incentive rate. For contribution to rivers improved, the penalty incentive rate is £0.111 million and £0.028 million for the out performance payments per km.

We have outperformed the performance commitments for 2017/18 resulting in an out performance payment of £0.185 million this year. The calculation of the river length used in the annual assessment is based upon two factors: a) the total length of river affected and b) the actual level of abstraction below the 'Low' river flow threshold compared to the 2007-2013 average annual abstraction below the 'Low' river flow threshold.

This out performance has been achieved as set out below.

- In 2015/16 we secured 0.01 km of river improved through early delivery of the Heltondale fish migration investigation (6UUWR0045); ahead of the 31 March 2017 regulatory target date.
- In 2016/17 we secured 45.70 km of river improved through:
  - 6.55 km from Swindale (6UUWR0031)
  - 39.15 km from seven sediment management plans (6UUWR0009/10/13/15/16/17/20/22/26)
  - 0 km from Thirlmere tributary investigation (6UUWR0042)
- In 2017/18 we secured 0.02 km of river improved through early delivery of the Haweswater investigation into the impact of aqueduct interception of Mossy Beck-Naddle-Tailbert tributaries (6UUWR0036, 6UUWR0038 and 6UUWR0040).

As NEP km river improved is a cumulative measure, the total 2017/18 performance was 45.73 km (= 0.02 km from 2017/18 + 45.70 km from 2016/17 + 0.01 km from 2015/16).

In 2016/17 AIM was added as a specific pro forma table within the Annual Performance Report (Table 3C see Section 2.6). We had already adopted AIM through the PR14 process as part of the contribution to the rivers improved measure. Our measure is calculated differently from the new Ofwat measure, which was developed in consultation with the AIM taskforce of which UUW is a member. The calculation of the river length used in this measure is based upon two factors: a) the total length of river affected and b) the actual level of abstraction below the 'Low' river flow threshold compared to the 2007-2013 average annual abstraction below the 'Low' river flow threshold.

If abstraction in any year is at historic average levels for each site then no river length is added to, or removed from, the reported rivers improved value for that year. If no abstraction is made in that year, then the full river length for that site would be added. If abstraction is at half the average value 50% of the river length would be added. Similarly if abstraction is at 150% of the average 50% of the river length would be removed from the reported rivers improved value for that year. For each AIM site the adjustment cannot be greater than the river length associated with that site.

In 2017/18 for AIM we achieved a performance of 34.83 km. We did not achieve the full 36.84 km as river flows at Ennerdale breached the AIM trigger on nine days. The length of river improved by the AIM sub measure is combined with the cumulative length of river improved through delivery of the NEP programme to give an overall improvement in river length of 82.55km, outperforming the target of 6.6km.

This level of performance results in a small out performance of our overall AMP6 ODI target

Penalty or Out-performance payments

In order to calculate any penalty or out performance payment the actual performance level is compared against the target performance level. If the performance falls within the out performance payment or penalty-zone then we multiply the resulting difference by the incentive rate. For contribution to rivers improved, the incentive penalty rate is £0.111 million per km/year variance and the out performance payments is £0.028 million per km/year variance.

In 2017/18 we outperformed our target and received an out performance payments of £0.1848m.

Lessons learnt and action plan

The project is on track to outperform the targets as outlined in the performance commitment for contribution to rivers improved ensuring we avoid any financial penalties for underperformance.

Anticipated performance Years 4 and 5

The ODI targets in our 2015-2020 business plan to Ofwat were based on NEP3 issued by the EA on 29 August 2013. Development of the NEP by the EA is a phased process and the final version (NEP5) was published in January 2016. Despite this, the regulatory agreement (and the ODI performance commitment) with Ofwat still stands as per NEP3. NEP5 did not include the three schemes listed below:

- Eel passage on the north bank of River Lune at Forge weir – this has been provided by a third party (Lune Hydro) (1.54 km)
- Implement a new prescribed flow and fish passage at our Old Water river intake on the River Gelt, Carlisle – following a challenge by UU, this was excluded from NEP5 on the grounds of disproportionate cost (0.74 km)
- Implement a higher prescribed flow on the River Ellen – following a challenge by UU, this was excluded from NEP5 on the grounds of disproportionate cost as we plan to cease abstraction from this source in 2022 as part of the Thirlmere link scheme to supply West Cumbria (1.43 km)

If we experience periods of dry weather resulting in low river flows we may perform poorly against the AIM targets. This is mitigated in some way as there is a penalty cap of -2 km against this aspect. For three of the four AIM sites (Ennerdale, Aughertree Springs and Old Water) the alternative sources of supply are limited. The AIM site with most flexibility in terms of alternative sources is the River Calder at Barnacre. Our Production Planning team keep closely monitors river flow conditions and plan to reduce abstraction at this site if river flows approach the low AIM threshold flow.

Future performance – risk, issue, concern, change or opportunity

1. Weather - Drought/excessive rain could slow delivery of NEP schemes.
2. Dry weather - If we experience periods of dry weather resulting in low river flows we may perform poorly against the AIM targets
3. Environmental and archaeological discoveries.

Line 11 D1: Delivering our commitments to developers, local authorities and highway authorities

Performance summary

We have outperformed our performance commitment for this measure in 2017/18 and plan to outperform the performance commitments for the remaining years of the AMP.

Measure description

This measure tracks the timeliness of responses to quotation requests by developers and self-lay organisations, and the completion of works for new connections, diversions and requisitions (that is, new pipe installations) within given timescales.
Across each of the KPIs, the percentage of responses delivered and work completed to the company's service levels are monitored. The percentage compliance for the two key areas of activity (timeliness and completions) are then consolidated into a single performance measure shown as a percentage.

Actual and forecast performance for the 'delivering our commitments to developers, local authorities and highway authorities' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	91%	92%	**93%**	94%	95%
Actual/Forecast	95%	98%	**94%**	94%	95%
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	Reputational	Reputational	**Reputational**	Reputational	Reputational

Overview of performance to date

Although year on year performance has reduced we have outperformed our performance commitment in 2017/18 with the overall percentage compliance of 93.83%. Implementation of IT systems and new working procedures saw an overall improvement in service in 2016/17. Unfortunately however performance in 2017/18 has been impacted by operational resource issues which has meant responses in some areas have been delayed.

Penalty or Out performance payments

This is a reputational measure with no financial incentive.

Lessons Learnt and Action Plan

We strive to achieve 100% compliance, but due to the nature of the work and other outside influences this is difficult to achieve. We continue to encourage close working between departments and with Local Authorities to ensure work is completed in a timely manner.

Anticipated Performance Years 4 and 5

This was a new measure for AMP6 that we highlighted would be further developed during the AMP. Following agreement of the performance commitments with Ofwat, Water UK introduced a new developer services scorecard with targets tougher than the original performance commitments agreed with Ofwat. We are aiming to outperform the original Ofwat performance commitments and deliver a better standard of service.

Future performance – risk, issue, concern, change or opportunity

1. Potential programme delays caused by traffic management requirements

Line 12 E1: Number of free water meters installed

Performance summary

We have underperformed this measure for a third year and expect to miss the target for the remaining two years of the AMP.

Measure description

This measure relates to the number of water meters that we install for free. Domestic customers can apply to have a water meter fitted free of charge. This scheme applies to customers who are charged on a Rateable Value (RV) tariff and wish to benefit from a lower bill. The measure is delivered as a result of the underlying base level of demand and through two types of specific intervention:

- The targeted promotion of free water meters to customers to help manage debt issues.
- The installation of free water meters to support operational process and policy improvements.

Actual and forecast performance for the 'Number of free meters installed' performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	61,644	59,325	**57,393**	47,421	46,054
Actual/Forecast	27,197	32,447	**36,615**	37,414	37,205
Pass/Fail	Fail	Fail	**Fail**	Fail	Fail
Out performance payment/ Penalty	Reputational	Reputational	**Reputational**	Reputational	Reputational

Overview of performance to date

We have ended 2017-18 delivering a 35% growth in applications for free meters from our customers in the North West, compared to the annual take-up figures when we launched our current five-year business plan in 2015. This year alone we have fitted 36,615 free meters into homes against an original target of 57,393, which was based on an econometric model which we now believe overestimated the likely take-up levels from among our customer base.

To recover this position, we have reinvigorated our metering proposition and made more effective use of customer segmentation to target, promote and message free meter take-up to the customers we know would benefit the most. We have introduced a range of interventions, including a new bill for non-metered customers which provides more relevant and specific information about how the switch to a meter could save them money.

At the time the bill was sent to customers, we held 31 pop-up shops in shopping centres in key locations across the North West to talk openly to customers about the benefits of switching to a meter and to actively dispel the commonly held myths about metering versus a fixed charge.

Recognising that amongst those that would benefit the most are those already struggling to pay or behind with their bills, we built the metering promotion and sign-up into our Town Action Plan, which sees us carry out door-to-door visits to customers in our most deprived towns, completing more than 40,000 visits in the year.

Penalty or Out performance payments

This is a reputational measure with no financial incentive.

Lessons Learnt and Action Plan

Metering levels in the current investment period have significantly increased on previous levels of metering. These estimates were primarily based upon volumes predicted by an independent econometric model, with some additional uplifts in numbers anticipated as a result of promoting free meters to customers who were in debt, along with undertaking additional work within customers' homes to minimise the number of instances where a meter could not be fitted.

As set out in previous years' reports, the initial econometric model predictions overestimated uptake levels. To address this we have engaged an alternative consultant to create a revised model, more accurately able to predict future uptake levels. Within those original targets, uptake levels have not been as high as anticipated. Similarly, we have responded to customer feedback about the internal fitting of meters, which has generated less opportunities to do additional work to facilitate internal meter installations than assumed.

Although we have not achieved the target for the year, we are encouraged by the significant growth in year and the early positive results of some of our newer metering campaigns. We will continue to focus on increasing uptake levels by promoting meters to customers we believe would benefit from a meter, which will be enhanced by the implementation of more sophisticated customer segmentation built into our billing system in 2018-19. We are optimistic that the combination of the enhanced proposition and more effective targeting will generate further growth in free meter take-up among customers in remaining years of this investment period.

Anticipated Performance Years 4 and 5

We do not expect to meet the targets for the remaining two years of the AMP but do expect to maintain higher levels of replacement that we have historically.

Future performance – risk, issue, concern, change or opportunity

1. There is a risk that our planned metering campaign and promotion activity does not deliver the estimated uptake of free meters for the remaining two years.

A.2 Wastewater Service performance commitments

2017/18 Annual performance summary

Performance against our water service outcomes in 2017/18 and the cumulative performance in the AMP6 period to date, is set out in the table below. Further information on each measure is provided within this section of our Annual Performance Report, with details of the calculation of the index scores and associated incentives provided in Appendix 2.

Wastewater Service Operational Performance Summary (2017/18)

Performance commitment	Actual Performance			Performance Commitments		Incentive		
	2015/16	2016/17	2017/18	2017/18	Pass / Fail	Impact	2017/18 Annual (£m)	2017/18 Cumulative (£m)
S-A1: Private sewers service index	91.69	91.90	85.00	<=100	Pass	Reward	7.376	22.128
S-A2: Wastewater network performance index	90.95	89.47	86.17	<=99.4	Pass	Penalty	0.000	0.000
S-B1: Future flood risk	16,472	16,418	16,395	<=16,341	Fail	Reputational	N/A	N/A
S-B2: Sewer flooding index	100.8	94.4	70.0	<=73.9	Pass	Deadband	0.000	(1.484)
S-C1: Contribution to bathing waters improved	0.47	0.66	1.49	>=1.49	Pass	No reward	0.000	0.000
S-D1: Protecting rivers from deterioration	48.0	48.0	210.5	>=190.1	Pass	No reward	0.000	0.000
S-D2: Maintaining our wastewater treatment works	91.48	58.71	30.47	<=83	Pass	No reward	0.000	0.000
S-D3: Contribution to rivers improved	0.75	46.98	120.73	>=121.83	On track	Reward	0.428	0.823
S-D4a: category 1 and 2 pollution incidents	4	2	0	<=3	Pass	No reward	0.000	0.000
S-D4b: category 3 pollution incidents	136	150	129	<=198	Pass	Reward	3.278	9.834
Wastewater Service (net reward) £m							11.082	31.301

Forecast future performance

Actual performance against our wastewater service outcome delivery incentives in the first three years of the AMP6 period, together with forecast performance for the remaining two years of the period, is set out in the table below. Further information on each measure, including the rationale and potential risks and opportunities associated with the future performance projections is set out for each measure.

Information on the way that the predicted performance and incentive payments would impact upon bills in the 2020 – 2025 period (AMP7) is set out in "United Utilities Water PR14 reconciliation", which is available on our website.

It must be recognised that performance against many of the outcome delivery incentives in the table below will be subject to a number of factors, which are at least in part outside of our direct control. Therefore the projections set out in the table below are indicative values only.

Actual and forecast performance of the Wastewater Services performance commitments and a projected view of financial performance at the end of AMP6 (£m)

Performance commitment	Incentive type	Actual*				Forecast*		Projected AMP6 total
		15/16	16/17	17/18	Current financial position	18/19	19/20	
S-A1: Private sewers service index	Reward & penalty	7.4	7.4	7.4	22.1	7.4	7.4	36.9
S-A2: Wastewater network performance index	Penalty only	-	-	-	-	-	-	0.0
S-B1: Future flood risk	Reputational only	-	-	-	N/A	-	-	N/A
S-B2: Sewer flooding index	Reward & penalty	-	(1.5)	-	(1.5)	(8.9)	(8.7)	(19.2)
S-C1: Contribution to bathing waters improved	Penalty only	-	-	-	-	-	-	-
S-D1: Protecting rivers from deterioration	Penalty only	-	-	-	-	-	-	-
S-D2: Maintaining our wastewater treatment works	Penalty only	-	-	-	-	-	(4.4)	(4.4)
S-D3: Contribution to rivers improved	Reward & penalty	-	0.4	0.4	0.8	0.1	(0.1)	0.8
S-D4a: category 1 and 2 pollution incidents	Penalty only	-	-	-	-	-	-	-
S-D4b: category 3 pollution incidents	Reward & penalty				9.8	3.28	3.28	16.4
S- D5: Satisfactory sludge disposal	Penalty only	-	-	-	-	-	-	-
Wastewater services net: 2015/16-2017/18					**£31.3m**	**net AMP6 projection**		**£30.5m**

Line 13 S-A1: Private sewers service index

Performance summary

In 2017/18 we continued to outperform our performance commitment achieving an index score of 85.0 against a target of 100. This has earned a reward of £7.376 million. We expect to continue this level of out performance throughout the remainder of the AMP.

Measure description

This performance commitment measures the performance of the former network of private sewers which transferred to us in 2010. It does this via an index of five sub measures:

- Internal and external flooding due to hydraulic overloading
- Internal and external flooding due to other causes
- Pollution incidents
- Sewer collapses
- Sewer blockages

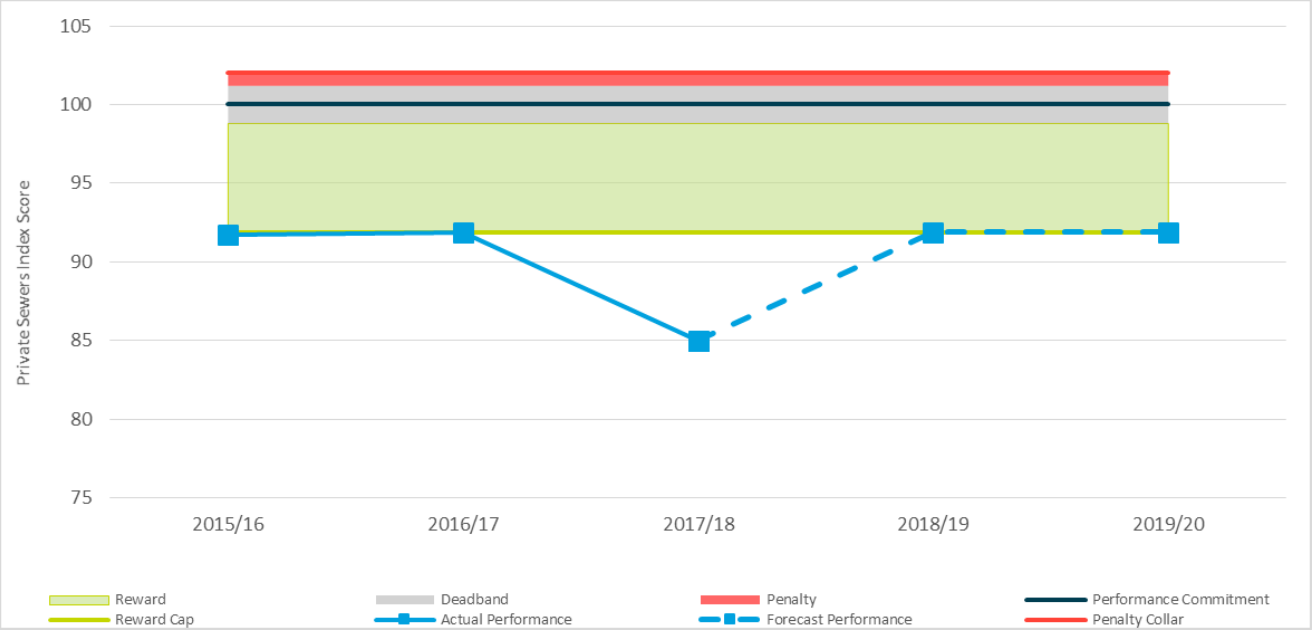
Pollution incidents is the most heavily weighted of the sub measures against the overall index score.

The performance target has been set at a level of performance across AMP6 that is consistent with our typical performance in AMP5. The measure has financial penalties if performance deteriorates and financial rewards to encourage the company to improve performance and minimise customer impacts.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	100	100	**100**	100	100
Actual/Forecast	91.7	91.9	**85.0**	91.9	91.9
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Outperformance Payment/Penalty	£7.376m	£7.350m	**£7.376m**	£7.376m	£7.376m

Sub measure	Indicative target performance 2015/16	Actual performance 2015/16	Indicative target performance 2016/17	Actual performance 2016/17	Indicative target performance 2017/18	Actual performance 2017/18
Internal Hydraulic Flooding Incidents	<= 8	2	<= 8	1	<= 8	1
Internal Flooding other causes (FoC) Incidents	<= 393	416	<= 393	414	<= 393	275
External Hydraulic Flooding Incidents	<= 38	10	<= 38	5	<= 38	5
External FoC Incidents	<= 4,782	4,595	<= 4,782	4,594	<= 4,782	3,896
Collapse	<= 467	361	<= 467	391	<= 467	302
Blockage	<= 15,518	13,906	<= 15,518	14,031	<= 15,518	13,089
Pollution	<= 4	5	<= 4	1	<= 4	4

Actual and forecast performance for the private sewers service index – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

In the three years from 2015/16 to 2017/18 we outperformed our performance commitment. The majority of the improvement in private sewers performance has been driven by the continued embedment of our wastewater network operating model, which has an emphasis on first time resolution. Adopting this model has helped to reduce the numbers of repeat incidents.

In the first three years of the AMP, the level of investment on transferred assets has remained relatively stable, we are predicting to spend approximately the same amount of transferred assets for the remainder of the AMP6 period.

Penalty or Out performance payment

We have achieved an out performance payment of £7.376m in 2017/18.

The measure is an index that comprises of five sub measures. The sub measures are weighted and summed to produce the index score with the overall index score rather than performance against any individual sub measure being used as the basis for the incentive calculation. If the overall index score falls within the penalty or reward zones then the incentive is calculated by multiplying the difference by a penalty rate of £4.204 million per index point or a reward rate of £1.069 million per point. Details of the calculation of this index measure as set out in Appendix 2.

Lessons learnt and action plan

We will continue with our first time reactive resolution model, targeting a reduction in incidents over the rest of the AMP. The probability of a reoccurrence of the weather patterns seen in the early part of the AMP is uncertain so any benefits from the additional rainfall will not necessarily be present in future years.

This level of performance may also have a positive effect on our sewer flooding index and pollution performance commitments.

Anticipated performance Years 4 and 5

Our current prediction is to continue investing and successfully maintain our operating model such that we earn a reward each year against this measure.

Future performance – risk, issue, concern, change or opportunity

1. There is a risk of additional incidents due to having less knowledge of transferred assets

This includes: historic problems which were previously not our responsibility, potentially poor asset condition and incidents from unknown assets which would be impossible to predict or prevent.

2. Inclusion of transferred sewers and 3rd party laterals serving properties built after 1st July 2011. There will be a very small number of non-qualifying incidents in our data. A review of these incidents is underway.

Line 14 S-A2: Wastewater Network Performance Index

Performance summary

We have outperformed in this measure in 2017/18. We anticipate that we will continue to outperform our targets for the remainder of the AMP6 period.

Measure description

Our wastewater network performance index consists of four sub measures:

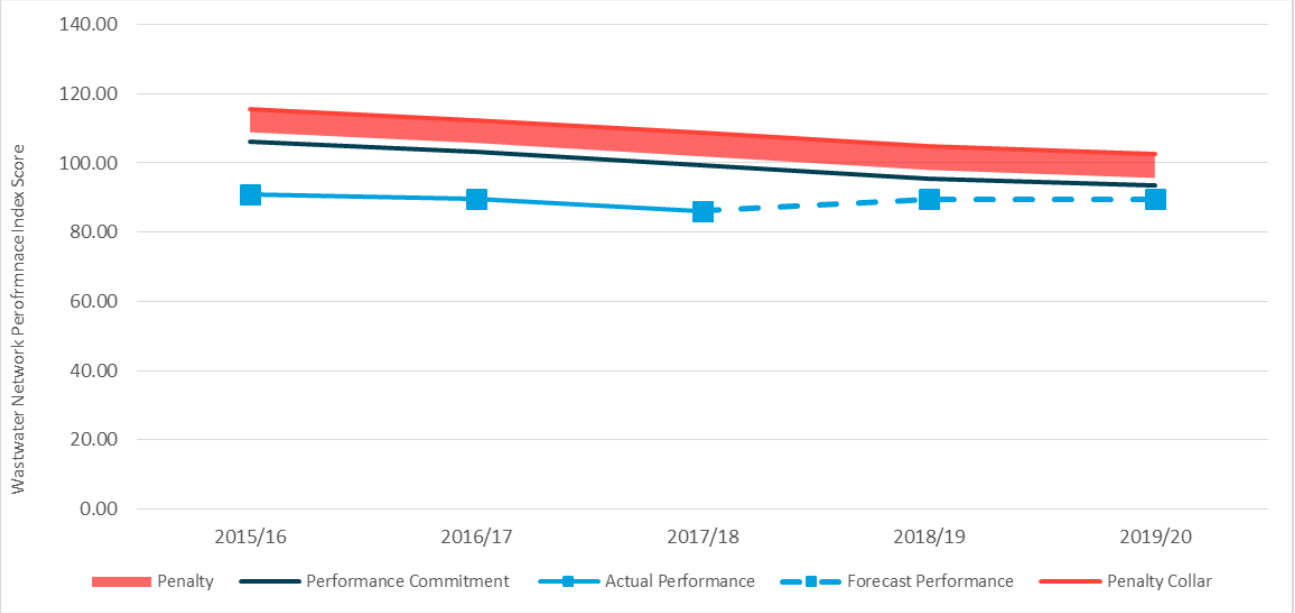
- Rising main failures
- Sewer collapses
- Sewer blockages
- Equipment failures

Rising mains bursts is the most heavily weighted of the four sub measures that contribute to the overall index score.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	106.2	103.2	**99.4**	99.4	93.4
Actual/Forecast	90.95	89.47	**86.17**	89.50	89.50
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	£0m	£0m	**£0m**	£0m	£0m

Sub measure	Indicative target performance 2015/16	Actual performance 2015/16	Indicative target performance 2016/17	Actual performance 2016/17	Indicative target performance 2017/18	Actual performance 2017/18
Rising Main Failures	40	51	40	46	<=40	47
Collapses	444	261	444	268	<=444	232
Blockages	8,754	7,473	8,425	7,469	<=8,015	7,047
Equipment Failures	2,403	2,704	2,383	2,322	<=2,358	3,088

Actual and forecast performance for the network performance index – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

We have outperformed against this measure in years 1, 2 and 3 with an index score of 90.95, 89.47 and 86.17 respectively against a target of 106.2, 103.2 and 99.4.

The improved performance is primarily due to the continued embedment of our operating model, which seeks to resolve incidents quickly and effectively and address operational defects that may cause future or repeat incidents and affect our customers.

The use of our resolution units and the high specification equipment they are equipped with continues to positively impact on blockage volumes. In addition, our targeted 'what not to flush' campaign has also had a positive impact. It is possible that the increased flow from the wetter weather conditions may also have contributed to blockage performance given the flushing effect on the sewers with the increase in rainfall.

Our programme of work carrying out extensive field CCTV surveys has identified defects and collapses, which enables us to undertake proactive repairs, before they impact on our customers. Whilst proactive collapse repairs do increase the reported number for this measure, they do deliver benefits in terms of flooding and pollution risk reduction.

Penalty or out performance payment

Our wastewater network performance index consists of four sub measures: rising main failures, collapses, blockages and equipment failures. Each of these sub measures is weighted and then summed together to generate an index score. We compared the overall index performance against the target performance. If the performance falls within the penalty zone then we multiply the resulting difference by the incentive rate of £2.298 million per index point for penalty. Details of the calculation of this index measure as set out in Appendix 2

The measure is incentivised by a penalty only, so no reward has been achieved through this significant out performance.

Lessons learnt and action plan

Additional actions that will support the maintaining of this performance are:

- Continuing our activity to proactively repair collapses and identify other repairable defects. Sewer cleaning and CCTV activities will also continue throughout the AMP.
- Further education of customers on what not to flush/pour into the network.
- Better targeting of issues through the investigation of the root cause to problems.

Anticipated performance Years 4 and 5

We anticipate continuing to outperform against this measure and expect the general trend of reducing the number of blockages and collapses to continue. Unless there are some unforeseen circumstances we do not expect to incur a penalty on this measure for the rest of the AMP.

Future performance – risk, issue, concern, change or opportunity

1. Reporting systems are being enhanced - This will enable further investigation and root cause analysis. Whilst this may have a positive impact to data quality through reducing manual processes there is the potential for data issues during implementation.

2. There is a limit to the operational technology and innovation available for inspecting rising mains. This leads to the potential for deterioration in rising mains and future failures.

Line 15 S-B1: Future flood risk

Performance summary

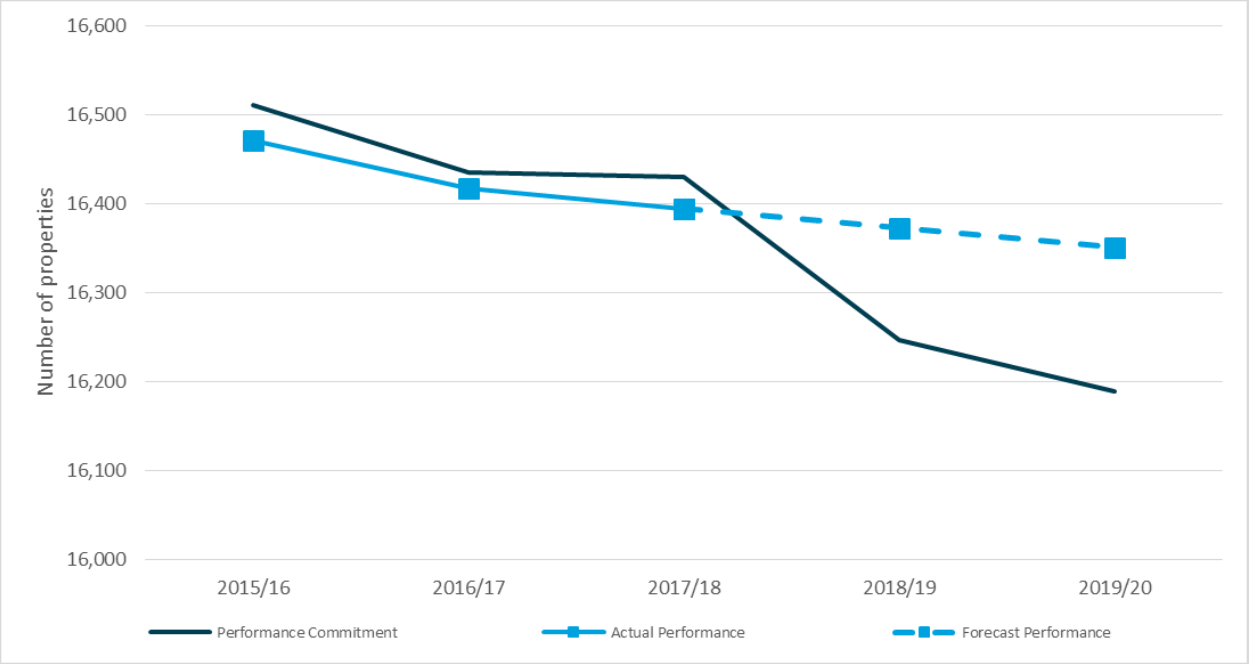
For the first two years of AMP6 we have achieved our target and reduced the number of properties from future flood risk. However, this year and the final two years of the AMP we anticipate that we will underperform on this measure for the remainder of the AMP.

Measure description

The future flood risk performance commitment uses overland flow hydraulic models to assess the risk that each property in the North West faces from sewer flooding. The aim of this measure is progressively to reduce the numbers of properties at modelled risk over AMP6 and is reputational only.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	16,511	16,436	16,341	16,247	16,190
Actual/Forecast	16,472	16,418	16,395	16,373	16,351
Pass/Fail	Pass	Pass	Fail	Fail	Fail
Out performance payment/ Penalty	£0m	£0m	£0m	£0m	£0m

Actual and forecast performance for future flood risk – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

The performance commitments for 2015/16, 2016/17 and have been outperformed. For FY18 we have fallen short of our target.

Properties are removed from risk as a result of capital projects, appropriate mitigation or sustainable drainage schemes. The majority of risk removal in AMP6 has been as a result of providing mitigation to properties, this is the most cost effective method for customers. Mitigation minimises the chance of repeat sewer flooding and therefore there is also a related impact of this on the sewer flooding index measure.

Penalty or out performance payment

This measure is reputational only and so no financial penalty or reward will be applied.

Lessons learnt and action plan

Our sewer flooding targets for AMP6 are extremely challenging. In order to ensure the greatest benefit to customers we have focussed our programmes on flooding other causes as this results in the greatest proportion of affected customers. This has resulted in us delivering a lower number of large-scale capital solutions and focussing on blockage clearance and collapse repair. We also seek to install mitigation to prevent any reoccurrence of flooding.

Anticipated performance Years 4 and 5

Despite outperforming the target in years 1 and 2, we have failed our target in year 3, and our current forecast for this measure is to underperform the performance commitment for the remainder of the AMP. Our data suggests that we will identify a lower number of properties where it is cost beneficial to reduce the risk of flooding and therefore it may not be possible to achieve our target.

Future performance – risk, issue, concern, change or opportunity

1. We will continue to review the types of solutions that can remove properties from being at risk of flooding, changes to the methodology could develop over the AMP. Any changes to the methodology will be fully understood and reported transparently.

Line 16 S-B2: Sewer flooding index

Performance summary

We have met our target on this measure in 2017/18, however, we did not receive an out performance payment as our performance did not fall within the reward zone. We anticipate that we will receive penalties in both the final two years of the AMP.

Measure description

Our sewer flooding index consists of five sub measures:

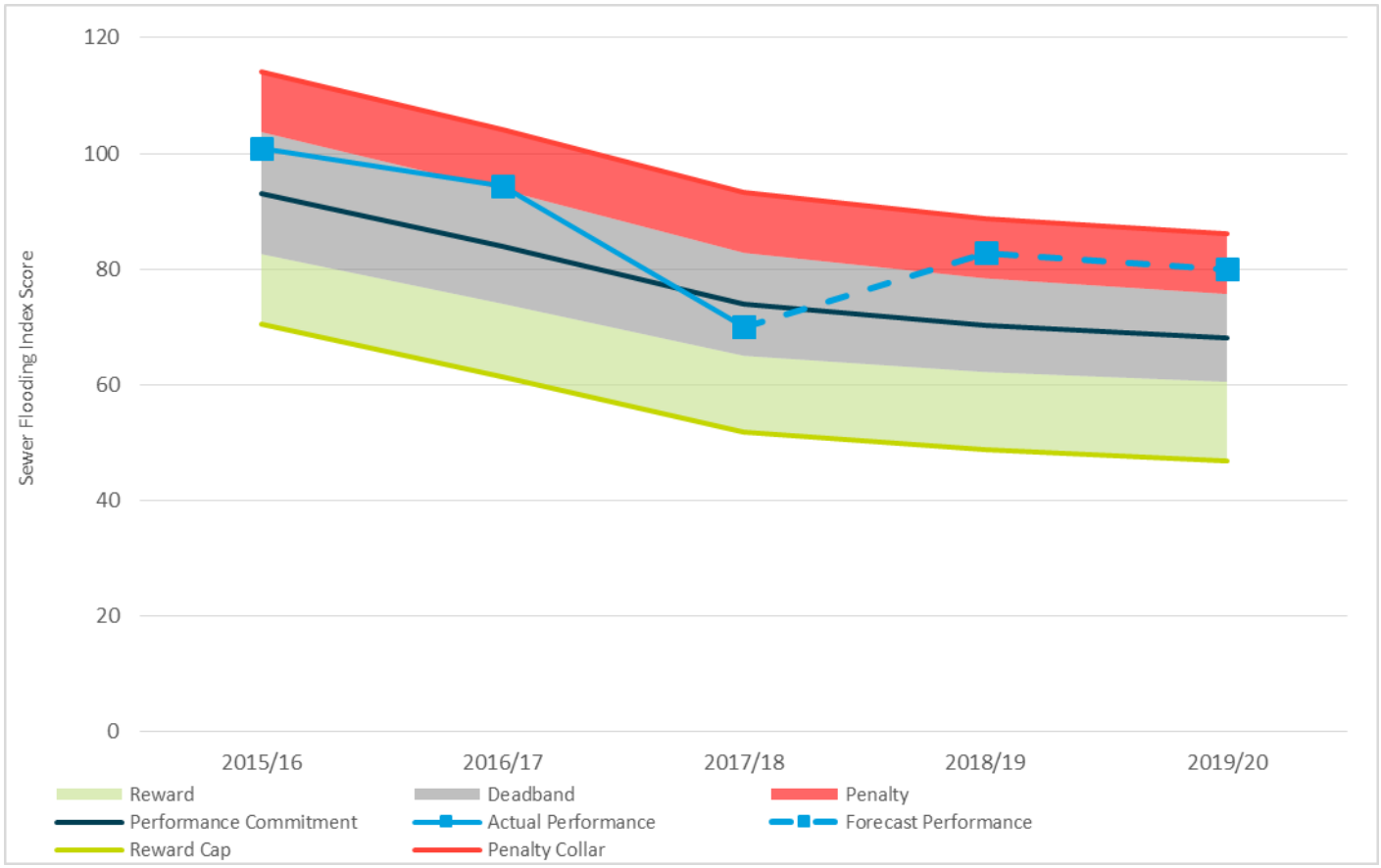
- Incidents of repeat flooding
- Internal flooding due to hydraulic overload
- External flooding due to hydraulic overload
- Internal flooding due to other causes
- External flooding due to other causes

Internal flooding due to hydraulic overload, internal flooding due to other causes and incidents of repeat flooding are equally the most heavily weighted of the five sub measures which comprise the overall index score.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	93.1	83.9	**73.9**	70.3	68.1
Actual/Forecast	100.8	94.4	**69.99**	82.80	80.0
Pass/Fail	Pass	Fail	**Pass**	Fail	Fail
Out performance payment/ Penalty	£0m	£1.484m	**£0m**	£8.941m	£8.737m

Sub Measures	Indicative target performance 2015/16	Actual performance 2015/16	Indicative target performance 2016/17	Actual performance 2016/17	Indicative target performance 2017/18	Actual performance 2017/18
Repeat Flooding	<=367	377	<=388	362	<=303	206
Internal hydraulic incidents	<=100	147	<=78	147	<=55	91
Internal FOC incidents	<=607	839	<=491	794	<=375	559
External hydraulic incidents	<=499	455	<=499	215	<=499	212
External FOC incidents	<=3,878	3,991	<=3,715	3,274	<=3,512	2,863

Actual and forecast performance for the sewer flooding index – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

End of year performance for 2015/16 was within the deadband. In 2016/17 we underperformed against this performance commitment this reflected the challenging target and resulted in a penalty of £1.48m. In 2017/18 performance improved enabling us to achieve our target.

Having been set as part of Ofwat's upper quartile challenge, the targets for this measure are very stretching, especially with this measure being extremely sensitive to severe weather events. In each year of the AMP so far we have suffered from major storm events and whilst the more extreme events are excluded from our analysis, such storms do inevitably contribute to the overall number of flooded properties. We are working hard to respond well to flooding events, ensuring we understand the cause so that we can look to resolve the issue appropriately. Our network operating model, along with sewer misuse customer education initiatives and partnership projects, is supporting our continued improvement in this area.

Penalty or out performance payment

This measure has both out performance and penalty financial incentives.

Each of the sub measures is weighted and then added together to generate the index score. We compare the overall index performance against the target performance. If the performance falls within the penalty or reward-zone then we multiply the resulting difference by the relevant incentive rate. For the sewer flooding index the incentive rates are £2.032 million per index point for penalty and £1.050 million per point for out performance. Details of the calculation of this index measure as set out in Appendix 2

For 2017/18 our index score was ahead of target but not within the reward zone.

Lessons learnt and action plan

We have a number of activities that are being implemented to support an improvement in performance, these include:

- Further embedment of our operating model which along with the further enhancements to the reactive resolution vehicles and the equipment on them will support our response to incidents.

- Reviewing the way we assess, operate and manage our networks. This will result in changes to the way we identify risk, resolve incidents and understand connectivity across our networks. Additionally real time monitoring of key points on the network will allow us to identify issues and prevent flooding. All of this will contribute to reductions in blockages, collapses and flooding.

- A campaign of targeting areas for what not to flush, this aims at reducing other causes incidents through customer engagement. Our customer engagement trials and research in relation to sewer misuse have revealed the most efficient approaches to adopt in order to reduce blockages. We will be carrying out large-scale customer engagement campaigns, based on the findings from our Preston trial, which demonstrated a 60% reduction in unflushable items disposed. We have complimented this research with a partnership project, working with Keep Britain Tidy to understand customer attitudes and flushing behaviour in order to co-create solutions with customers and supermarkets.
- Proactive strategy of identifying defects and collapses through the use of extensive field CCTV surveys.

Anticipated performance Years 4 and 5

In 2016/17 resulted in penalty on this measure and whilst performance in 2017/18 has been good, due to the stretching target alongside the impact of favourable weather conditions, we believe that it is unlikely that we will be able to avoid a penalty in years 4 and 5. This is due to the scale of the reduction required over the remainder of the AMP.

Future performance – risk, issue, concern, change or opportunity

1. This measure is particularly vulnerable to other variables such as rainfall. The number of flooding incidents can be significantly affected by factors outside of our control and therefore this makes predicting the performance for the remainder of the AMP complex.

2. 3rd party damage or sewer abuse. This has the potential to result in high numbers of flood impacted properties which can be outside our control.

Line 17 S-C1: Contribution to bathing waters improved

Performance summary

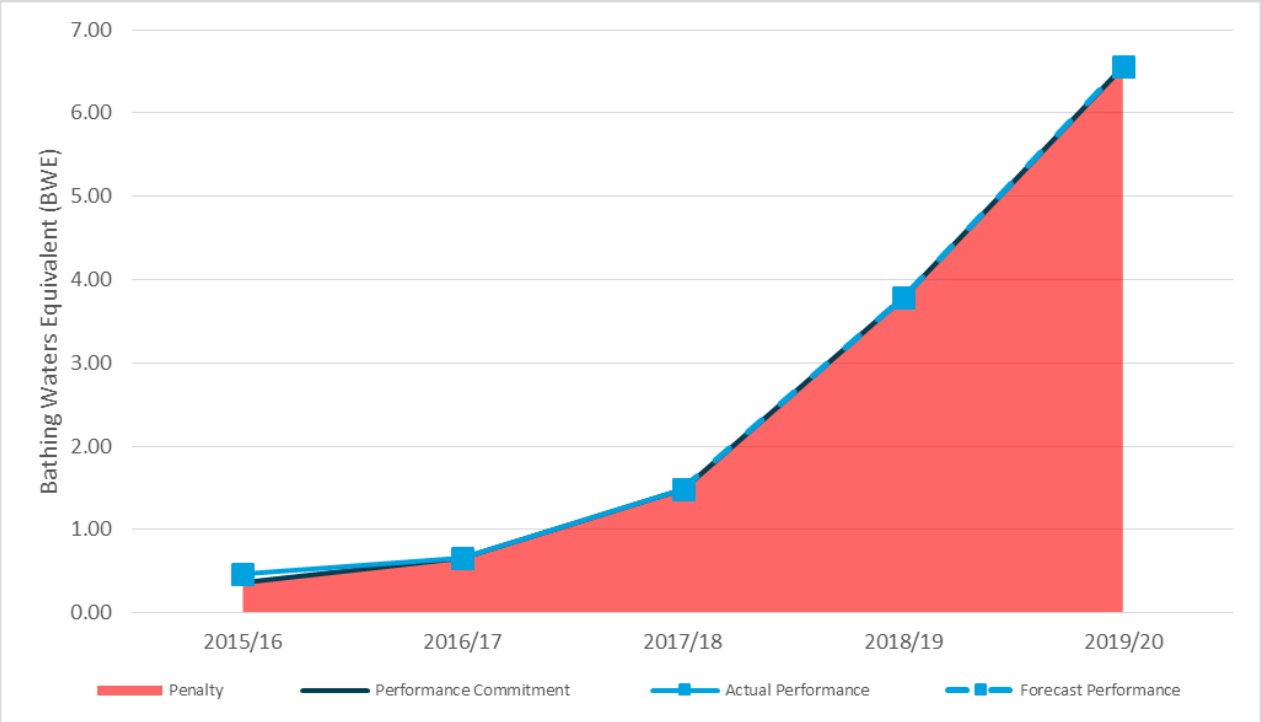
In 2017/18 we achieved our performance commitment target. We anticipate that we will achieve our target in the next two years of the AMP.

Measure description

This performance commitment measures the delivery of the programme of work which we have agreed with the Environment Agency to improve the impact that our assets have on bathing water compliance. Each project in this programme has been an assigned an impact upon bathing water compliance called a bathing water equivalent (BWE), which is proportionate to the impact that completing the project will have on a designated bathing water. The measure is penalty only.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	=>0.36	=>0.66	**=>1.49**	=>3.78	=>6.56
Actual/Forecast	0.47	0.66	**1.49**	3.78	6.56
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment /Penalty	£0	£0	**£0**	£0	£0

Actual and forecast performance for contribution to bathing waters – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

In 2015/16 we outperformed against our performance commitment and achieved the performance commitment in 2016/17 and 2017/18.

The out performance in 2015/16 was due to the early delivery of the Coastal Misconnections (CSW) programme. The projects delivered to date are shown in the table below.

Project	EA NEP reference	Date delivered	BWE benefit	Cumulative benefit
Allonby Storm Tanks	6UU0018	31/03/16	0.31	0.31
Event Duration Monitors – year 1	Various	31/03/16	0.05	0.36
Misconnections	6UU0022	31/03/16	0.11	0.47
Hesketh Bank Storm Tanks	6UU0520	31/03/17	0.09	0.56
Mersey/North Wirral investigations	6UU0030	31/03/17	0.03	0.59
Tidal Ribble investigation	6UU0021	31/03/17	0.07	0.66
Chorley WwTW Storm Tanks	6UU0013	30/04/17	0.26	0.92
Hagg Lane	6UU0019	30/04/17	0.21	1.13
Allonby Storm Tanks	6UU0018	31/03/16	0.31	0.31
Ravenglass WwTW	6UU0504	31/12/17	0.10	1.23
Ravenglass Storm Tanks	6UU0505	31/12/17	0.10	1.33
Ravenglass Inlet CSO	6UU0506	31/12/17	0.10	1.43
Kendal WwTW	6UU0509	31/12/17	0.05	1.48
Event Duration Monitors – year 3	Various	31/03/18	0.01	1.49

Penalty or out performance payment

The measure is penalty only, with a penalty rate of £10.0 million per bathing water equivalent. This rate increases to £20 million in the final year of the AMP.

Lessons learnt and action plan

As this performance commitment is penalty only it is in our best interest to achieve the target performance commitment. There is no reward for early delivery of schemes as our PR14 research suggested that our customers wished for us to deliver our obligations on time, therefore there is no financial advantage in early delivery.

However, any early delivery of schemes to enhance bathing and shellfish waters will protect our coastal waters sooner and ensure we are playing our part in ensuring all bathing waters in the North West meet at least 'sufficient' standard.

For three schemes (Anchorsholme, Blackburn and Schola Green), the Ofwat and Environment Agency delivery dates were initially different. The performance commitment is measured against the Ofwat delivery

dates as we were not able to guarantee delivery to the dates required by the Environment Agency in its National Environment Programme (NEP).

We wrote again to the Environment Agency to request a date change for these schemes and this has now been agreed. In all cases we are working to ensure we deliver these schemes as soon as possible so that the environmental benefit is secured.

Project	EA NEP reference	Planned delivery date	BWE benefit	Cumulative benefit
Manchester Square	6UU0011	30/04/18	0.68	2.17
Chatsworth Avenue	6UU0012	30/04/18	0.68	2.85
Preston Storm Tanks	6UU0015	30/04/18	0.68	3.53
Ulverston Storm Tanks	6UU0510	31/03/19	0.25	3.78
Dragley Beck	6UU0511	31/03/19	0.00	3.78
Anchorsholme	6UU0010	30/04/19	0.68	4.46
Raby Cote	6UU0020	30/04/19	0.74	5.20
Schola Green	6UU0016	30/03/20	0.79	5.99
Blackburn Storm Tanks	6UU0014	31/03/20	0.57	6.56

Anticipated performance Years 4 and 5

Our forecast performance is in line with our performance commitment. We anticipate that we should be able to deliver this programme of work by the end of the AMP and as such will not incur a penalty. The remaining schemes are set out in the table above. Further details on the projects delivered to date and anticipated delivery dates of the remaining projects within this programme are set out in our PR14 reconciliation document, which is published on our website.

Future performance – risk, issue, concern, change or opportunity

1. Risk of late delivery. There is the risk that projects could be delivered late and incur penalty if unforeseen circumstances impact on the delivery schedule however, we are currently on track to deliver as planned.

Line 18 S-D1: protecting Rivers from deterioration due to population growth

Performance summary
We have outperformed our target for this performance commitment. We expect we will be able to continue to outperform this measure in the remainder of the AMP despite much tougher targets.

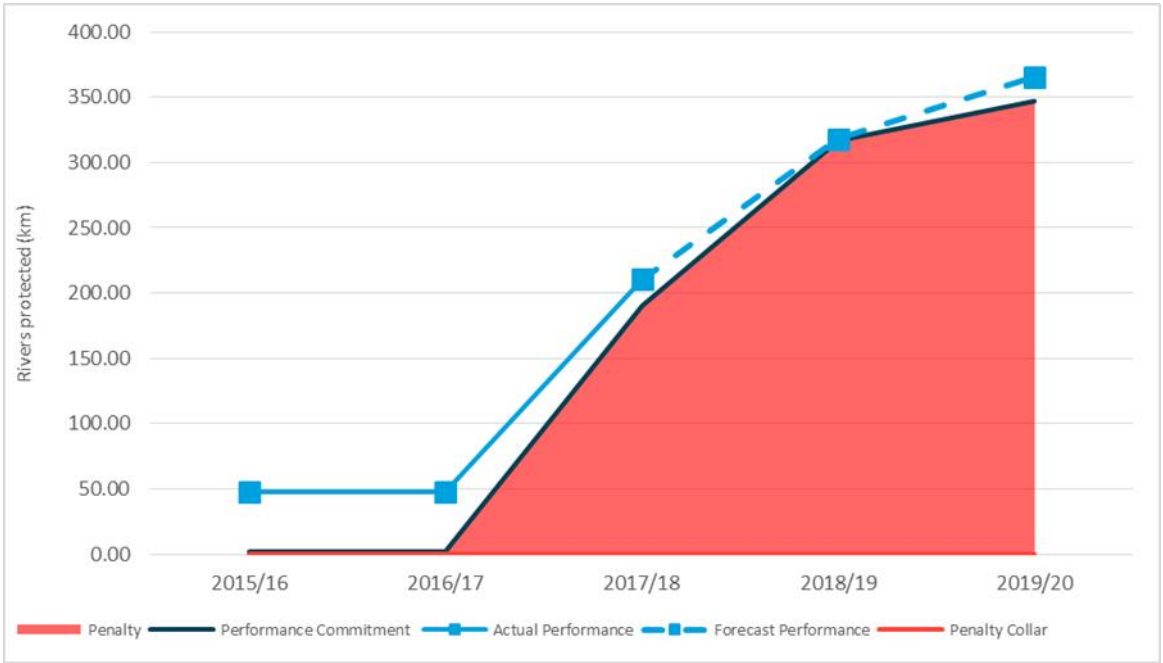
Measure description
This measure seeks to protect rivers from deterioration as a result of an increase in population and consequently flow and load at our works.

It is based upon the delivery of a programme of improvements at our wastewater treatment works, which will be delivered across AMP6.

The programme is flexible in both delivery timescales for individual projects and the number and location of wastewater treatment works identified for investment providing that overall the project(s) deliver at least the defined km for each year of the AMP (cumulative). This allows the programme to respond to changes in the location or timing of developments within the North West. A penalty incentivises this measure.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	=>1.8	=>1.8	**=>190.1**	=>316.7	=>346.6
Actual/Forecast	48.02	48.02	**210.49**	318.0	365.7
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	£0	£0	**£0**	£0	£0

Actual and forecast performance for protecting river from deterioration due to population growth – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

We are currently ahead of the target for this measure. During 2015/16 (in response to development), we significantly outperformed against this measure. Even though we did not deliver any projects in 2016/17, due to the AMP6 annual targets being cumulative, the outperformance in year 1 was carried over into

2016/17 and provides some headroom for subsequent years in the AMP. No projects were identified in the final business plan to deliver in 2016/17 and no other projects have been identified as delivering early so the cumulative performance at the end of year 2 remained at 48.02km. In year 3 we delivered six schemes and increased our cumulative total to 210.5km.

The projects delivered to date are as shown in the table below.

Project	Date delivered	Km of river protected	Cumulative benefit
Moston West	31/03/16	48.02	48.02
Chorley WwTW	28/04/17	18.91	66.93
Wetheral and Great Corby	29/03/18	0.96	67.89
Davyhulme WwTW	31/03/18	125.5	193.39
Cockermouth WwTW	23/03/18	15.22	208.61
Brigham WwTW	23/03/18	1.27	209.88
Papcastle WwTW	23/03/18	0.60	210.48

Re-prioritisation of supply demand projects occurs as better information on the extent and location of forecast growth is derived. This can lead to changes to the original list of projects to be delivered, but as the target km for each year are not at specified locations, these changes can be managed at a programme level, reducing the risk of underperforming against our performance commitment.

Penalty or out performance payment

A penalty incentivises this measure. For this ODI we compare our actual performance against the target performance. If the performance falls within the penalty zone then we multiply the resulting difference by the incentive penalty rate at £0.058 million per km.

Lessons learnt and action plan

We have developed a dynamic programme so that over the remaining years of the AMP we can respond to the needs of developers to provide the additional capacity needed. We are able to target our investment appropriately to meet the performance commitment whilst using the most up to date information of demand across our region. The continuous review of risk to wastewater treatment works from new development enables us to deliver solutions in the highest priority locations.

In year 1 we were able to outperform the target through the delivery of a scheme at Moston West where growth had occurred rather than the originally planned scheme at Kinsgmill where the demand had not materialised. Whilst this should ensure that we are able to meet the performance commitment across the remainder of the AMP there is still potential for the programme to change should growth not occur as planned which could lead to penalties if schemes do not deliver by the forecast timescale and/or alternative projects are not viable.

We continually review the timescale and scope of new development at the sites identified within our programme and at others areas that may be at risk. This ensures appropriate prioritisation of investment and ensures we can meet the growing needs of our region.

Anticipated performance Years 4 and 5

We are predicting that we will outperform our performance commitment for the remainder of the AMP for this measure but there are some delivery risks which could impact on this towards the end of the AMP, we have also identified some opportunities that may support ensuring deliver of the commitment. The current planned schemes for the remainder of the period are as set out in the table below.

Project	Planned delivery date	Km of river protected	Cumulative benefit
Dearham WwTW	FY19	10.00	220.48
Silloth WwTW	FY19	7.70	228.18
Winsford WwTW	FY19	14.59	242.77
Endmoor WwTW	FY19	10.99	253.76
Bootle WwTW	FY19	29.76	283.52
Barton WwTW	FY19	25.80	309.32
Sandbach WwTW	FY19	8.63	317.95
Cuddington WwTW	FY20	4.34	322.29
Oakmere WwTW	FY20	0.60	322.89
Crewe WwTW	FY20	42.58	365.47
Whalley WwTW	FY20	0.18	365.65

Future performance – risk, issue, concern, change or opportunity

1. Delivery timescale estimates. The delivery dates used in assessing the performance commitment are estimates and may change over time. If delayed or accelerated due to construction issues or opportunities this can have an impact on the overall programme.
2. Projects where the need to facilitate new development may be delayed or removed. There are a wide range of schemes falling into this category that may result in a change to our planned programme of work.
3. Projects that were not previously included on the AMP6 programme, but have since had a need identified due to forecast population increase could be added to the programme. There are a wide range of schemes falling into this category that may result in a change to our planned programme of work.
4. Project delays and acceleration within the AMP. The scheme at Whalley WwTW (0.2 km) has been delayed to FY20 from FY18. This shouldn't have any impact on the performance commitment due to out performance in year 1.

Line 19 S-D2: Maintaining our wastewater treatment works

Performance summary

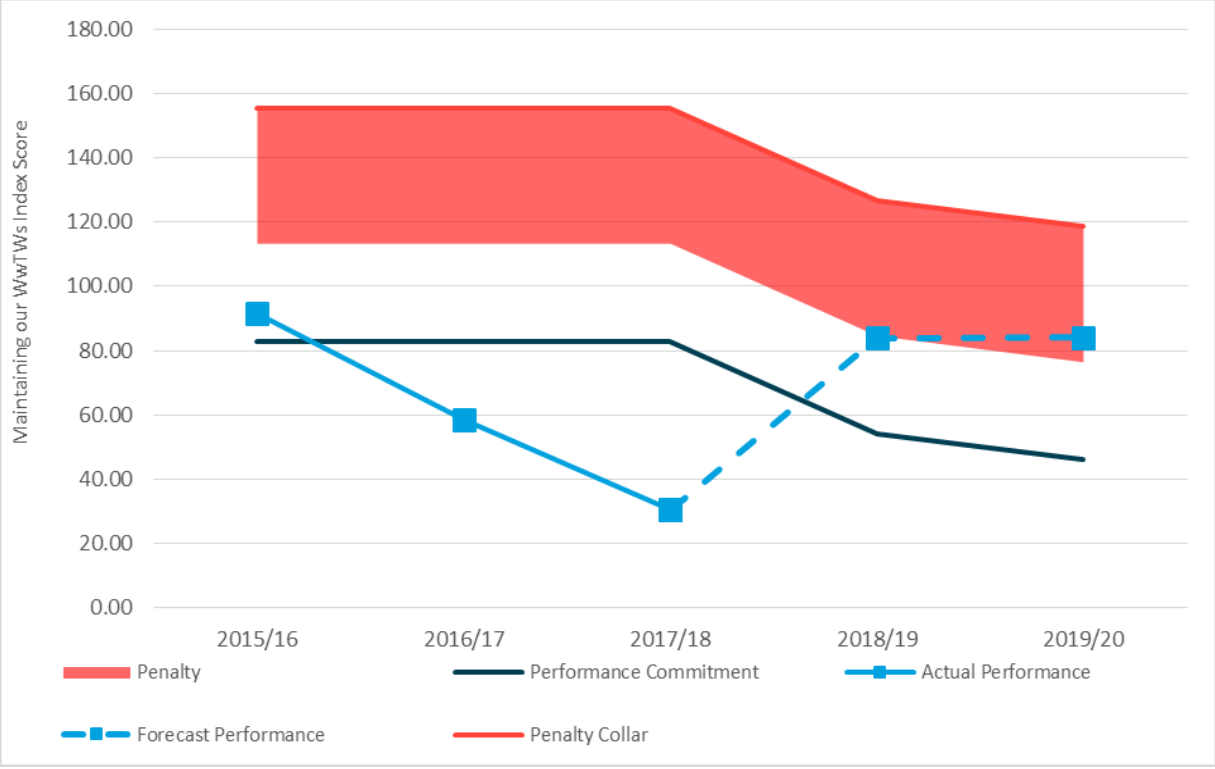
We have outperformed on this measure in 2017/18. Despite this, we anticipate that our performance will fall within the penalty zone for the final year of the AMP 6 period.

Measure description

This performance commitment is an index, which monitors the number of wastewater treatment works (WwTW) that fail their consent, together with the number that operate at medium and high risk of failure. This is a penalty only measure.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	83.00	83.00	**83.00**	54.32	46.13
Actual/Forecast	91.4847	58.7100	**30.4680**	83.8370	84.1048
Pass/Fail	Fail	Pass	**Pass**	Fail	Fail
Out performance payment/ Penalty	£0	£0	**£0**	£0	£4.39m

Actual and forecast performance for maintaining our WwTW – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

We outperformed against our performance commitment in 2016/17 and 2017/18 which is an improvement on 2015/16 performance where the performance commitment was not achieved, although penalty deadband was not breached.

The relatively high index score in year 1 was largely attributable to the failure of two size band 5 wastewater treatment works (Alsager and Longton), two band 6A wastewater treatment works (Congleton and Leigh) and a band 6B wastewater treatment works (Liverpool). This resulted in an index score of 91.485 against the performance commitment of 83.0.

The index score in year 2 was mainly attributable to the failure of two size band 1-4 works; Audley and Ambleside and three size band 6a works; Altrincham, Crewe and Oldham. This gave an overall score of 58.708.

In year 3 the index score was predominantly due to the failure of three size band 1-4 works; Ambleside, Bunbury and Great Clifton and one size band 6a works; Crewe. This gave an overall score of 30.50 which is the best performance to date.

Penalty or out performance payment

This is a penalty only measure. The size of any penalty is calculated by comparing our actual index performance against the target index performance. If the performance falls within the penalty-zone then we multiply the resulting difference by the penalty rate of £0.572 million per index point. In 2017/18 we outperformed against the performance commitment target of 83.0 points, achieving 30.4680 index points.

Lessons learnt and action plan

The forecast for underperformance is due to the risk of large works (size bands 6A and 6B) failing whilst the performance commitment and penalty deadbands reduce in 2018 and 2019. The reduction in the performance commitment results in there being less headroom for further fails, particularly if a large works were to fail.

The continued embedment of our environmental compliance programme will help reduce compliance risk. This programme focuses on people, processes, systems and data. The programme aims to deliver a step change improvement in compliance with our regulatory permits through implementing clear processes and accountability, supported by systems and training to enable our field teams to deliver improved levels of performance.

Anticipated performance Years 4 and 5

Despite our good performance in years 2 and 3 we recognise that meeting these levels of compliance is a challenge and our forecast is for an underperformance against the performance commitment including breaching the penalty deadband for the final two years of the AMP resulting in an anticipated penalty. Although we will continue to manage and mitigate the risks associated with this measure through targeted capital investment and by operating our works to the highest standard, the performance commitment becomes increasingly challenging across the remainder of the AMP.

Future performance – risk, issue, concern, change or opportunity

1. The failure of one or more of our large works could have significant impact on the measure in future years as targets become tighter.

Line 20 S-D3: Contribution to rivers improved – wastewater programme

Context

The initial target for this measure was based upon assumed delivery of a number of AMP5 projects which were due to be delivered in the current AMP6 period plus the new AMP6 programme of work set out within the national environment programme at the time of the business plan submission.

Following the PR14 final determination, the delivery dates for some of the AMP5 projects were revised and a new national environmental programme (NEP5) was agreed with the EA.

In response to these changes Ofwat published a corrigendum on its website which included two profiles. One including the AMP5 revisions only (the corrigendum profile below) and one with all changes including NEP5 revisions.

We are aiming to deliver the programme in line with the NEP5 dates agreed with the EA. Although for transparency we report our progress against both programmes.

Detail of performance against the programme excluding the NEP5 targets is set out in our PR14 reconciliation submission, which is available on website.

Performance summary

We have delivered all of the NEP5 projects by or before the date set out in NEP5. There have however, been some delays to an AMP5 carry over projects that was included within the programme

This means that the cumulative target at the end of March 2018 was slightly behind the anticipated target at that date. Although as more projects have been delivered early than late the measure is showing a slight reward.

Measure description

This measure tracks the delivery of our National Environmental Programme (NEP) obligations and is achieved through the delivery of an extensive programme of capital projects and investigations throughout AMP6. This measure has financial penalties and rewards.

Although the target is reported on a cumulative basis, the measure assesses the delivery of improvements on a project by project basis. Rewards or penalties are developed, which are dependent upon both the length of river improved by the scheme and the scale of any acceleration or delay in delivering this improvement:

Corrigendum profile

The table below shows the target for this measure published within the corrigendum on Ofwat's website.

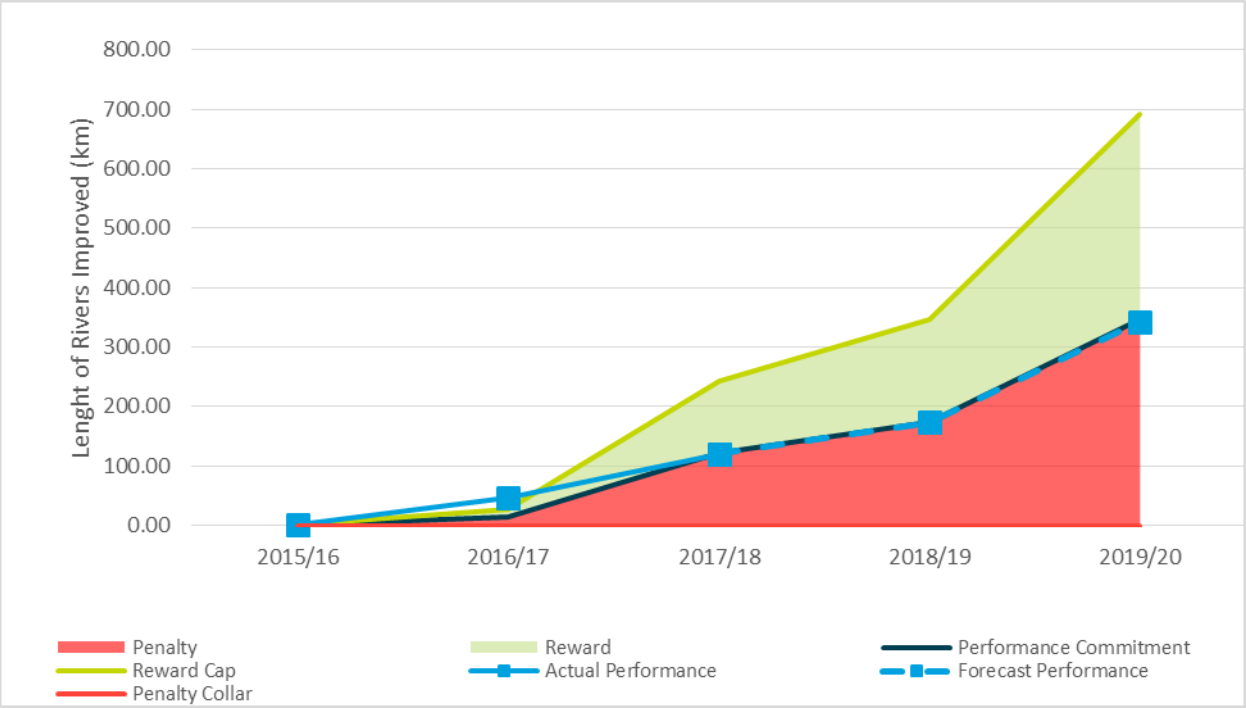
Regulatory targets for the 'contribution to rivers improved' (wastewater programme) corrigendum profile

Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river improved	0.75	15.41	98.14	145.39	355.22

The target for the measure, taking account of the changes to the programme set out within NEP5 is shown in the table below.

NEP5 profile

Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river improved	0.75	14.12	121.83	173.38	345.97



Overview of performance to date

Over AMP6 we are planning to deliver the programme of work set out by and agreed with the EA through NEP5 and as such our reporting focusses on delivery against the NEP5 target dates and performance commitment targets.

In year 1 we delivered the schemes required as part of our NEP. In year 2 we delivered some schemes earlier than required by NEP5 and were therefore able to outperform and earn a small reward, as this is a cumulative measure, the benefit of this reward is also reflected in the incentive position at the end of year 3.

The out performance in year 2 was as a result of early delivery of the “No Deterioration” schemes at Horwich WwTW and Dalston WwTW and the early delivery of the “UWWTD” scheme at Altrincham WwTW.

During 2017/18 we have delivered the projects set out within NEP5. There have however, been some delays to the AMP5 carry over project at Oldham WwTW. Oldham WwTW is however, complying with the environmental standards required by the project and the work involved to complete the project will have limited environmental impact. However, as the project has not been fully delivered we are including the penalty associated with this delay in our reported value.

At the end of 2017/18 the cumulative length of river improved was slightly lower than the NEP5 target. However as the environmental impact of the accelerations to projects to date (as measured through the performance commitment calculation) is greater than the impact of the delay to the scheme at Oldham the net position to date is a net reward of £0.43m.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	=>0.75	=>14.12	**=>121.83**	=>173.38	=>345.97
Actual/Forecast	0.75	46.98	**120.73**	173.18	342.75
Pass/Fail	Pass	Pass	On track	On track	On track
Out performance payment/ Penalty	£0m	£0.39m	**£0.43m**	£0.07m	-£0.05m

Penalty or out performance payment

This measure has both penalties and rewards. The size of any incentive is calculated by comparing our actual index performance against the target index performance. This measure looks at the total impact of the programme delivered each year, and assess how late or early this was (ODI factor). The penalty or reward is then calculated by multiplying; the rivers improved length by the ODI factor by the penalty rate (£0.111m per index point) or reward rate (£0.028m per index point).

Lessons learnt and action plan

We will continue to monitor and track projects against the programme of expected deliverable dates. At the end of the AMP we are delivering some of our more complex projects, and delivery against schedule will be difficult.

Anticipated performance Years 4 and 5

There have been a number of additional variations in the programme since NEP5 was finalised. These mainly relate to small variations in multi site programmes such as flow monitoring schemes, with these being reflected in the overall performance commitment value reported.

There are three major schemes however, where there have been changes:

- Whalley WwTW, where the EA have confirmed that the scheme is no longer required;
- CHR0012 (WFD), an improvement to an unsatisfactory intermittent discharge; and
- Manchester Ship Canal (F1a), installing aeration in the canal. We are seeking to replace these two schemes with equivalent schemes at Motherby and Barrow Nook. Although this still needs to be confirmed with the EA.

The removals or revisions from the programme, reduce the length of river improved, which means that we are expecting to end the five year period with a small out performance payment.

We are on track to deliver all other schemes within the programme.

Future performance – risk, issue, concern, change or opportunity

Risk of late (or early) delivery:

1. There is the risk that deliverability or third party issues could result in projects being delivered late.
2. Equally there is the potential that schemes could progress faster than anticipated.
3. A monthly review is completed to consider any risks associated with delivery.

Line 21 S-D4a: Wastewater serious (category 1 and 2) pollution incidents

Performance summary

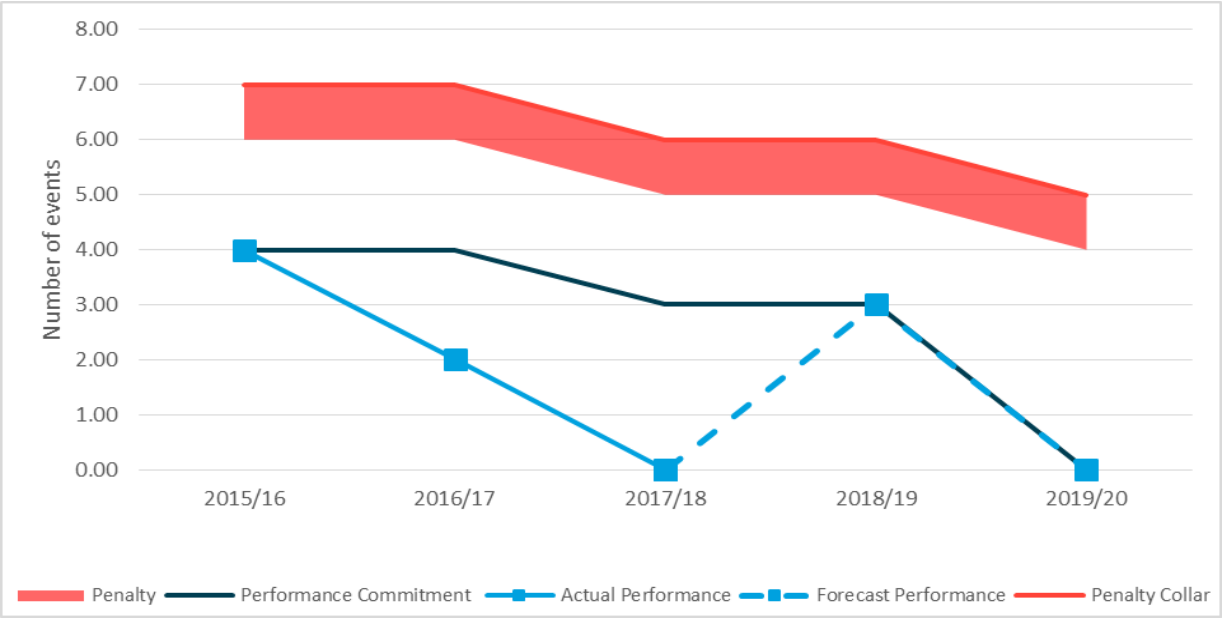
We have consistently outperformed in this measure throughout the first three years of AMP6. We expect we will continue to improve our performance and outperform our targets in years 4 and 5 of the AMP.

Measure description

This measure tracks the number of category 1 and 2 (serious) pollution incidents that occur as a result of the performance of our wastewater assets. This is a penalty only measure.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	4	4	**3**	3	0
Actual/Forecast	4	2	**0**	3	0
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	£0m	£0m	**£0m**	£0m	£0m

Actual and forecast performance for serious pollution incidents – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

Over the AMP6 period to date the number of incidents has reduced year on year. There was a total number of four incidents in 2015, two incidents in 2016 and one in 2017.

Our performance has been as a result of:

- Our environmental compliance green tick campaign
- The revised wastewater operating model
- Our proactive strategy of identifying defects and collapses through the use of extensive field CCTV surveys

- Raising awareness of the 16/02 process (the Environment Agency's Guide to its operational staff) on categorisation and self-reported incidents
- Carrying out analysis for all repeat and self-reported incidents
- The process of 72 hour reporting and 20 days reports for more serious incidents ensuring scrutiny of the data collected and enabling actions to be taken following a pollution incident.

Penalty or out performance payment

This is a penalty only measure, with the scale of any penalty being assessed by comparing our actual performance against the target performance. If the performance falls within the penalty-zone then we multiply the resulting difference by the penalty incentive rate of £0.420 million per incident.

Each year we have outperformed our performance commitment however as this is penalty only measure we did not earn any reward.

Lessons learnt and action plan

There are a number of actions being implemented to support us in maintaining/improving performance, these are as follows:

- The development of IDAS (Integrated Drainage Area Studies) and WwNM (Wastewater Network Management)
- Continuing to raise awareness of the Environment Agency's 16/02 process throughout the business
- Improved monitoring equipment being installed on the network, this will reduce the number of customer generated pollution incidents as the monitors will detect and then prompt our teams to attend sites to investigate, proactively preventing potential pollution incidents
- Joint training planned with the Environment Agency on permit conditions. This will improve understanding of our permits, increasing consistency with other water companies and reduce the risk on non-compliance.

Anticipated performance Years 4 and 5

The current plan is to achieve the performance commitment for the rest of the AMP, dropping to zero incidents in 2019. Whilst we typically only have a low number of incidents meeting this target will be challenging.

Future performance – risk, issue, concern, change or opportunity

1. EDM exclusion:
   - Where a pollution incident is found solely through data provided by Event Duration Monitors (EDM) installed as part of the NEP, the incident is excluded from this measure.
   - Our processes have been updated to ensure that this exclusion is operated however there is a risk that, as this new process is implemented, errors could occur. This could lead to reporting too many or too few incidents.
2. Discrepancy with Environment Agency data. This measure is very similar but not identical to the EA's pollution measure. Further details of the differences can be found on our definition documents.
2. Change of approach to enforcement by the Environment Agency. If the Environment Agency adapted its approach to enforcement this could lead to an increase in recorded incidents.

Line 22 S-D4b: Wastewater category 3 pollution incidents

Performance summary

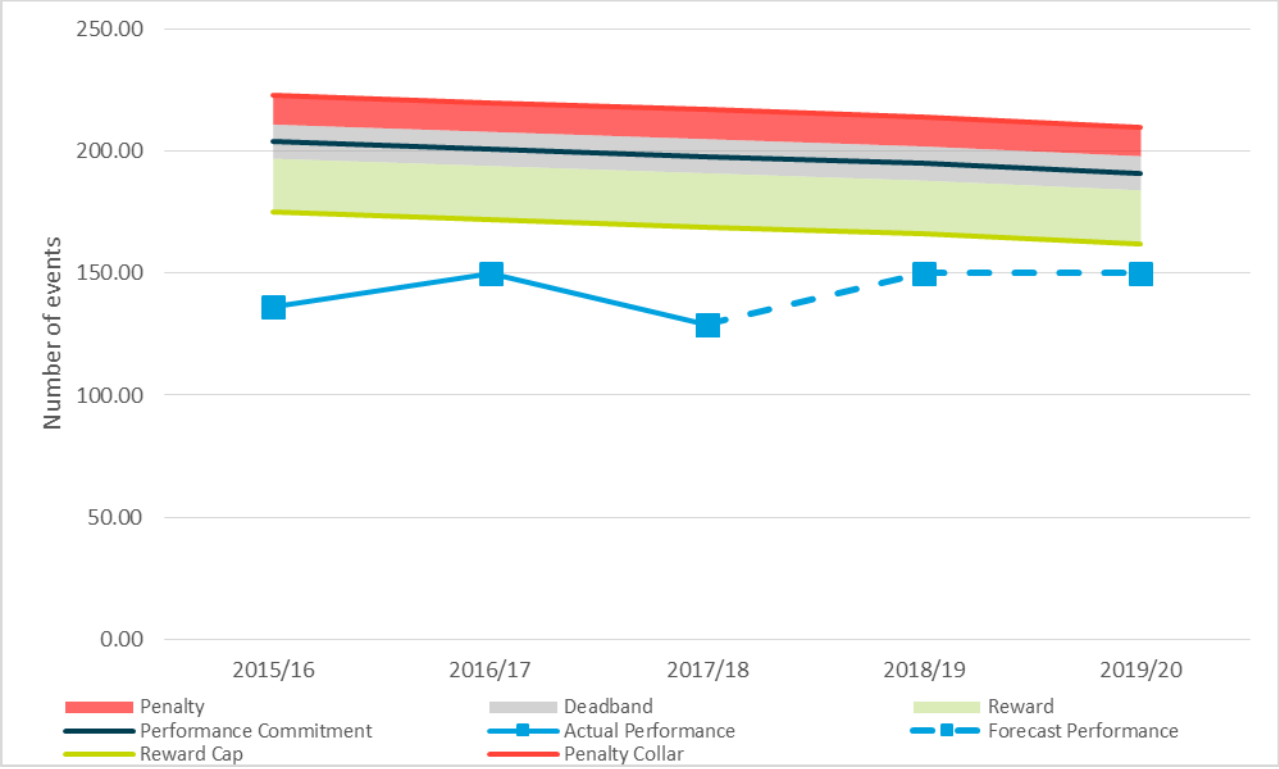
We have outperformed our target for this measure in all three years of AMP6 thus far. We anticipate we will continue to outperform in the final two years.

Measure description

This measure assesses the number of category 3 pollution incidents that occur from our wastewater assets each year of the AMP. Performance is incentivised through both reward and penalty.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	204	201	**198**	195	191
Actual/Forecast	136	150	**129**	150	150
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Out performance payment/ Penalty	£3.278m	£3.278m	**£3.278m**	£3.278m	£3.278m

Actual and forecast performance for category three pollution incidents – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

Our performance has been good across the early part of the AMP. Our investment programme has supported the achievement of this performance, along with an increase in the length of sewers being CCTV'd during incident attendance which is helping to proactively highlight sewer defects for repair.

Our performance has been as a result of:

- Our environmental compliance green tick campaign
- The revised wastewater operating model
- Our proactive strategy of identifying defects and collapses through the use of extensive field CCTV surveys
- Raising awareness of the 16/02 process (the Environment Agency's Guide to its operational staff) on categorisation and self-reported incidents
- Carrying out analysis for all repeat and self-reported incidents
- The process of 72 hour reporting and 20 days reports for more serious incidents ensuring scrutiny of the data collected and enabling actions to be taken following a pollution incident.

Penalty or out performance payment

This measure has both penalties and out performance payments, with the scale of any incentive being assessed by comparing our actual performance against the target performance. If the performance falls within the reward or penalty-zone then we multiply the resulting difference by the relevant incentive rate. For category 3 pollution incidents, the penalty incentive rate is £0.282 million per incident and £0.149 million per incident for the out performance payment.

We have significantly outperformed our performance commitment in each of the first three years of AMP6, resulting in the maximum annual reward.

Lessons learnt and action plan

There are a number of actions being implemented to support us in maintaining/improving performance, these are as follows:

- The development of IDAS (Integrated Drainage Area Studies) and WwNM (Wastewater Network Management)
- Continuing to raise awareness of the Environment Agency's 16/02 process throughout the business
- Improved monitoring equipment being installed on the network, this will reduce the number of customer generated pollution incidents as the monitors will detect and then prompt our teams to attend sites to investigate, proactively preventing potential pollution incidents
- Joint training planned with the Environment Agency on permit conditions. This will improve understanding of our permits, increasing consistency with other water companies and reduce the risk on non-compliance.

Anticipated performance Years 4 and 5

We believe that the significant over performance we have seen in the early part of the AMP can be sustained for the future and therefore we are projecting continuing to out performance and earn a reward for the remainder of the AMP.

Future performance – risk, issue, concern, change or opportunity

1. EDM exclusion. Where a pollution incident is found solely through data provided by Event Duration Monitors (EDM) installed as part of the National Environment Programme (NEP), the incident is excluded from this measure.
2. Our processes have been updated to ensure that this exclusion is operated however there is a risk that, as this new process is implemented, errors could occur. This could lead to reporting too many or too few incidents.
3. Discrepancy with Environment Agency data. This measure is very similar but not identical to the EA's pollution measure. Further details of the differences can be found in our definition documents.
4. Change of approach to enforcement by the Environment Agency. If the Environment Agency adapted its approach to enforcement this could lead to an increase in recorded incidents

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Line 23 S-D5: Satisfactory sludge disposal

Performance summary

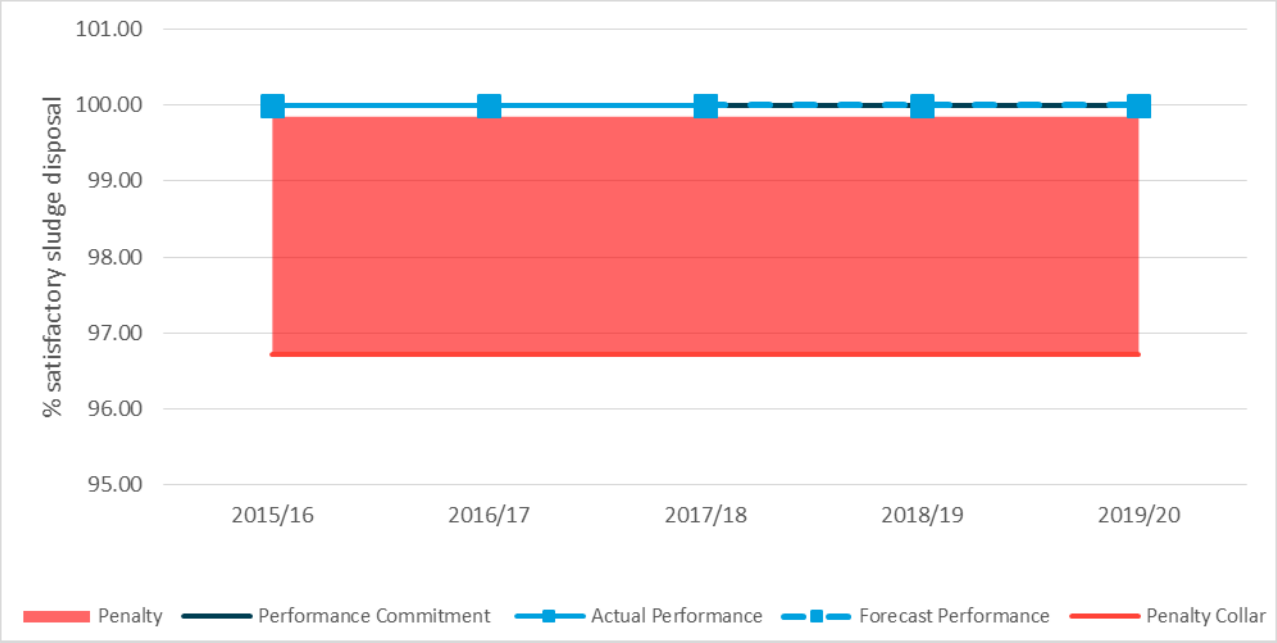
We have outperformed our target on this measure for the first three years of AMP6. We expect that we will continue to outperform our target for the next two years.

Measure description

This performance commitment measures how well we operate our sludge treatment and disposal activities with respect to public health, environmental protection and statutory compliance. This is a penalty only measure.

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	100	100	**100**	100	100
Actual/Forecast	100	100	**100**	100	100
Pass/Fail	Pass	Pass	**Pass**	Pass	Pass
Reward/Penalty	£0m	£0m	**£0m**	£0m	£0m

Actual and forecast performance satisfactory sludge disposal – AMP6 actual and forecast performance against performance commitment and financial incentives



Overview of performance to date

Performance for 2015/16, 2016/17 and 2017/18 is 100.00% satisfactory sludge disposal, meaning that the target has been achieved.

Our Regional Sludge Operational Model (RSOM) now provides a measured value for input into the performance commitment calculation. This has increased the volume of raw sludge produced when compared to 2015/16. This higher value is in line with our approach to measure sludge production to improve accuracy and will lower the impact of any unsatisfactory sludge disposed in the calculation.

Penalty or out performance payment

This is a penalty only measure, with the size of any penalty calculated by comparing our actual percentage compliance against the target of 100% compliance. If the performance falls within the penalty-zone then we multiply the resulting difference by the penalty incentive rate of £5.108 million per percentage point.

Lessons learnt and action plan

Achieving the target level expressed in the measure will help to maintain the confidence of both our regulators and stakeholders in the agricultural sector and wider food chain that use our treated sludge as an alternative to fertiliser.

Use of the Biosolids Assurance Scheme (BAS) certification from 2017 will also improve the quality management system for sludge. Any audit findings will support continuous improvement and help us to sustain 100% performance.

Anticipated performance Years 4 and 5

To date this AMP we have achieved 100% satisfactory sludge and are on track to deliver this level of performance throughout the remainder of the AMP.

Future performance – risk, issue, concern, change or opportunity

1. Our strategic approach for sludge proposes a move away from traditional Mesophilic Anaerobic Digestion (MAD) to future investment in Advanced Anaerobic Digestion (AAD) technology.
    - The AAD process attains a greater level of pathogen reduction (typically 6 log) than MAD (3 log), which naturally reduces the likelihood/risk of producing non-compliant sludge at these sites.
2. In the future, we may engage in Commercial and Co-digestion activities and sludge trading with other Water companies (both in and out).
    - We will need to update our reporting to account for these potential inputs and outputs.

A.3 Retail and customer service performance commitments

2017/18 Annual performance summary

Performance against our four household retail performance commitments in 2017/18 and the cumulative performance in the AMP6 period to date, is set out in the table below.

Household retail operational performance summary (2017/18)

Performance commitment	Actual			Performance Commitments		Incentive		
	15/16	16/17	17/18	17/18	Pass / Fail	Impact	17/18 Annual (£m)	17/18 Cumulative (£m)
A-1: Service incentive mechanism (SIM) [1]	82	85	87	UQWASC	**TBC**	Financial	TBD	TBD
R-A2: Customer Experience Programme[2]	0.001	0.363	2.576	>=6.396	**On track**	Financial	**N/A**	**N/A**
B1: Customers saying that we offer value for money	50	52	52	51	**Pass**	Reputational	N/A	N/A
B2: Per household consumption	303	305	311	289	**Fail**	Reputational	N/A	N/A

1 The financial incentive applied to SIM will be determined by Ofwat through the PR19 process based upon performance up to 2018/19

2 The customer experience ODI measure compares actual depreciation incurred on the programme against assumed depreciation for the programme, although the programme is on track to deliver ahead of the originally assumed schedule, the costs of the programme and resultant depreciation has been lower than assumed with some of this efficiency saving being shared with customers through the ODI. The measure only generates a final position at the end of 2019/20, annual performance assesses if delivery is on track to achieve this target.

Line 24 A-1: Service incentive mechanism (SIM)

15/16 (Actual))	16/17 (Actual)	17/18 (Actual	17/18 target	17/18 Incentive	Incentive AMP6
82	85	87	UQWASC[1]	N/A	TBC

[2] Our target is to be Upper quartile for water and sewerage companies.

SIM sub measures

Sub measure	2015/16 performance	2016/17 performance	2017/18 performance
SIM quantitative	95	77	71
SIM qualitative	4.27	4.42	4.49
SIM Combined	82	85	87

Performance summary

Our combined SIM score for 2017/18 was 87 representing an increase of two SIM points from 2016/17. Our target for the AMP6 period is to achieve an upper quartile performance level. However, until Ofwat report annual 2017/18 SIM combined performance for all water companies, we are unable to confirm our relative position for 2016/17 or to predict whether we have achieved upper quartile performance.

SIM is assessed based upon the number of contacts and complaints that we receive (Quantitative performance) and the way we respond to these contacts (Qualitative performance).

Quantitative Performance

Complaints: In 2017/18 we received a total of 6,755 complaints which is 9% less complaints than in 2016/17 representing further improvements in overall service.

- Billing has seen a 17% in year improvement with significant reductions in the top 10 complaint areas including moving house, high measured bills and direct debits.
- Wastewater has seen a 7% improvement in complaint volume. In 2016/17 the region experienced significant flash flooding events caused by extreme weather. Whilst we have experienced some major flooding events 2017/18 they have not generated the volume of complaints seen in 2016/17
- Water has seen a 17% increase in complaints mainly due to some large diameter mains bursts and water quality changes in West Cumbria.

There are 13 companies that share their results with each other in advance of them being published by Ofwat. This means that companies can have earlier sight of their relative performance. Based upon the most recent data share, we expect our SIM quantitative performance will be upper quartile compared to the other water and sewerage companies (WASCs).

Unwanted calls: SIM also measures the number of unwanted calls. A call from a customer is classed as unwanted if the caller has experienced some form of aggravation (however mild) and this has prompted them to make contact. In 2017/18 there was a decrease of 5% (9,000 calls) compared to 2016/17. In 2016/17 our total performance for unwanted calls was ranked second of the WASCs behind Anglian and we expect to have performed relatively well in the current year.

Stage 2 complaints: The third aspect of the Quantitative SIM measure is stage 2 complaints. A stage 2 complaint is either a repeat complaint or a complaint that was not dealt with appropriately first time. In

2017/18 we received 186 Stage 2 complaints, a 19% improvement on 2016/17. Stage 2 complaints are running at 2.8% of company complaint volumes, compared to 3.1% in 2016/17.

CCW investigations: SIM also takes account of the number of CCWater investigations. We had no investigations during 2017/18.

Qualitative Performance

2017/18 has seen our best ever SIM qualitative performance, in Wave 4 of 17/18 we were placed 1st of all of the 18 companies with a score of 4.61.

Our average score for 2017/18 was our highest ever at 4.49 (4.27 in 2015/16, and 4.42 in 16/17). We finished the year in third of the 10 WASCs and third when all 18 companies are considered. This was above industry average with all our business areas achieving their internal targets. As can be seen in the table below our scores for the last survey of the year were well above industry average.

2017/17 Qualitative SIM breakdown

	Industry Average for Wave 4	UUW Wave 4	Industry Average for 2017/18	UUW For 2017/18
Billing	4.52	4.82	4.49	4.60
Water	4.25	4.29	4.26	4.31
Wastewater	4.36	4.52	4.39	4.43
Overall	**4.40**	**4.61**	**4.40**	**4.49**

Anticipated performance Years 4 and 5

Although we have been making substantial year on year improvements in our SIM performance over recent years, our performance is heavily dependent upon external factors that influence customer perception of the industry as well as internal or operational issues that can directly impact upon customer service and therefore on contact numbers or customer perception.

Therefore, although we expect that the underlying trend in improving performance will continue, it is difficult to predict a score for future years with any confidence

Penalty or Reward

Any penalties or out performance payments incurred through SIM will be determined by Ofwat based upon relative intercompany performance for the first four years of the AMP6 period.

This means that performance in 2019/20 will not be included in the assessment, but that Ofwat will be able to finalise the incentive payments in advance of the PR19 final determination.

If Ofwat are to adopt the approach they used at PR14, then based upon current industry performance and trends, we would expect to earn an out performance payment against this measure.

More details of the basis of this payment are set out within our PR14 reconciliation submission which is available on our website.

Line 25 R-A2: Customer Experience Programme

Depreciation	2015/16	2016/17	2017/18	2018/19	2019/20
Target	1.053	3.370	6.396	10.860	17.769
Actual/Forecast	0.001	0.363	*2.576*	*6.499*	*11.968*

Overview of the measure

The Customer experience programme (CEP) is a transformational programme delivering new capabilities for the household retail service. The programme was initially assumed to include the following functionality:

a) Web contact management system,

b) Multi-channel routing,

c) Workforce optimisation,

d) Analytic capabilities,

e) Billing system upgrades,

f) Debt management system, and a

g) Customer Relationship Management system.

The measure has two components. The first compares actual depreciation incurred on the project against the assumed level of depreciation that would be incurred on the project. With the incentive payment being based upon the total cumulative depreciation at the end of the AMP6 period.

The second assesses whether the programme has been fully delivered by the originally assumed delivery date.

Performance summary

The Customer Experience Programme is designed to improve customer services and to reduce operating costs.

The cumulative depreciation target for this measure was not achieved in 2016/17 due to a change in the nature and expected commissioning of the programme compared to that set out in our PR14 business plan and reflected in the FD.

The early work on this programme resulted in a change in implementation approach, to ensure that the new technology is delivered in a seamless way with no customer impacts.

This revision removed the customer relationship management system (CRM) from the programme, as which was no longer cost beneficial. We have however, made organisational and business process changes, which have enabled many of the original benefits that had been assumed for this system to be delivered.

In 2016/17 the programme achieved a number of key milestones, which helped to improve the customer facing aspects of our operations. These included:

- Delivering a refresh of all our of telephony lines, with the new voice of 'Rebecca' conveying a more friendly and helpful tone.
- Replacing our on-hold music and queue messaging to provide useful and relevant information particularly during operational incidents.
- Producing a new suite of customer letters with a refreshed tone of voice; the new letters make it easier for our customers to understand the information following the removal of technical and complex jargon.
- Launching our new customer website which has undergone some transformation and has a very different look and feel to the previous website. Following feedback from customers we made the

website easier to navigate as well as reducing the amount of content on the website. Customers can also now access our website on their mobile or tablet.

- Launching our enhanced webchat capability (technology and service), which has simplified webchat functionality and increased webchat service operating hours.

In 2017/18 the programme has delivered further improvements to both non customer facing and customer facing aspects of our operations. These included:

- Introducing the UU mobile App with functionality to make payments, view payment history and submit meter readings. The mobile app now has over 40,000 registered customers.
- Introducing a new version of the My Account customer self-serve portal. This has a comparable look and feel to the website and is formatted for desktop and mobile, tailoring content for each customer. There are now over 500,000 active users of this channel.
- Implementing a new workforce management tool used for forecasting and scheduling agents to work on inbound and outbound calls and back office work. The product has improved both the efficiency of the workforce planning team through better system functionality and reporting and the overall workforce.
- Introducing a new analytics tool which provides customer and performance data that is accessible to operational users and managers to enable business decisions to be taken based on analytic reasoning. The tool provides an insight into customer behaviour and drive decisions and next best actions. Amongst a range of new capabilities the tool for example allows us to provide segmented views of customers such as the Priority Services dashboard below.
- Introducing a number of billing system upgrades to ensure a stable and fully supported platform which negates the need to invest in a new billing system until beyond 2025.

By the end of 2017/18 all systems other than the debt management system (and the de-scoped customer relationship management system) were fully operational.

Anticipated performance Years 4 and 5

We are planning to finalise the upgrade to the debt management system and for this system to be fully operational in late 2018. This would ensure that the programme is fully delivered and operational ahead of the original delivery date.

Partially as a result of the reduction in scope and partially as a result of efficiencies in the programme, the expenditure incurred on the programme and the resultant depreciation will be lower than originally assumed.

Penalty or Reward

The measure is designed to return part of the assumed depreciation to customers based upon two components:

We expect to incur less depreciation than assumed and as a result we will be returning some depreciation to customers via lower bills in AMP7.

Although we will have fully implemented the programme ahead of schedule and have seen the anticipated benefits in terms of customer experience improvements and reductions in cost to serve, we recognise that we have not delivered all of the originally assumed scope of work. We are proposing as part of our PR14 reconciliation submission that the proportion of the assumed depreciation that was associated with the CRM should also be returned to customers.

Full details of the delivery of the customer experience programme and our proposals for how this is reflected through the incentive mechanism in the PR19 process are set out within our PR14 reconciliation submission which is available on our website.

Line 26 R-B1: Customers saying that we offer value for money

15/16 (Actual)	16/17 (Actual)	17/18 (Actual)	17/18 (PC)	17/18 Incentive	Incentive AMP6
50%	**52%**	**52%**	51%	Reputational	Reputational

Performance summary

We have met our performance commitment for 2017/18. This is a reputational measure based upon customers' perception of whether we provide them with value for money and has no associated financial out performance payments.

Lessons learnt and action plan

We have undertaken a number of activities and initiatives during the year to increase visibility and awareness of the services that we provide, such as the increased promotion of our Priority Services schemes, payment assistance schemes and our water efficiency and "What Not to Flush" campaigns. Customer perception scores have improved from last year and we are ahead of our target.

Anticipated performance Years 4 and 5

We expect to maintain performance against this measure, although it is highly sensitive to wider press coverage and recent article on privatisation, company legitimacy and leakage performance in other companies could affect future performance against this measure.

Line 27 B2: Per household consumption

15/16 (Actual)	16/17 (Actual)	17/18 (Actual)	17/18 (PC)	17/18 Incentive	Incentive AMP6
303	305	**311**	<=289	Reputational	Reputational

Performance summary

We have not met the performance commitment for 2016/17. This is a reputational measure with no associated financial penalty.

Per household consumption for the year is 311 litres per property per day. Although this is higher than our performance commitment, it is in line with Met Office modelling of domestic consumption for 2017/18, which is 3% higher than that for a normal year (WRMP15 Base Year).

Lessons learnt and action plan

Extensive water efficiency projects are ongoing, where we offer free home visits to install water saving devices.

Anticipated performance Years 4 and 5

Further water efficiency initiatives are ongoing and planned, particularly our project using water data to influence customer behaviour to save water and money. The factors that influence how much water customers use are wide ranging and highly complex, and this measure is difficult to control. Although a number of additional initiatives and trials are being considered there is a risk we won't meet our targets for the next two years.

Appendix B: Customer experience programme

This appendix provides details to support our proposed adjustment relating to the customer experience programme outcome delivery incentive.

B.1 Overview

As part of the AMP6 Final Determination (FD) Ofwat increased allowed depreciation for the UUW retail household price control[18] to reflect the expenditure required to implement the Customer Experience Programme (CEP). The programme was designed to enable improvements in both customer experience and cost to serve, with a performance commitment and an associated outcome delivery incentive (ODI) mechanism being applied to its delivery.

The CEP is a transformational programme delivering new capabilities for the household function and includes the following functionality:

1. Web contact management system
2. Multi-channel routing
3. Workforce optimisation
4. Analytic capabilities
5. Billing system upgrades
6. Debt management system, and a
7. Customer Relationship Management system

The associated ODI protects customers by returning half of any reduction in the depreciation on the allowance made to deliver the scheme, if the outturn costs of the programme are lower than was assumed in price limits. The mechanism allows the company to retain half of any reduction in depreciation to provide an incentive to make cost savings on the programme.

The ODI also works to return money if elements of the Customer Experience Programme are not fully delivered by 31 March 2019.

We have successfully delivered five of the seven components of the Customer Experience Programme, realising substantial customer service benefits and future cost efficiencies. We plan to deliver a sixth component element by March 2019.

We have revised the scope of the programme and have delivered the programme at a lower cost than was assumed in the final determination. As a result of which we propose that £4.7m of the initial £17.7m assumed depreciation will be returned through the PR14 ODI mechanism during AMP7.

As set out within the ODI definition, we have reviewed the delivery of all the aspects of the programme through milestone reporting to 'Your Voice', our independent Customer Challenge Group. This includes information being provided on 'benefit drivers' which are linked to the technology components, such as increased self-serve, call reduction and failure demand, increased occupancy and first time resolution.

The full programme has also been assured by an external independent audit, conducted by Jacobs, to confirm the level of expenditure and delivery of technology solutions[19]. The reviewed performance has then been reported in our Annual Performance Report.

This appendix sets out the outcomes and improvements that have been delivered as a result of the Customer Experience Programme and covers the technology, business process and organisational changes that have been made. It also describes the approach we have taken to calculation of the relevant ODI value.

[18] Final price control determination notice: company-specific appendix – United Utilities. Annex 4 Capital Funding of £43m was assumed which realises £17.769m of cumulative depreciation in AMP6

[19] Debt Manager will be assured following completion.

B.2 Full delivery test

The table below sets out where each component of the programme has been fully delivered or will be fully delivered before the target date of 31st March 2019.

	Technology	Business Processes	Organisational changes
CRM	x	✓	✓
Multi-channel routing	✓	✓	n/a
Workforce optimisation	✓	✓	✓
Analytic capabilities	✓	✓	✓
Web Content Management System	✓	✓	✓
Billing system upgrades	✓	✓	✓
Debt Management [20]	✓	✓	✓

We either have or will fully deliver technology, business process and organisational changes associated with six of the seven Customer Experience Programme component elements.

The only aspect of the Customer Experience Programme that has changed from the original programme design is related to CRM technology. In August 2016 we made a decision not to invest in a CRM system. Our decision was based on a number of factors. A review of the CRM project showed that we would be able to generate much of the intended customer benefit through process and organisational changes and that the additional benefit that would be delivered through the new IT system was not cost beneficial. Uncertainty at the time regarding the potential opening of household retail markets, and subsequent business separation also reinforced the decision that there was insufficient value from investing in a new tool that integrated wholesale and household retail systems.

Despite our decision not to implement the CRM technology tool we have delivered the business process and organisational changes, delivering most of the anticipated benefits without making costly technology investments. These have resulted in real improvements to the overall customer experience, as can be seen through the improvements in customer experience measures described below. However under the Customer Experience Programme ODI's 'full delivery' test since one part of the CRM component has not been delivered all depreciation allowances in AMP6 associated with that component of the programme must be returned to customers. Our proposed return value to customers is set out in the "Proposed ODI adjustment" section below.

[20] Debt Management solution is planned for Delivery in December 2018.

B.3 Clarification of potential ambiguity about full delivery

In the final determination 'Full delivery' was defined as the implementation of all new technology, business processes and organisational changes, and evidence that all affected household customers are being managed through the new technology platforms and processes (CRM, multi-channel routing, workforce optimisation, analytic capabilities, web contact management system and debt management).

Our intention in writing the ODI was that Full Delivery would be tested against each of the components, with the primary measure being that customers would be receiving the benefits of the programme (through full implementation of the business process and organisational changes for each component, rather than simply that an IT system had successfully passed an internal testing process).

Following discussions with Jacobs (the independent auditors commissioned to review delivery of the Customer Experience Programme) we recognise that it would be feasible to interpret "full delivery" as meaning that the programme would need to have been delivered on an "all or nothing" basis. We also agree with the independent auditors' view that this would not be a desirable interpretation.

This "all or nothing" interpretation could lead to perverse incentives, where it would be beneficial for UU to invest in a non-beneficial wholesale/retail integrated CRM system merely to avoid an ODI penalty being applied to the entire Customer Experience Programme, despite such an investment not being in customers' interests as outcomes have been delivered in other ways. We consider that interpreting the ODI in this way would be unreasonable.

We consider that the appropriate interpretation of the 'full delivery' test within the ODI should be applied at a component by component level. In other words the delivery test should be applied to the CRM element of the programme separately from the other successfully delivered elements of the programme. In hindsight we recognise that the definition could have been clearer and as originally specified allows for ambiguity. We have shared this view and rationale with both the independent auditors, Jacobs and YourVoice (the UU CCG), who support our interpretation of the ODI test.

We consider that the alternative interpretation – of an "all or nothing" test – would be both unreasonable and perverse as it would meant that there was not recognition of the full delivery of most of the programme components, fail to recognise the company's efforts in avoiding non-cost beneficial investment and mean that the company would have been incentivised to undertake investment of a CRM which was non-beneficial simply to ensure recognition of investment in the remainder of the programme. These outcomes would not be consistent with the underlying objective of this specific ODI, nor the design principles of ODIs in general.

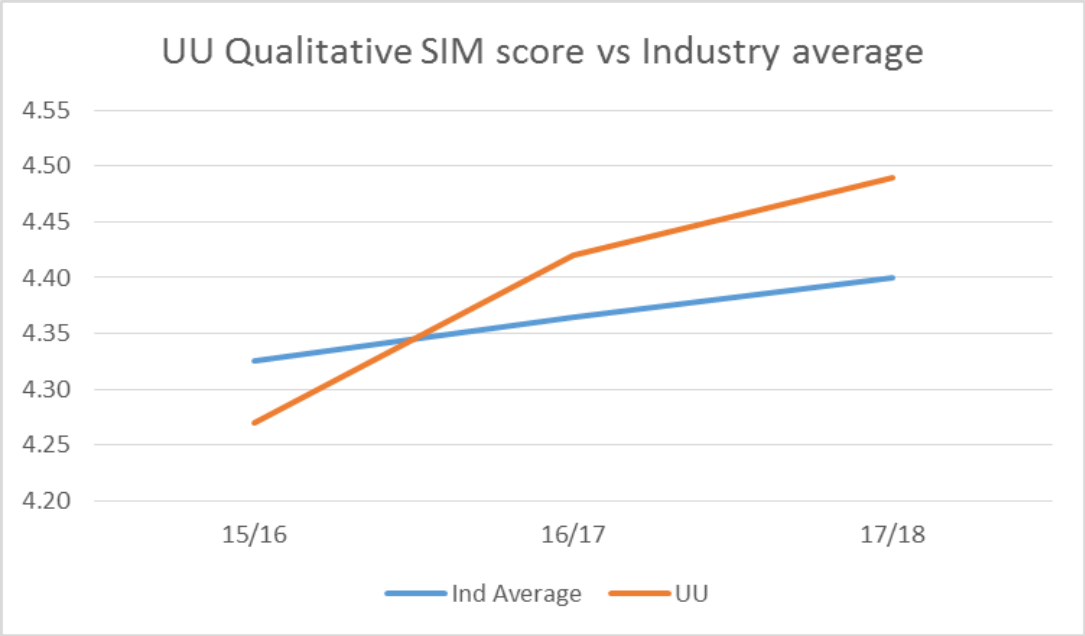
We recognise that by not investing in a CRM system we have a delivered a revised programme and as set out below we have made allowance for this within our proposed adjustment for this ODI.

B.4 Impact of the programme on customer service

Overall our customer service performance continues to show excellent progress and our cost to serve efficiencies are also showing consistent year on year improvements.

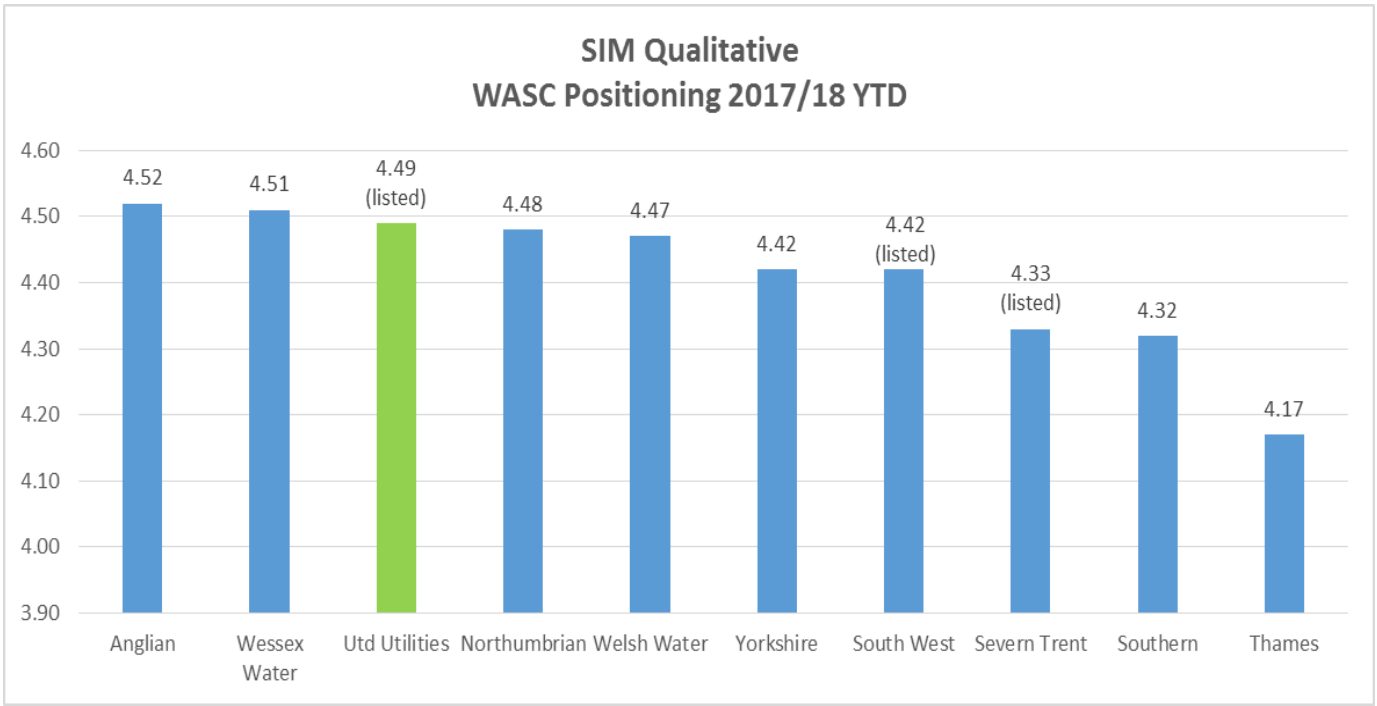
We have improved our absolute and relative SIM performance for both qualitative and quantitative aspects as shown below.

Figure 1: UU qualitative performance compared to the industry average



Compared to the other Water and Sewerage companies (WASC) our 2017/18 qualitative performance was ranked third in the industry. For the Billing element of SIM which was most directly impacted by this change programme, we came first.

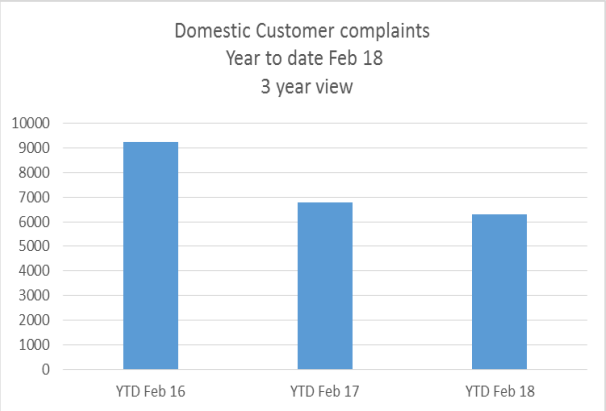
Figure 2: 2017/18 Industry Qualitative performance



The volumes of complaints received continues to show a downward trend. Overall complaints have reduced by 8% this year, and over 2 years by 32%; Stage 2 complaints have reduced by 20% this year and over 2 years by 62%.

CCWater has also reported a 44% reduction in the number of complaints referred directly to them, which is the largest decrease of any of the water and sewerage companies.

Figure 3: Complaints received over the last three years



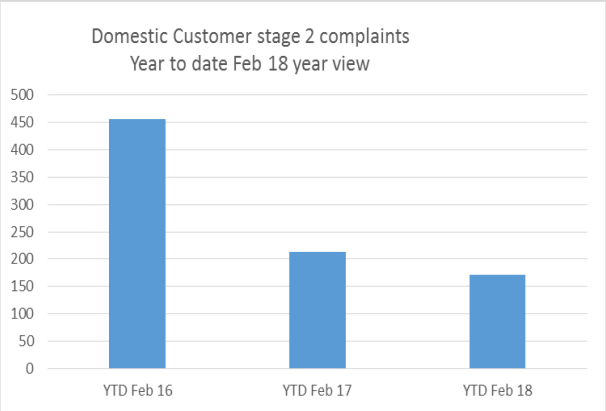


Figure 4: Institute of Customer Service UKCSI results

Organisation Ranking	Jan-18	Jan-17	Change
UK all-sector average	78.1	77.8	0.3
Utilities	74.4	74.4	0.0
OVO Energy	81.5	82.5	-1.0
Utility Warehouse	78.9	78.4	0.5
Bristol Water	77.4	N/A	N/A
M & S Energy	77.4	77.0	0.4
Yorkshire Water	77.4	80.1	-2.7
United Utilities (water)	77.3	69.9	7.4
Scottish Water	76.9	74.1	2.8
First Utility	76.8	77.4	-0.6
Wessex Water	76.7	79.5	-2.8
Anglian Water	76.4	77.0	-0.6
Dwr Cymru (Welsh Water)	76.4	75.3	1.1
Affinity Water	76.3	N/A	N/A
Severn Trent Water	76.0	78.0	-2.0
Power NI	75.9	76.9	-1.0
Northumbrian Water	75.6	76.1	-0.5
British Gas	75.1	75.4	-0.3
The Co-operative Energy	74.8	70.0	4.8
EDF Energy	74.3	74.1	0.2
Scottish and Southern Energy (SSE)	73.8	75.3	-1.5
Scottish Gas	73.8	74.0	-0.2
Essex and Suffolk Water	73.1	N/A	N/A
South West Water	73.0	75.8	-2.8
E.ON (energy)	72.5	75.0	-2.5
Thames Water	71.5	71.8	-0.3
Scottish Power	70.5	68.0	2.5
Southern Water	69.7	72.5	-2.8
npower	69.5	67.5	2.0

We also benchmark our performance externally across other sectors and participate in the UKCSI.

We can see the positive impact that improved customer service systems, processes and organisational structures is having on our results.

We have made significant progress in the latest UK Customer Satisfaction Index. In the latest round of results UU was the most improved utility company. We placed 4th in the overall Utilities group and 1st of the 10 WaSCs.

We achieved the highest scores in the Utilities group on Complaint Handling, scoring particularly highly in terms of speed of resolution, staff understanding, and complaint outcomes.

Against the other utilities we scored highly for ease of getting through on the telephone and for competence of staff.

B.5 Delivery of the Programme

By the end of March 2018, we had successfully delivered five of the seven identified component systems, with a sixth, (the debt management system) being due for delivery no later than March 2019. We have however, revised the strategy with the Customer Relationship Management (CRM) system no longer being required.

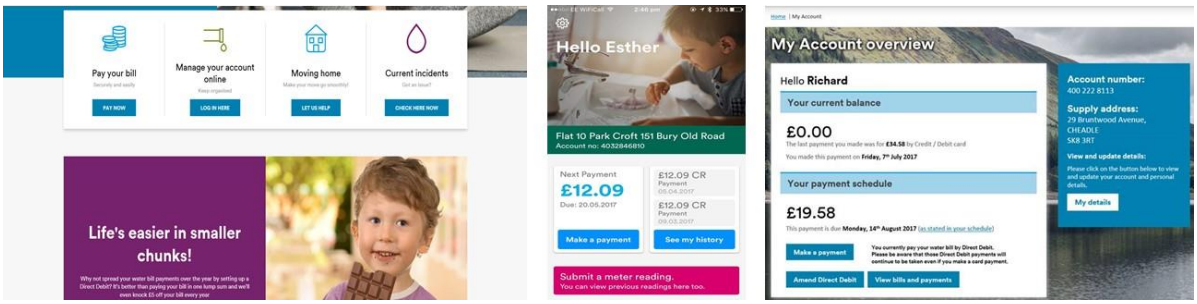
The programme has already delivered substantial improvements, which has had a significant and positive impact on the efficiency of the retail function and customer experience.

The new technology, business process changes and organisational changes delivered through this programme are set out below:

1. Web Content Management System (complete) – the re-platform of the United Utilities Company website to a mobile responsive and content manageable site including a webchat tool upgrade, the development and publication of the UU Mobile Application within the Google Play Store (Android) and Apple App Sore and the delivery of the My Account self-service online portal.

We have engaged with customers through our development of digital channels to ensure usability and accessibility across devices and platforms. Our website has circa 300k visitors per month. The Mobile App has over 30k customers registered with functionality to make payments, view payment history and submit meter readings. My Account has over 750k customers registered providing personalised pages with consumption history for metered customers.

Figure 5: Our digital capabilities are accessible and continue to show increasing usage and take-up



Having an improved digital presence and self-serve options for our customers has been a significant outcome from this technology. We continue to listen to customers' feedback so that we can react and respond to their needs. These are important channels to our overall service offering with 43% of customer transactions in 2017/18 managed through self-serve.

In the original proposal we had intended that Social Media would be accessible via the website and that we would integrate the Social Media tool into the new systems so that we could hold customers' twitter handles and communicate with them in a pro-active way. Part of the original vision was having the ability to communicate with customers in the event of an incident i.e. bursts on the Network, poor pressure etc.

We have identified more effective means of achieving the same outcomes since we submitted the plan. Whilst Social media is accessible via the website and is branded, look and feel to our other Digital channels we are not maintaining or holding all of the twitter handles on our internal systems. Customers can change twitter handles regularly, or use more than one, so the risk of insisting that they tell us who they are and linking up to them is uncertain. Twitter handles are often used to hide a person's real identity and cannot be readily matched to a customer account/address. We therefore chose not to integrate Social Media but have delivered the vision and outcome through a different technology.

We are using a UMS tool which allows us to identify on a mapping tool where a DMA or postcode area is affected by an incident. Using this tool we carry out pro-active communications via email, text or voice-blast to let customers know that there is an issue affecting their water supply and to let them know when it will be fixed. We then follow up with updates to let customers know where we are up to. We use data that is held in our billing system to do this. Since the tool was implemented in June 2017 a total of 2.3m messages have been sent. We receive positive feedback from customers about this capability with commendations via our WOW feedback process.

2. Multi-channel Routing (complete) – refresh of our main telephony lines with new tone of voice and branding, a new automated self-service telephony application providing an easy to use, touch tone dial-pad solution that removes legacy voice recognition, CLI routing and screen pops for customer service agents.

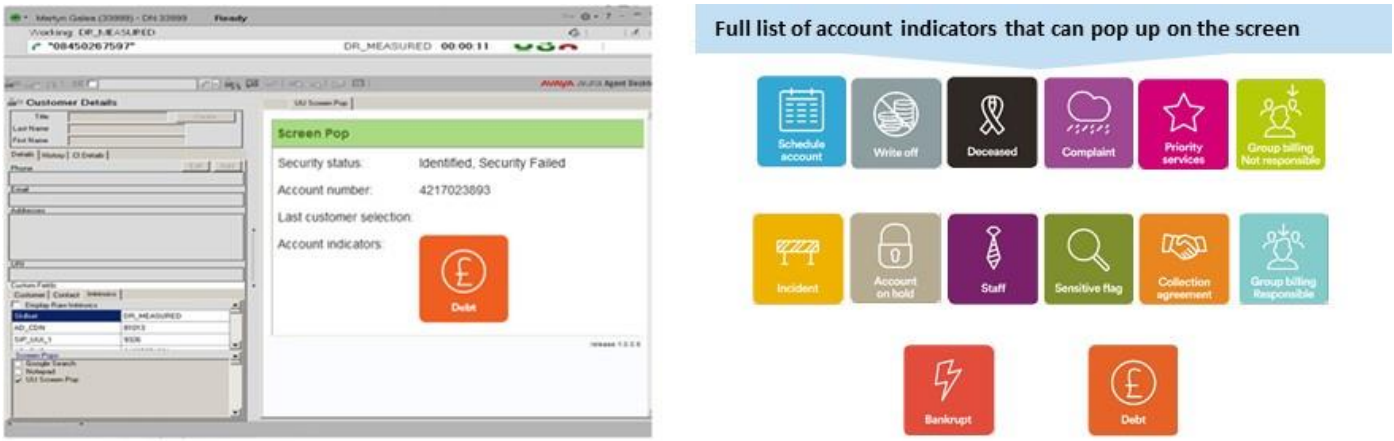
Our automated telephony line is an important channel for customers with over 435k transactions per year. We have delivered a 10% improvement in overall success rates of the new system. We have also developed caller recognition and customer flags presented to our agents to identify customer sensitives such as Priority Services upon call arrival. Currently over 40% of calls are recognised.

For routing of channels under MCR we changed the proposed technology. Our vision was to create a single view of work and agent through the use of Open Queue technology. Open Queue channels distribute work through one product and delivers it to agents via a CRM tool. We have moved away from this approach and have adopted dedicated skilled agents managing key processes and propositions such as Moving Home, High Measured bills, Priority Services or Digital Services. Calls and work are routed based on telephone numbers registered and customer flags so that customers are matched to the most appropriate skill set to deal with their enquiry.

We have seen significant improvements in operational efficiency, customer experience and reduced complaints as a result of this organisational model and this enables us to deliver service propositions that are important to customers. Through our concept phase we chose not to use the Open Queue technology as the upgrade path to the capability has not been proven, our predominance of telephony based contacts and the decision not to implement the CRM tool. The technology was intended to be used alongside an organisational model which utilises a multi-skilled operation.

The outcome of creating a single view of an agent is still maintained using the telephony and workforce optimisation technology alongside the analytics capability. This single view of work and agent was proven and endorsed as part of the external assurance work.

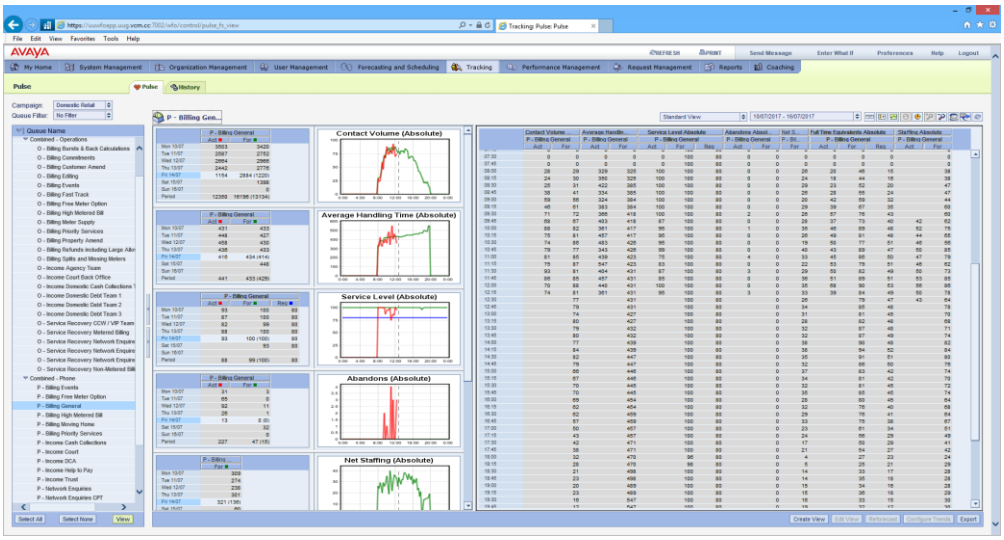
Figure 6: The screen pop enables customer identification and flags sensitives



3. Workforce Optimisation (complete) – deployment of an Avaya workforce management tool used for forecasting and scheduling agents to work on inbound and outbound calls and back office work.

The product has improved both the efficiency of the workforce planning team through better system functionality and reporting and the overall workforce. The workforce planning team reduced by 13 FFTE. For 2018 we did not recruit any temporary staff to help with our main billing activities; this can be circa 50FTE in an average annual billing cycle. We now have a single view of agents and workload.

Figure 7: Workforce tools driving planning and scheduling optimization and adherence efficiencies



4. Analytics capabilities (complete) – the use of Axasol and Tableau has been deployed within the household function and extensive capabilities have been developed providing a suite of analytical tools and reporting**.**

We have developed an information centre of customer and performance data that is accessible to operational people and management, refreshed on a daily basis to enable business decisions. The tool is used extensively to gain insight into customer behavior and drive decisions and next best actions. Amongst a range of new capabilities the tool for example allows us to provide segmented views of customers such as the Priority Services dashboard below.

Figure 8: Our Priority Services dashboard provides a segmented view and is a critical tool used in operational incidents

5. Billing system upgrades[21] (complete) – upgrades to the in-house billing system (ALTO) to ensure a stable and fully supported platform for the AMP removing the need for a full replacement system. This investment negates the need to invest in a new billing platform until beyond 2025.

6. Debt Manager System (due to be completed late 2018) – The upgrade of the Debt Manager system is still in progress and due for delivery in late 2018.

7. Customer Relationship Management (CRM) (no longer required)

Following the submission of our business plan a number of changes have been made to the detailed coverage and implementation approach for the programme to ensure investment is only made where it is the best interests of customers. These are detailed below.

In our original price review submission we proposed to invest in a CRM system which would provide visibility of both billing and operational (Wholesale) activities and involve significant integration between household retail and wholesale systems. Since our submission we now have a greater understanding of the implications of retail separation, having experienced the set-up of the competitive retail market for non-household customers.

Since PR14 there have been significant policy developments in relation to the future arrangements for household retail activities in the sector. In particular, in August 2016 when we took a decision on investment in the CRM there was significant uncertainty as the near term shape of household retail activities in the water sector, with Government activity reviewing the introduction of competition for household retail customers. We therefore took a decision not to invest in a new CRM system given such uncertainty. We believe that investment in such close integration would be wasteful given the lessons of separation that were learned in the context of readying ourselves for competition in the non-household retail market.

We believe that it would not be in customer's interest to invest in technology that may subsequently be aborted. The forecast depreciation associated with the CRM system in the original proposals was £3.7m in AMP6. As set out below we are proposing to reflect this in a future ODI adjustment.

[21] The Billing System upgrades were identified as enabling activities to the CEP and included in the funding allowance but is not an ODI deliverable.

B.6 Proposed ODI adjustment

There are two penalty/incentives tests associated with this performance commitment and ODI. In this section we describe our actual and forecast position against both aspects of the measure and set out how we propose that this should be reflected through the incentive mechanism.

Part 1 Cumulative Depreciation – This test compares the actual cumulative depreciation at 2020 with the depreciation assumed in the final determination and which was used to set the target for the measure. As we are part way through the AMP period- the data for the first three years has been subject to independent assurance, with the data for the remaining two years being forecasted.

Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Target Cumulative Depreciation (£m)	1.053	3.370	6.396	10.860	17.769
Actual and Forecast Depreciation (m)	0.001	0.363	*2.576*	*6.499*	*11.968*

Projected variance in cumulative depreciation by 2020	-£5.801m
Customer share rate	50%
Projected ODI performance adjustment	**-£2.900m**

Part 2 Delivery of the programme - This test relates to the whether we have fully delivered the programme by 31st March 2019. The table below sets out the status of each element of the programme assumed within the final determination.

Component	Delivery test passed March 2018	Forecast delivery before April 2019	Assumed cost at PR14 (£m)
Debt Manager replacement	**No**	Yes	
Billing system upgrades	Yes	Yes	
Customer relationship management system (CRM)	**No**	**No**	8.996
Multi-channel routing	Yes	Yes	
Workforce optimisation	Yes	Yes	
Analytic capabilities	Yes	Yes	
Web content management system	Yes	Yes	

As shown in the table above all systems will have been delivered and will be fully operational by the 31st March 2019, other than the customer relationship management system. With the cumulative depreciation associated with this expenditure being set out in the table below.

Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20	Total
Projected cost profile for CRM (£m)	3.844	2.656	0.886	1.610	0.000	8.996
Cumulative depreciation for CRM (£m)	0.000	0.242	0.842	1.196	1.397	3.677

Cumulative depreciation on non-delivered elements	£3.677m
Non- delivery incentive rate	50%
Projected ODI performance adjustment	**-£1.838m**

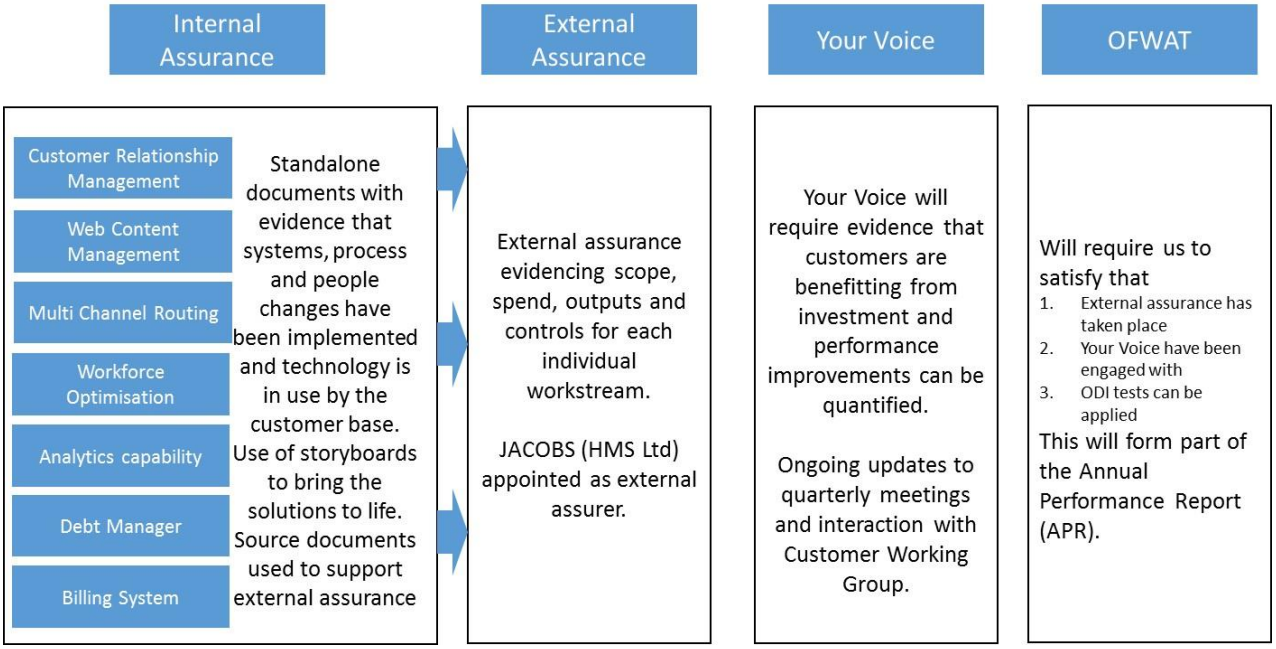
Combination of the mechanisms and development of the proposed adjustment

We are proposing that the total adjustment made for this ODI is the sum of part 1 and 2

Relative depreciation	-£2.900m
Full delivery	-£1.838m
Total ODI value (nominal prices)	**-£4.738m**

B.7 Assurance

As part of our ODI commitment we set out an approach to external assurance. Below is a diagram to explain our approach to meeting this commitment. The following sections detail each in turn.



Internal Assurance

The Customer Experience Programme followed UU's robust programme governance approach covering funding approval, project approach (concept, definition and implementation), business readiness and project closedown.

CEP was governed through executive sponsorship and had a Steering Group that was accountable for finance management, decision making and direction. Actions, decisions, change control and risk management were managed through a project management office and captured in a SharePoint repository. All programme documentation and delivery evidence is held on a SharePoint site.

For each technology component that has been delivered a formal handover process was followed with end-users to confirm that the scope and outcomes have been met. This process is fully auditable and we have shared the approach and content with our external assurers.

External Assurance

There are two aspects to the external approach.

Firstly our Annual Performance Report (APR) is subject to external assurance by Halcrow Management Services Ltd (HMS) part of the Jacobs group. Within that process the CEP ODI values i.e. the actual reported depreciation is assured for accuracy and completeness. A summary of their annual audit findings is published on our website, within the APR.

Secondly we also engaged HMS to undertake a specific and detailed review of the AMP6 Customer Experience Programme, with a series of system demonstrations and reviews being held at United Utilities Lingley Mere offices in February 2018.

The objective of this review was to "*undertake assurance of the AMP 6 Customer Experience Programme (CEP). Delivery of each workstream was to be reviewed in comparison with the Company's proposed programme of work that was documented and communicated to Ofwat at PR14. Additionally, the Company requested that HMS comment upon whether anticipated future depreciation costs are soundly based and have been correctly calculated*".

The scope of work was to "*provide an independent view on the Company's achievement of the outcome delivery incentives (ODIs) associated with the Customer Experience Programme (Performance Commitment R-A2). To achieve this, we queried the following for each component of the programme:*

1. *Has the full scope of work set out at PR14 been delivered?*
    a. *What was stated at PR14 that would be delivered in AMP6?*
    b. *What has been delivered (or is in the process of being delivered)*
    c. *What factors have caused any change in deliverables?*
    d. *Key differences between a. and b. in terms of:*
        - *Customer experience benefits, positives and negatives*
        - *Range of customers affected*
        - *Change of completion date*
2. *Are the reported and anticipated future depreciation costs soundly based?*

The review was completed for all aspects of the programme other than the Debt Manager solution, which will be reviewed in advance of our 2019 Annual Performance Report. HMS detailed audit findings are provided alongside this submission, document reference UUW_012_AFPD_ES SAF CEP Assurance Final, with the conclusions from their review summarised below:

For the AMP 6 Customer Experience Programme the Company has delivered substantial improvements, fixes and additional capabilities that have had a significant and positive impact on the efficiency of the business and to the customer's overall experience.

There are aspects of the proposed programme that have not been delivered as originally described but we believe the Company has acted in the customer's best interests. The Company's alternative solutions have addressed most of the original needs and in some cases, have delivered benefits above and beyond what was originally proposed. The Company have also made significant process changes such as the move to teams of dedicated skilled agents rather than the previous 'multi-skilled' approach.

There have been notable recent improvements to the Company's SIM performance and the customer experience changes made in AMP 6 is likely to be a major factor in achieving this result.

Depreciation projections have been calculated appropriately. However, there is uncertainty over Ofwat's interpretation of the 'full-delivery' aspect of the ODI due to the aforementioned deviations from PR14 commitments for some components of the programme.

We note that the Company has indicated that it will propose to return £3.7m of initially expected cumulative depreciation costs for the CRM system back to customers through the ODI and that they have communicated this to the 'Your Voice' customer forum. If Ofwat consider that the programme has not achieved 'full delivery' status then the Company could be exposed to an additional penalty of £8.88m. We would suggest that such a penalty would be inappropriate considering that most of the intended outcomes have been achieved.

YourVoice review

The CCG panel YourVoice provides challenge and critical oversight of the commitments we made in our business plan. Meetings are held on at least a quarterly basis to share progress against our commitments and to outline our future plans.

We specifically reviewed progress against the CEP with YourVoice in February 2018. With the presentation including the decision to remove the Customer Relationship Management system from the programme as this was no longer cost beneficial, together with the outcome from the programme in terms of customer experience benefits and reduced cost to serve.

Minutes and actions of this panel are made available through our company website, at https://www.unitedutilities.com/corporate/about-us/performance/yourvoice/yourvoice-updates-and-meeting-minutes/.

Appendix C: Delivery of our AMP6 outputs

This appendix provides additional supporting detail on the delivery of the individual schemes and outputs that we committed to deliver as part of the PR14 or subsequent regulatory processes. Many of these schemes were also embedded within the performance commitments and outcomes that were defined within the PR14 process. A spreadsheet setting out details of projects delivered in each programme is available as UUW_013_AFPD_ES Project Delivery spreadsheet.

C.1 Introduction

This appendix provides additional supporting detail on the delivery of the individual schemes and outputs that we committed to deliver as part of the PR14 or subsequent regulatory processes. Many of these schemes were also embedded within the performance commitments and outcomes that were defined within the PR14 process.

At PR14 we developed 11 outcomes, with each outcome supported by a set of specific performance commitments (PC), which enable us to quantify our performance against the outcomes.

These performance commitments can be categorised into two main types:

- Performance measures, monitoring operational performance, customer service or asset health.
- Delivery measures, monitoring the delivery or the benefit of the delivery of specific named outputs, usually specified by quality regulators and required to deliver our key regulatory commitments.

Detail on our performance against all of our performance commitments is set out in our Annual Performance Report, key sections of which are reproduced in Appendix A of this document.

This appendix provides the supporting detail and evidence for the delivery performance commitments and reviews:

- The actual level of delivery performance attained from 2015/16 to 2017/18;
- The anticipated levels of delivery performance in 2018/19 and 2019/20; and
- Provides commentary and detailed project listings to explain any variance between the initially assumed and actual delivery positions.

This appendix also provides a review of how well we have complied with our broader commitments to our environmental and quality regulators.

The Appendix is set out in the following Sections:

Environmental commitments

The Environment Agency (EA) sets out the enhancements that need to be made to our asset base in the AMP6 period. This part of the appendix reviews performance against:

- The Environment agencies Environmental Performance Assessment
- The National environmental Programme (NEP5) and the three performance commitments that are underpinned by the National Environmental Programme:
    - Contribution to rivers improved (Wastewater)
    - Contribution to bathing waters improved
    - Contribution to rivers improved- water programme

Accommodating development

Reviewing performance against the enhancement works that we are undertaking to ensure that development in the area does not result in a deterioration in environmental performance. This is measured through the following PR14 performance commitment.

- Protecting rivers from deterioration due to population growth

Drinking Water Inspectorate or other Water Service commitments

The Drinking Water Inspectorate (DWI) sets out legal agreements for the schemes that we need to deliver in the AMP6 period. This appendix reviews performance against:

- Drinking Water Inspectorate commitments
- The two performance commitments that underpin our compliance with the DWI expectations are:
    - Resilience of impounding reservoirs
    - Thirlmere transfer into West Cumbria

A spreadsheet setting out full details of the schemes that were planned to be completed for each of these programmes, together with the actual or planned delivery dates for these projects is provided as UUW_013_AFPD_ES Project Delivery spreadsheet.

Output in use certificates are produced for all completed schemes. We have not provided copies of these output in use certificates within this submission, but will be providing copies of these certificates to Ofwat as part of our PR19 business plan submission.

C.2 Environmental commitments

Environmental Performance Assessment

Environmental Performance Assessment (EPA) overview

In 2011 the Environment Agency (EA) introduced the Environmental Performance Assessment (EPA) as a tool for comparing performance between water companies and across years.

Initially the EPA contained six indicators of environmental performance, but this was expand to seven in 2016 with the inclusion of the security of supply measure. The assessment thresholds were also tightened in 2016. The current indicators are:

- Reducing pollution incidents (Category 1-3 assessment)
- Reducing pollution incidents (Category 1-2 assessment)
- Increasing company reporting of incidents
- Complying with discharge permits for sewage treatment and water treatment plants
- Managing the use and disposal of sewage sludge
- Delivering environmental improvement schemes
- Delivering secure supplies of water ('security of supply')

The EPA is set for the duration of the current AMP.

United Utilities – EPA performance in AMP6

Our EPA performance in AMP6 is shown in the tables below. In all three years we have attained four star status, which is the highest attainable category and classifies us as an industry leading company.

Table 1 2015 Indicators and performance

	Pollution incidents (Sewage)	Serious Pollution incidents (Sewage)	Discharge permit compliance	Satisfactory sludge disposal	Reporting of pollution incidents	Environment Programme delivery	Security of supply	
Units	Category 1-3 incidents per 10,000 km of sewer	Category 1-2 incidents per 10,000 km of sewer	%	%	%	% of planned delivered	Above or below target	Overall rating
RAG thresholds	≥130 red	≥4 red	≤96 red	≤98 red	≤37 red	≤96 red	Below – R	
	>50 amber	>1.5 amber	<99 amber	>98 amber	<68 amber	>96 amber	Concern - A	
	≤50 green	≤1.5 green	≥99 green	100 green	≥68 green	≥99 green	Above - G	
2015 Performance	**40**	**1.2**	**97.2**	**100**	**81**	**100**		****

Table 2 2016/17 Indicators and performance

	Pollution incidents (Sewage)	Serious Pollution incidents (Sewage)	Discharge permit compliance	Satisfactory sludge disposal	Reporting of pollution incidents	Environment Programme delivery	Security of supply	
Units	Category 1-3 incidents per 10,000 km of sewer	Category 1-2 incidents per 10,000 km of sewer	%	%	%	% of planned delivered	Above or below target	Overall rating
RAG thresholds	>50 red	>1.5 red	<97 red	<96 red	<55 red	<97 red	Below – R	
	>25 amber	>0.5 amber	<99 amber	>96 amber	<75 amber	≥97 amber	Concern - A	
	≤25 green	≤0.5 green	≥99 green	100 green	≥75 green	≥99 green	Above - G	
2016 Performance	**22**	**0.4**	**97.4**	**100**	**75**	**100**	**100**	****
2017 Performance	**23**	**0.1**	**98.8**	**100**	**82**	**100**	**100**	****

Key – performance star rating:

****	Industry leading company
***	Good company
**	Company requires improvement

Pollution incidents (supported by two performance ODI's see Appendix A)

The Environment Agency work with water companies to minimise the damage that pollution incidents cause. Pollution incidents are usually caused by loss of control of operational assets which leads to the release of harmful substances into the air, land or water. The Environment Agency categorise all incidents based on their impact:

- Category 1 incidents have a serious, extensive or persistent impact on the environment, people or property and may for example result in a large number of fish deaths.
- Category 2 incidents have a lesser yet significant impact.
- Category 3 incidents have a minor or minimal impact on the environment, people and/or property with only a limited or localised effect on water quality.

We have a history of strong performance for pollution events and we anticipate this will continue in the future, despite the target levels being tightened as a result of the inclusion of transferred assets.

Self-reporting of incidents

The Environment Agency encourage high levels of self-reporting of pollution incidents, where water companies tell them about their incidents before a member of the public or a third party does. The rationale being that without a rapid and effective response, relatively minor events can escalate and the opportunity for mitigation measures is often lost.

We have a good record with regard to self-reporting performance. This is driven by multiple factors including clear signage on our sites, our brand exposure, field training for our staff and the provision of relevant information on our website.

Discharge permit compliance (supported by one performance ODI see Appendix A)

All water companies have licences and permits to control the level of impact they are allowed to have on the environment. These vary in complexity depending on the activities concerned and the nature and sensitivity of the local environment. The Environment Agency expect companies to be 100% compliant with them.

In 2016 for the first time, the Environment Agency included discharge compliance at water treatment works (WTWs), as well as at sewage treatment works (STW) within their EPA assessment.

Our performance in 2015, 2016 and 2017 was in the amber classification due to 10 permit breaches in 2015, 11 in 2016 and five in 2017. Going forward we anticipate a reduction in the number of permit non compliances due to:

- An increased focus and awareness of WTWs inclusion within the assessment.
- Successful implementation of a compliance improvement programme focused around people, processes, systems and data.
- The further development of our mobile data systems, increasing the accessibility of permit requirements and compliance data to operational staff.
- The development of new tools for the analysis of root causes of non-compliance and the monitoring of trends with a view to improving the quality of data available for sharing best practice.
- The development of new templates, modification of existing escalations processes and introduction of intensive care plans for high risk sites.
- The improvement of internal reporting to ensure that focus remains on sites with historic performance issues.

Satisfactory sludge disposal (supported by one performance ODI see Appendix A)

Sludge is produced as part of our sewage treatment processes. This sludge needs to be disposed of and can often be put to good use, for example as a fertiliser on agricultural land. Its storage and spreading, however, requires careful control as misuse can result in environmental damage.

A revised definition of the metric for satisfactory sludge disposal and use has been agreed for use in the EPA for reporting in the 2018 to 2020 data. The Environment Agency are working with companies to set out the compliance assessment methodology. For 2016 and 2017, the Environment Agency are using the existing definition.

We attained 100% compliance in 2015, 2016 and 2017, which is the maximum available score.

Environment programme delivery (supported by two delivery ODIs detail provided below)

As part of the 2014 price review we worked with the Environment Agency to develop their AMP6 National Environment Programme (NEP). The NEP sets out the environmental improvements we need to make during the AMP6 period to ensure we meet European and national environmental standards related to water. The NEP, includes schemes, investigations and monitoring to improve and protect the environment.

Until 2016, this element of the assessment only included environmental improvement schemes for water quality. From April 2016 onwards, it also includes schemes associated with water resources, fisheries, biodiversity and geomorphology.

We attained 100% delivery against our NEP in 2015, 2016 and 2017, which is the maximum available score.

Security of supply (supported by one performance ODI see Appendix A)

The security of supply index (SoSI) compares forecast water available for supply with actual customer demand. Expected performance is for companies to have a balance or a small surplus of water available when compared with demand (scoring a SoSI of 100).

This measure was included in the EPA for the first time in 2016 and we attained an index score of 100, which is the maximum available score, this level of performance was repeated in 2017.

National Environment Programme

We review delivery of the National Environment Programme (NEP5) through three performance commitments:

- Contribution to rivers improved (wastewater)
- Contribution to bathing waters improved
- Contribution to rivers improved (water)

We review the detailed delivery of the outputs within these programmes in the following sections of this appendix. Our performance against the NEP at high level is summarised below:

Year 1, 2 and 3 performance

In years 1, 2 and 3 we have delivered the schemes required by the Environment Agency and set out within their National Environment Programme 5 (NEP5). In a few instances, delivery issues meant that schemes may not be able to be completed on time, in these cases we have worked with the Environment Agency to exchange schemes to ensure that the environmental benefit is still realised.

Year 4 and 5 anticipated performance

Our current prediction is that we will deliver the majority of our schemes on time. There are a small number of projects where there are delivery or constructability issues where there is a risk of delay. We are continuing to work with the Environment Agency to understand these risks and will keep them informed of progress as part of our routine processes during the remainder of the AMP. Details of the individual projects involved are set out in the relevant sections below.

S-D3: Contribution to rivers improved (wastewater) (ODI)

Measure description

This measure tracks the delivery of our National Environmental Programme (NEP) obligations and is achieved through the delivery of an extensive programme of capital projects and investigations throughout AMP6. This measure has financial penalties and rewards.

AMP6 performance commitment

The original performance commitment target profile, as set out within our PR14 business plan, was developed from a programme of projects agreed with the Environment Agency during the development of the price review process and assumed completion dates for a small number of AMP5 projects that were continuing into the AMP6 period.

Following the end of the AMP5 period a final determination was made on the impact (short falling) of the AMP5 carry over projects within this programme. The revised end dates for these projects together with a small number of corrections to the delivery dates for AMP6 projects were provided to Ofwat, with a corrected performance commitment target now having been published in a corrigendum on the Ofwat website. The corrected performance commitment target (measured in terms of cumulative length of river improved) is:

Corrigendum profile

Table 3: Regulatory targets for the 'contribution to rivers improved' (wastewater programme) performance commitment

Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river improved	0.75	15.41	98.14	145.39	355.22

In addition and also subsequent to the PR14 final determination, the Environment Agency published an updated version of the environmental programme (NEP5). We worked with the Environment Agency to ensure that the revisions to the programme were broadly cost neutral and of equivalent environmental benefit.

The revised programme delivers a slightly different profile when converted into river lengths improved. The table below reflects the updated target. Ofwat acknowledged this change but did not formally revise the performance commitment target to reflect this profile at that stage and asked UUW to report against both programmes to allow a decision to be made on which target to base the incentive payments on as part of the PR19 process.

Over AMP6 we aim to deliver the programme of work set out by and agreed with the Environment Agency through NEP5 and as such we are focussing our reporting on delivery against the NEP targets dates, although in line with the requirements set out within the corrigendum are also reporting performance and associated incentive payments against the profile published within the corrigendum.

NEP5 profile

Table 4: Regulatory targets for the 'contribution to rivers improved' (wastewater programme) performance commitment

Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river improved	0.75	14.12	121.83	173.38	345.97

We are delivering the programme broadly in line with the requirements of NEP5, although we have delivered some schemes early and there are some other adjustments to the programme. These changes and the impact of the changes on the incentive mechanism are set out later in this section of the report. The cumulative length of river improved through our programme is set out in the table below.

AMP6 actual / predicted performance

Table 5: Actual and forecast performance for the 'contribution to rivers improved' (wastewater programme)' performance commitment

AMP6 financial projection	Actual			Forecast	
	2015/16	2016/17	2017/18	2018/19	2019/20
£0.844m	0.76	46.98	120.73	173.12	342.75

Reward and penalty calculation method

The overall position for the measure is calculated via the following five steps:

1. For each individual project within the rivers improved (Ww) programme, the number of days between the actual project completion date and regulatory date set out within the relevant performance commitment target, is calculated. Completion dates are confirmed with the EA via output in use certificates.

2. This number of days enables an 'ODI factor' to be generated utilising the sliding scale set out within the final determination and shown below:

	271-365 days early	181-270 days early	91-180 days early	1-90 days early	On time	1-90 days late	91-180 days late	181-270 days late	271-365 days late
ODI Factor	1.00	0.75	0.50	0.25	0.00	-0.25	-0.50	-0.75	-1.00

3. The ODI factor for each project is then multiplied by the length of river improved (Km) by the project to calculate an 'impact on outcome' value. All projects within the programme were assigned an agreed river improved length, with lengths for any new projects or variations to projects being agreed when the revision is made.

4. The total 'impact on outcome' figures is calculated by summing the impacts of the individual projects. Values reported as year-end positions are based upon the net impact of the projects that were planned to be delivered or have been delivered by that date (see table below).

5. If this net position is a positive value, it is multiplied by the reward rate to calculate the overall reward. If the net position is negative, then it is multiplied by the penalty rate to calculate the overall penalty.

Worked examples of this process are provided in the UUW performance commitment definition document published on our website.

Performance in years 1 and 2

In year 1 we delivered the EDM and Flow schemes required as part of the NEP, with two additional event duration monitors being delivered in the year.

In year 2 we delivered five projects on time and delivered the "No Deterioration" schemes at Horwich WwTW and Dalston WwTW and the UWWTD scheme at Altrincham WwTW earlier than set out in the NEP, we also completed the low P pilot trials earlier than planned and installed an additional flow monitor. This outperformance was partially off-set by a delay in the scheme at Marton Cassia, although a change requests for later delivery of this scheme has been agreed with the Environment Agency.

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual Km river improved	Early/late	ODI factor
FY16 – EDM projects	Various	31/03/2016	31/03/2016	0.40	On time	0.01
FY16 – Flow project	Various	31/03/2016	31/03/2016	0.36	On time	0
FY17 – Chemicals programme	Various	31/03/2017	31/03/2017	9.21	On time	0
Marton North (Flow 3)	6UU0009	31/03/2017	31/03/2020	0.37	3 years late	-1.11
FY17 – Flow project	Various	31/03/2017	31/03/2017	0.42	On time	0.06
Elterwater (I1)	6UU0034	31/03/2017	31/03/2017	0.97	On time	0
Knutsford Moor Pumping Station (I5)	6UU0038	31/03/2017	31/03/2017	0.37	On time	0
EDM2 Year 2 (224)	Various	31/03/2017	31/03/2017	1.34	On time	0
Dalston WwTW (ND)	6UU0043	31/03/2018	31/03/2017	7.60	1 year early	7.60
Horwich WwTW (ND)	6UU0042	31/03/2018	31/03/2017	24.93	1 year early	24.93
Altrincham WwTW (U2)	6UU0007	14/11/2018	31/03/2017	1.37	1.75 years early	2.40
WwTW Low P pilot plant trials for AMP6	Various	16/10/2019	31/03/2017	0	2.75 years early	0.00

Note: The chemicals programme is made up from a large number of small projects and is being managed as a five year programme, therefore although there are some minor variations in delivery dates of some of these projects these are not reflected in the outcome delivery incentive calculation.

Performance in year 3

In year 3 we delivered eleven projects on time, including delivering eleven more event duration monitors than planned. Oldham WwTW (F1a) is an AMP5 carry over project rather than an NEP5 project. The treatment works is now complying with the revised consent that this project was designed to deliver, although the project has not been fully completed and the output in use certificate has not been finalised. We have therefore applied a negative ODI factor for this project.

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual Km river improved	Early/late	ODI factor
Chorley WwTW Storm Tanks	6UU0521	30/04/2017	30/04/2017	0.00	On time	0
Chorley WwTW (ND)	6UU0040	17/08/2017	17/08/2017	12.70	On time	0
Oldham WwTW (F1a)	5UU0580A	30/09/2017	18/04/2019	2.60	1.75 years late	-4.55
River Loud and Chipping Brook investigation	6UU0553	30/09/2017	30/09/2017	0.37	On time	0
Mere Platts Pumping Station (I1)	6UU0037	07/12/2017	07/12/2017	1.19	On time	0
Davyhulme WwTW (F1a)	5UU0545	26/01/2018	26/01/2018	2.43	On time	0
Whaley Bridge WwTW (ND)	6UU0044	31/03/2018	31/03/2018	12.90	On time	0
Cleator WwTW (ND)	6UU0041	31/03/2018	31/03/2018	14.40	On time	0
FY18 – Flow project	Various	31/03/2018	31/03/2018	0.30	On time	0
FY18 – Chemicals programme	Various	31/03/2018	31/03/2018	6.97	On time	0
EDM2 Year 3 (588)	Various	31/03/2018	31/03/2018	3.59	On time	0.07
Tarvin WwTW	6UU0541	31/03/2018	31/03/2018	18.90	On time	0

The cumulative ODI factor at the end of year 3, based upon the projects that were due to be delivered or which have been delivered by this date is plus 29.39 which would produce a reward of £0.82m when multiplied by the reward incentive rate of 0.028 £m/km.

Anticipated performance in year 4

We currently anticipate that we will be able to deliver all of the FY19 projects by their delivery dates and expect to be able to deliver the project at Oakmere WwTW one year earlier than required. Due to revisions to the timing of the flow programme we will deliver one less monitor in the year.

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual Km river improved	Early/late	ODI factor
Nantwich WwTW (U2)	6UU0003	14/11/2018	14/11/2018	1.82	On time	0
Nantwich WwTW (WFD)	6UU0548	14/11/2018	14/11/2018	1.82	On time	0
Crewe WwTW (U2)	6UU0004	14/11/2018	14/11/2018	1.82	On time	0
Winsford WwTW (U2)	6UU0005	14/11/2018	14/11/2018	3.64	On time	0
Northwich WwTW (U2)	6UU0006	14/11/2018	14/11/2018	1.06	On time	0
Darwen WwTW (U2)	6UU0002	14/11/2018	14/11/2018	1.50	On time	0
Blackburn WwTW (U2)	6UU0001	14/11/2018	14/11/2018	3.38	On time	0
Garstang WwTW (U2)	6UU0008	14/11/2018	14/11/2018	1.51	On time	0
Irlam WwTW	6UU0430	31/12/2018	31/12/2018	0.00	On time	0
Kendal WwTW (ND)	6UU0508	20/03/2019	20/03/2019	20.21	On time	0
FY19 – Flow project	Various	31/03/2019	31/03/2019	0.30	On time	-0.06
FY19 – Chemicals programme	Various	31/03/2019	31/03/2019	6.22	On time	0
Outgate WwTW (I1)	6UU0039	31/03/2019	31/03/2019	0.37	On time	0
EDM2 Year 4 (579)	Various	31/03/2019	31/03/2019	3.47	On time	0
Lower Weaver - Cuddington WwTW	6UU0551	31/03/2019	31/03/2019	2.64	On time	0
Lower Weaver - Oakmere WwTW	6UU0550	31/03/2020	31/03/2019	2.64	1 year early	2.64

Anticipated performance in year 5

As shown in the table below, we currently anticipate that we will be able to deliver forty one projects on time. There minor adjustments due to the timing of the delivery of the EDM and Flow programme and we expect to be able to deliver the water framework directive project at Horwich half a year early. In addition the scheme at Whalley WwTW has been removed from the NEP, which will generate a negative adjustment.

Delivery issues have been identified with two projects (Manchester Ship Canal and CHR0012) and we are currently working with the Environment Agency to seek to exchange these projects with alternative schemes at Motherby and Barrow Nook, which are roughly of equivalent river length. We have reflected this revision to the programme within the ODI calculation by assuming a delivery date of one year into AMP7 with the projects either being delayed or accelerated by a year to calculate the impact upon outcome of the four projects.

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual Km river improved	Early/late	ODI factor
Grasmere WwTW (Biod1)	6UU0035	31/03/2020	31/03/2020	0.78	On time	0
Grasmere WwTW Storm Tanks (Biod1)	6UU0036	31/03/2020	31/03/2020	0.78	On time	0
Glebe Road CSO (Biod1)	6UU0031	31/03/2020	31/03/2020	5.70	On time	0
Windermere WwTW (Biod1)	6UU0032	31/03/2020	31/03/2020	5.70	On time	0
Ambleside WwTW (Biod1)	6UU0033	31/03/2020	31/03/2020	5.70	On time	0
FY20 – Chemicals programme	Various	31/03/2020	31/03/2020	6.59	On time	0
Investigations of sewerage effluent into groundwater (DrW2)	6UUD010	31/03/2020	31/03/2020	0.37	On time	0
EDM2 Year 5 (468)	Various	31/03/2020	31/03/2020	2.71	On time	-0.10
Horwich WwTW (WFD)	6UU0523	14/08/2019	30/04/2019	2.94	0.5 years early	1.47
Wigton WwTW (WFD)	6UU0500	31/03/2020	31/03/2020	16.79	On time	0
Calthwaite WwTW (WFD)	6UU0501	31/03/2020	31/03/2020	6.06	On time	0
Kidsgrove WwTW (WFD)	6UU0542/ 6UU0543	31/03/2020	31/03/2020	5.87	On time	0
Lawton Gate WwTW (WFD)	6UU0544/	31/03/2020	31/03/2020	2.91	On time	0
Northwich WwTW (WFD)	6UU0552	31/03/2020	31/03/2020	1.06	On time	0
OLD0100 (WFD)	6UU0536	31/03/2020	31/03/2020	0.24	On time	0
OLD0109 (WFD)	6UU0537	31/03/2020	31/03/2020	1.26	On time	0
OLD0120 (WFD)	6UU0538	31/03/2020	31/03/2020	1.26	On time	0
OLD0151 (WFD)	6UU0539	31/03/2020	31/03/2020	1.82	On time	0
Failsworth WwTW (WFD)	6UU0532/ 6UU0533/ 6UU0534	31/03/2020	31/03/2020	5.81	On time	0
Billinge WwTW (WFD)	6UU0531	31/03/2020	31/03/2020	2.16	On time	0
Halsall WwTW and Haskayne WwTW (WFD)	6UU0528/ 6UU0529	31/03/2020	31/03/2020	12.99	On time	0
Harrisons Farm Storm Spill (WFD)	6UU0524	31/03/2020	31/03/2020	1.20	On time	0
CHR0012 (WFD)	6UU0522	31/03/2020	31/03/2021	1.2	1 year late	-1.20
Motherby	N/A	31/03/2021	31/03/2020	1.5	1 year early	1.50
HYN0005 (WFD)	6UU0515	31/03/2020	31/03/2020	0.60	On time	0
HYN0008 (WFD)	6UU0517	31/03/2020	31/03/2020	0.60	On time	0
HYN0003 (WFD)	6UU0516	31/03/2020	31/03/2020	2.33	On time	0
Colne WwTW (WFD)	6UU0518	31/03/2020	31/03/2020	4.45	On time	0
RIB0017 (WFD)	6UU0512	31/03/2020	31/03/2020	0.13	On time	0
RIB0019 (WFD)	6UU0513	31/03/2020	31/03/2020	0.13	On time	0
Billington Storm Tanks (WFD)	6UU0514	31/03/2020	31/03/2020	0.51	On time	0
Barton WwTW (WFD)	6UU0507	31/03/2020	31/03/2020	4.30	On time	0
Aspatria WwTW (WFD)	6UU0502	31/03/2020	31/03/2020	7.44	On time	0
Hayton WwTW (WFD)	6UU0503	31/03/2020	31/03/2020	7.48	On time	0
Hayfield WwTW (WFD)	6UU0540	31/03/2020	31/03/2020	16.70	On time	0
MAN0131 (WFD)	6UU0535	31/03/2020	31/03/2020	1.2	On time	0
Darwen WwTW (WFD)	6UU0526	31/03/2020	31/03/2020	1.48	On time	0
Darwen WwTW storm tanks (WFD)	6UU0527	31/03/2020	31/03/2020	1.48	On time	0
Blackburn WwTW (WFD)	6UU0525	31/03/2020	31/03/2020	4.40	On time	0
FY20 - Flow programme	Various	31/03/2020	31/03/2020	0.48	On time	-0.06
Inland CSW programme	6UU0530	31/03/2020	31/03/2020	0.18	On time	0
Manchester Ship Canal (F1a)	6UU0379	31/03/2020	31/03/2021	6.44	1 year late	-6.44
Barrow Nook	N/A	31/03/2021	31/03/2020	4	1 year early	4.00
West Newton	6UU0556	31/03/2020	31/03/2020	7.48	On time	0
Whalley WwTW	6UU0519	31/03/2020	31/03/2021	1.00	1 year late	-1.00
Crewe WwTW (WFD)	6UU0547	31/03/2020	31/03/2020	5.46	On time	0
Winsford WwTW (WFD)	6UU0549	31/03/2020	31/03/2020	3.64	On time	0

Calculation of the Outcome Delivery Incentive

The net impact of the delays acceleration and revisions to the programme over the full five year period, is a positive "impact on ODI" value of 30.14Km.

As this is a positive value it is multiplied by the reward incentive rate of £0.028m/km.

Proposed ODI Reward = 30.14km x £0.028m/km = £0.844m after year 5.

Incentive using the "corrigendum" profile as the performance commitment target

If the corrigendum profile is used as the basis of the performance commitment target then significantly more variances to delivery dates occur.

The equivalent "impact on ODI" value after five years would be 60.50km. As the equivalent value calculated using the NEP programme is smaller this indicates that the revisions to the programme made through NEP5 have at least maintained the environmental benefit of the originally assumed programme.

As the "impact on outcome" value is a positive it would be multiplied by the reward incentive rate of £0.028m/km.

Equivalent ODI Reward = 60.50km x £0.028m/km = £1.694m after year 5.

Although this is a larger reward than the value calculated using the NEP5 programme as the basis of the calculation, we consider that the lower NEP5 reward more accurately reflects our delivery against this programme of work and the associated ODI.

The detail supporting the calculations for the NEP and corrigendum profiles has been provided in the UUW_013_AFPD_ES Project Delivery spreadsheet.

Future performance - risk, issue, concern, change or opportunity?

It should be noted that the values for years four and five are subject to potential revision. Key factors that could impact upon the measure are set out in the table below.

Table 6: Factors that could affect the future performance of the 'contribution to rivers improved (wastewater programme) performance commitment

Factor	Potential impact
Risk of late delivery	There is the risk that deliverability issues could result in projects being delivered later than currently anticipated, depending on the length of delay and the river improved km associated with the schemes this could result in a reduced incentive reward or potentially a penalty. A monthly review is completed to consider any risks associated with delivery and ensure mitigation plans are put into place.
Non-agreement of exchanges with the Environment Agency	We are currently discussing some potential exchanges with the Environment Agency in cases where there are delivery issues. Should the Environment Agency not agree to these exchanges, or the process of agreement take time to complete, it may not be possible to deliver the work by the required timescales.

S-C1: Contribution to bathing waters improved

Measure description

This performance commitment measures the delivery of the programme of work which we have agreed with the Environment Agency to improve the impact that our assets have on bathing water compliance. Each project in this programme has been an assigned an impact upon bathing water compliance called a bathing water equivalent (BWE), which is proportionate to the impact that completing the project will have on a designated bathing water. The measure is penalty only.

AMP6 performance commitment

Table 7: Regulatory targets for the 'contribution to bathing waters improved' performance commitment

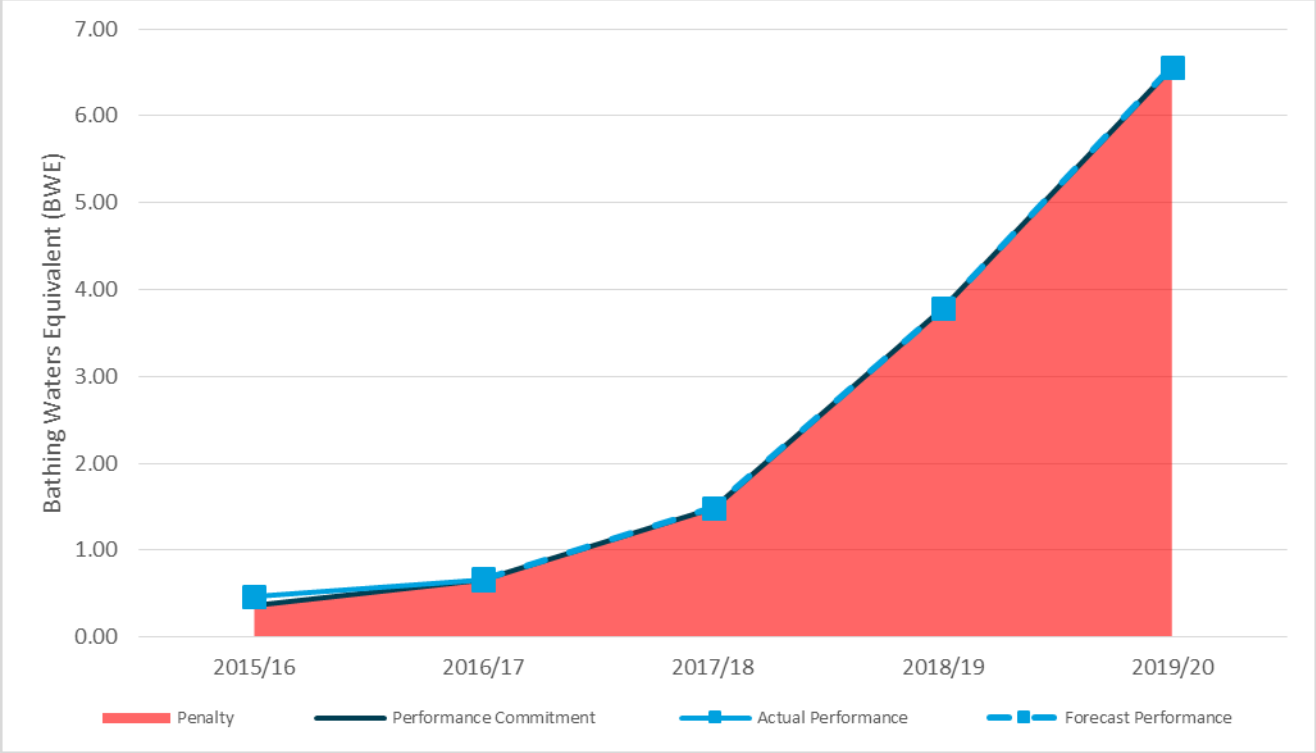
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Bathing water equivalent (BWE)	0.36	0.66	1.49	3.78	6.56

AMP6 performance

Table 8: Actual and forecast performance for the 'contribution to bathing waters improved' performance commitment

AMP6 financial projection	Actual			Forecast	
	2015/16	2016/17	2017/18	2018/19	2019/20
£0m	0.47	0.66	1.49	3.78	6.56

Figure 4: Contribution to bathing waters improved - AMP6 actual and forecast performance against performance commitment and financial incentives



Year 1, 2 and 3 performance

In the first three years of the period we have delivered all the required schemes to the planned date, other than the Coastal Misconnections (CSW) programme, which was delivered earlier than planned.

Table 9: Years 1, 2 and 3 Bathing Water programme

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual/LBE delivery year	Actual bathing water equivalent	Early/late
Allonby WwTW Storm Tank	6UU0018	31/03/2016	31/03/2016	FY16	0.31	On time
Event Duration Monitors	Various	31/03/2016	31/03/2016	FY16	0.05	On time
Misconnections	6UU0022	21/07/2016	30/11/2015	FY16	0.11	Early
Hesketh Bank	6UU0520	31/03/2017	31/03/2017	FY17	0.09	On time
Mersey North Wirral Investigations	6UU0030	31/03/2017	31/03/2017	FY17	0.03	On time
Tidal Ribble and Wyre Investigation	6UU0021	31/03/2017	31/03/2017	FY17	0.07	On time
Chorley WwTW Storm Tanks	6UU0013	30/04/2017	30/04/2017	FY18	0.26	On time
Hagg Lane (Midland Terrace)	6UU0019	30/04/2017	30/04/2017	FY18	0.21	On time
Ravenglass WwTW	6UU0504	31/12/2017	31/12/2017	FY18	0.10	On time
Ravenglass Ww TW Storm Tanks	6UU0505	31/12/2017	31/12/2017	FY18	0.10	On time
Ravenglass WwTW CSO	6UU0506	31/12/2017	31/12/2017	FY18	0.10	On time
Kendal WwTW	6UU0509	31/12/2017	31/12/2017	FY18	0.05	On time
Event Duration Monitors	Various	31/03/2018	31/03/2018	FY18	0.01	On time

Anticipated performance in years 4 and 5

The delivery dates for three schemes within this programme (Anchorsholme, Blackburn and Schola Green), that were proposed by the EA in their National Environment Programme at the time of the PR14 process were identified as not being deliverable.

This issue was highlighted in our business plan with the dates for these projects that was included within the performance commitment being later than the dates proposed by the EA but being consistent with the expenditure proposals within our plan.

Following the PR14 final determination, we wrote again to the Environment Agency to request a date change for these schemes, with this request having now been agreed. Therefore, the performance commitment and NEP5 programme are now fully aligned.

As the scheme at Blackburn will deliver by the 30th April 2021. For the purposes of the ODI the benefits of the project (in terms of bating waters improvements) were apportioned in line with the anticipated spend on the project, with 0.57 BWE allocated to 2019/29 and the remaining 0.31 BWE being allocated to 2020/21 (outside of the ODI).

We currently anticipate that we will be able to hit the revised delivery dates for these projects and the remain projects within this programme, although we are working to ensure we can deliver these schemes as soon as possible so that the environmental benefit can be secured. The remaining schemes are as set out in the table below.

Table 10: Year 4 and 5 Bathing Water programme

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual/LBE delivery year	Actual bathing water equivalent	Early/late
Manchester Square Pumping Station	6UU0011	30/04/2018	30/04/2018	FY19	0.68	On time
Chatsworth Avenue Pumping Station	6UU0012	30/04/2018	30/04/2018	FY19	0.68	On time
Preston WwTW Storm Tanks	6UU0015	30/04/2018	30/04/2018	FY19	0.68	On time
Ulverston WwTW Storm Tanks	6UU0510	31/03/2019	31/03/2019	FY19	0.25	On time
Dragley Beck CSO	6UU0511	31/03/2019	31/03/2019	FY19	0.00	On time
Anchorsholme	6UU0010	30/04/2019	30/04/2019	FY20	0.68	On time
Raby Cote outfall	6UU0020	30/04/2019	30/04/2019	FY20	0.74	On time
Schola Green Pumping Station	6UU0016	31/03/2020	31/03/2020	FY20	0.79	On time
Blackburn WwTW Storm Tanks	6UU0014	31/03/2020	31/03/2020	FY20	0.57	On time
Blackburn WwTW Storm Tanks	6UU0014	30/04/2021	30/04/2021	FY21	0.31	On time

Calculation of the Outcome Delivery Incentive

As this performance commitment is penalty only there is no reward for early delivery of schemes.

As we have met all the targets to date and anticipate that we will be able to hit all the remaining targets, we are proposing that no penalty is applied for this measure.

Future performance - risk, issue, concern, change or opportunity?

Table 11: Factors that could affect the future performance of the 'contribution to bathing waters' performance commitment

Factor	Potential impact
Risk of late delivery	There is the risk that projects could be delivered late and incur penalty if unforeseen circumstances impact on the delivery schedule however, we are currently on track to deliver as planned.

W-C1: Contribution to rivers improved - water programme

Measure description

This performance commitment measures the delivery of the National Environment Programme (NEP) schemes as set out in NEP5. It also covers abstraction changes at four Abstraction Incentive Mechanism (AIM) sites. The performance commitment has both financial reward and financial penalty outcome delivery incentives.

We report annually to the Environment Agency on our progress against the NEP outputs. If capital schemes are not delivered there is a risk of enforcement action by the Environment Agency if our abstractions cause environmental damage or do not comply with our licence conditions e.g. not implementing eel screening at river intakes – this has both reputational and financial implications. If investigations are not completed in a timely manner.

AMP6 performance commitment

Table 12: Regulatory targets for the 'contribution to rivers improved' (water programme) performance commitment

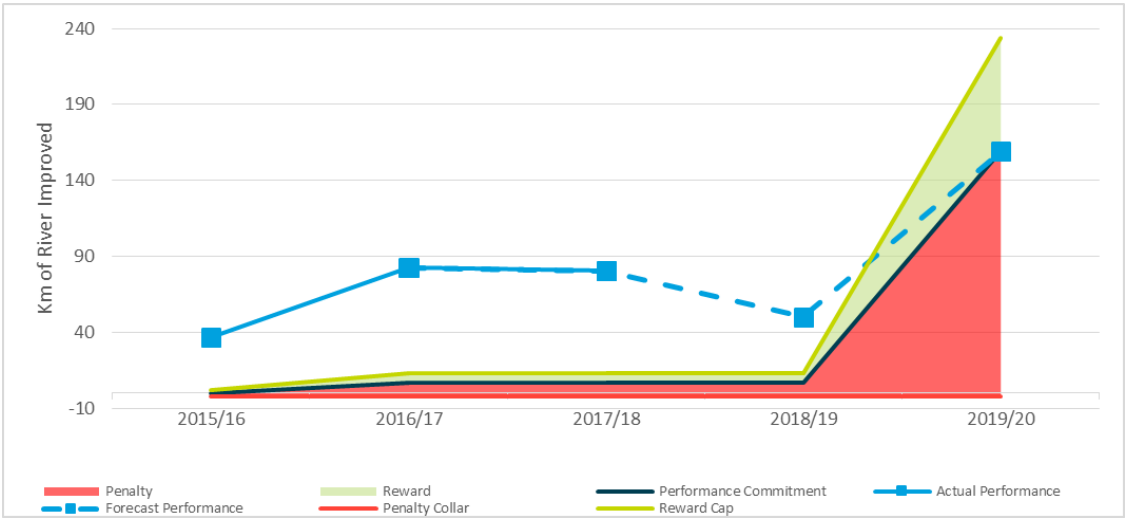
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river improved	0.0	6.6	6.6	6.6	159.5

AMP6 performance

Table 13: Actual and forecast performance for the 'contribution to rivers improved' (water programme) performance commitment

AMP6 financial projection	Actual			Forecast	
	2015/16	2016/17	2017/18	2018/19	2019/20
£0.641m	36.85	82.55	80.56	55.72	160.31

Figure 5: Contribution to rivers improved (water programme) - AMP6 actual and forecast performance against performance commitment and financial incentives



Year 1, 2 and 3 performance

Project	Planned delivery dat	Actual/LBE delivery dat	Actual/LBE delivery year	Actual Km river improved	
6UUWR0045 - Heltondale fish migration investigation	31/03/2017	18/03/2016	FY16	0.01	1 year early
6UUWR0031 - Swindale RoC2 works	31/03/2017	31/03/2017	FY17	6.55	On time
6UUWR0009 - Calder	31/03/2020	31/03/2017	FY17	4.63	3 years early
6UUWR0010 - Crummock	31/03/2020	31/03/2017	FY17	4.55	3 years early
6UUWR0013 - Stocks	31/03/2020	31/03/2017	FY17	6.45	3 years early
6UUWR0015/ 6UUWR0016/ 6UUWR0017 - Jumbles	31/03/2020	31/03/2017	FY17	9.01	3 years early
6UUWR0020 - Dovestone	31/03/2020	31/03/2017	FY17	5.46	3 years early
6UUWR0022 - Goyt	31/03/2020	31/03/2017	FY17	3.84	3 years early
6UUWR0026 - Alston (Langden & Hareden)	31/03/2020	31/03/2017	FY17	5.21	3 years early
6UUWR0042 - Thirlmere AMP6 investigation: impact of Mill Gill aqueduct interception of tributaries	31/03/2020	31/03/2017	FY17	0.00	3 years early
6UUWR0036/ 6UUWR0038/ 6UUWR0040 - Haweswater AMP6 investigation: impact of aqueduct interception of Naddle-Tailbert-Mossy Beck tributaries	31/03/2020	31/03/2018	FY18	0.02	2 years early

The rivers improved (water) programme initially had two projects with an FY17 delivery date, with the remainder of the programme due for delivery in FY20.

In 2015/16 we decided to undertake the sedimentation management plans ourselves, this has provided us with greater control over the speed of the project and allowed us to be efficient in our delivery, as a result we have been able to complete these studied earlier than we anticipated and have delivered the Heltondale fish migration investigation, one year earlier than proposed in the NEP.

We have also managed to secure km from the AIM element of the measure as river flows at the four AIM sites did not drop below the low AIM threshold flows.

In 2016/17 we delivered the remaining FY17 scheme and we also accelerated the delivery of eight schemes which were due for delivery in FY20 and secured additional Km from the AIM element of the measure.

In 2017/18 we delivered a further scheme which was original due in FY20 and secured additional Km from the AIM element of the measure.

Anticipated year 4 and 5 performance

Project	Planned delivery dat	Actual/LBE delivery dat	Actual/LBE delivery year	Actual Km river improved	
6UUWR0034 - River Calder hands off flow (EA flow site)	31/03/2020	31/03/2019	FY19	5.50	1 year early
6UUWR0035a - Stage 3 assessments & UKTAG flow guidance assessments (7 sites listed in the January published NEP5)	31/03/2020	31/03/2020	FY20	0.00	On time
6UUWR0035b - Stage 3 assessments & UKTAG flow guidance assessments (any other sites identified by thte EA)	31/03/2020	31/03/2020	FY20	3.79	On time
6UUF022 - River Calder: Eel screen (9mm) & three eel passes	31/03/2020	31/03/2020	FY20	0.00	On time
6UUWR0012 - Poaka Beck (new Q95 flow)	31/03/2020	31/03/2020	FY20	5.28	On time
6UUWR0005 - Marchnant low flow alleviation	31/03/2020	31/03/2020	FY20	1.51	On time
6UUWR0018 - Readycon Dean (new Q95 flow)	31/03/2020	31/03/2020	FY20	0.96	On time
6UUWR0023 - Horse Coppice (new Q95 flow)	31/03/2020	31/03/2020	FY20	2.88	On time
6UUWR0019 - Castleshaw (adaptive flow changes)	31/03/2020	31/03/2020	FY20	0.67	On time
6UUWR0022 - Errwood and Fernilee (adaptive flow changes)	31/03/2020	31/03/2020	FY20	-	On time
6UUWR0021 - Longdendale (adaptive flow changes)	31/03/2020	31/03/2020	FY20	-	On time
6UUWR0004 - Cownwy low flow alleviation	31/03/2020	31/03/2020	FY20	2.81	On time
6UUWR0002/ 6UUWR0003 - Tarnbrook Wyre low flow alleviation	31/03/2020	31/03/2020	FY20	8.24	On time
6UUF016 - Crummock: Eel tiles and four pumped eel passes on weir; strobe light deterrents on intakes	31/03/2020	31/03/2020	FY20	6.03	On time
6UUF014 - Ulpha: Two pumped eel passes and counter	31/03/2020	31/03/2020	FY20	4.12	On time
6UUF010 - River Lune at Forge weir: Eel pass on south bank of Forge weir	31/03/2020	31/03/2020	FY20	1.54	On time
6UUF007 - River Wyre: Four eel passes (both sides of bank on two downstream weirs) & up and over pass over intake	31/03/2020	31/03/2020	FY20	11.82	On time
6UUF009 - River Lune at Caton: Eel screen (10mm)	31/03/2020	31/03/2020	FY20	2.66	On time
6UUF012 - Windermere: Strobe light deterrents	31/03/2020	31/03/2020	FY20	14.40	On time
6UUF021 - Ullswater: Strobe light deterrents	31/03/2020	31/03/2020	FY20	15.38	On time
6UUF002/ 6UUF003/ 6UUF004/ 6UUF005/ 6UUF006/ 6UUF011/ 6UUF013/ 6UUF015Eel monitoring and feasibility studies for "trap and truck" systems and need for 9-10mm aperture silver eel screening on reservoir intake at 5 reservoir sites: Harlock and Poaka Beck; Simpson Ground/High Newton; Damas Gill; Grizedale; Rivington	31/03/2020	31/03/2020	FY20	0.16	On time
6UUF010 - River Lune (LCUS): Eel monitoring and feasibility study	31/03/2020	31/03/2020	FY20	0.23	On time
6UUF001/ 6UUF018/ 6UUF019/ 6UUF020 - River Dee intakes (Heronbridge, Huntington, Llangollen and Hurleston): Eel monitoring and feasibility study	31/03/2020	31/03/2020	FY20	1.47	On time
6UUWR0032 - Haweswater tributary abstraction metering (Wet Sleddale, Keld, Thornship, Tailbert, Naddle, Cawdale, Heltondale, Mossy)	31/03/2020	31/03/2020	FY20	5.19	On time
6UUWR0044 - RSA monitoring study of abstraction licence changes	31/03/2020	31/03/2020	FY20	2.17	On time
6UUWR0028 - Ennerdale RoC3 works	31/03/2020	31/03/2020	FY20	2.27	On time
6UUWR0030 - Yearl weir removal works	31/03/2020	31/03/2020	FY20	11.01	On time
6UUWR0025 - River Ellen (increase to Q95 flow)	31/03/2020	N/A	N/A	N/A	Removed
6UUWR0001 - Old Water hands off flow & fish passage (EA flow site)	31/03/2020	N/A	N/A	N/A	Removed
6UUF010 - River Lune at Forge weir: Eel pass on north bank of Forge weir	31/03/2020	N/A	N/A	N/A	Removed

In 2018/19, we are planning to deliver a further scheme ahead of the original delivery date in FY20. Achieving the forecast position for AIM is based on us delivering the same benefit as in 2014/15 (2.49km) plus an estimated additional 2km as a result of reducing our abstraction at Ennerdale as a result of the new South Egremont boreholes, giving a total forecast benefit of 4.49km river improved under AIM. To ensure delivery of this we are proactively managing abstraction at our AIM sites during periods of low river flow – however for three of these sites there are limited alternative supplies of water to utilise. We are forecasting outperformance for our AIM measure in all years in AMP6.

In 2019/20 Three of the projects which were originally included within the (NEP3) programme for FY20 and used to set the performance commitment, were not included within NEP5. This reduces the length of river improved in 2019/20 by 3.71km. These three projects are:

- Eel passage on the north bank of River Lune at Forge weir – this has been provided by a third party (Lune Hydro) (1.54km)
- Implement a new prescribed flow and fish passage at our Old Water river intake on the River Gelt, Carlisle – following our challenge to the Environment Agency, this was excluded from the NEP5 on the grounds of disproportionate cost (0.74km)
- Implement a higher prescribed flow on the River Ellen – following our challenge to the Environment Agency, this was excluded from the NEP5 on the grounds of disproportionate cost as we plan to cease abstraction from this source in 2022 as part of the Thirlmere link scheme to supply West Cumbria (1.43km).

We are expecting to be able to deliver all the remaining projects to the date within the NEP and are making the same assumption for AIM that we made in 2018/19.

Output in use certificates to evidence delivery of the projects which have been delivered to date will be provided with our PR19 business plan submission in September 2018.

Calculation of the Outcome Delivery Incentive

The incentive payments for this measure are calculated on an annual basis with the rivers improved length used in the calculation being the sum of the impact through the delivery of the projects with the NEP plus the impact of the AIM. Details of performance against the Abstraction incentive element of this performance commitment are set out in our 2018 Annual Performance Report the relevant sections from which are reproduced in Appendix A of this document. As set out in our APR although performance against our AIM measure has been positive in the first three years, performance in future years could be very different depending upon the weather each year. For future years we are predicting an impact From AIM on the ODI of 4.49km.

Due to The measure also incorporates a reward cap, which was set at twice the targeted rivers improved length for the year.

As shown in the table below, performance in the first four years of the period, the total Km delivered is greater than the reward cap, so the reward cap has been used in the calculation of the incentive. In year five the total km delivered is marginally above the target, and well within the reward cap so, the actual total Km delivered has been used to calculate the incentive.

Table 14 Contribution to rivers improved – water programme performance

	FY16	FY17	FY18	FY19	FY20
Performance commitment target	**0.0**	**6.6**	**6.6**	**6.6**	**159.5**
Actual delivery profile (cumulative) km	**0.01**	**45.71**	**45.73**	**51.23**	**155.82**
Contribution to measure from AIM	**36.84**	**36.84**	**34.83**	**4.49**	**4.49**
Total km	**36.85**	**82.55**	**80.56**	**55.72**	**160.31**
Reward cap Km	**2.00**	**13.20**	**13.20**	**13.20**	**234.00**

The year 1 reward has been calculated as below: -

h) Year 1: (reward cap – reward deadband) x reward rate = (2.0 – 0.0) x £0.028m = **£0.056m**

The year 2 reward has been calculated as below: -

i) Year 2: (reward cap – reward deadband) x reward rate = (13.2 – 6.6) x £0.028m = **£0.1848m**

The year 3 reward has been calculated as below: -

j) Year 3: (reward cap – reward deadband) x reward rate = (13.2 – 6.6) x £0.028m = **£0.1848m**

The year 4 predicted reward has been calculated as below: -

k) Year 4: (reward cap – reward deadband) x reward rate = (13.2 – 6.6) x £0.028m = **£0.1848m**

The year 5 predicted reward has been calculated as below: -

l) Year 5: (actual performance – target performance) x reward rate = (160.31 – 159.53) x £0.028m = **£0.0227m**

The proposed ODI reward for this measure is the sum of the five years = £0.6331m

Future performance - risk, issue, concern, change or opportunity

Table 15: Factors that could affect the future performance of the 'contribution to rivers improved (water programme)' performance commitment

Factor	Potential impact
Dry weather	If we experience periods of dry weather resulting in low river flows we may perform poorly against the AIM targets. This is mitigated in some way as there is a penalty cap against this aspect. For three of the four AIM sites (Ennerdale, Aughertree Springs and Old Water) the alternative sources of supply are limited. The AIM site with performance commitment flexibility in terms of alternative sources is the River Calder at Barnacre. Our Production Planning team monitor the current river flow conditions and plan to reduce abstraction at this site if river flows approach the low AIM threshold flow.

C.3 Accommodating development

This section of Appendix 5 covers the delivery of projects to enhance the capability of wastewater treatment works to ensure that the additional flow and load arriving at the works as a result of development with the works catchments does not cause any deterioration in river water quality.

S-D1: Protecting rivers from deterioration due to population growth

Measure description

This measure seeks to protect rivers from deterioration as a result of an increase in population and consequently flow and load at our works. It consists of a programme of work, which will be delivered across AMP6. The programme is flexible in both delivery timescales for individual projects and the number and location of wastewater treatment works identified for investment providing that overall the project(s) deliver at least the defined km for each year of the AMP (cumulative). This allows the programme to respond to the changing growth needs within the North West,

This measure has a penalty only financial incentivise which is designed to ensure that customers are protected and revenue is returned to customers if the assumed levels of development do not occur or if the overall scale and benefit from the programme reduces.

AMP6 performance commitment

Table 16: Regulatory targets for the 'protecting rivers from deterioration due to population growth' performance commitment

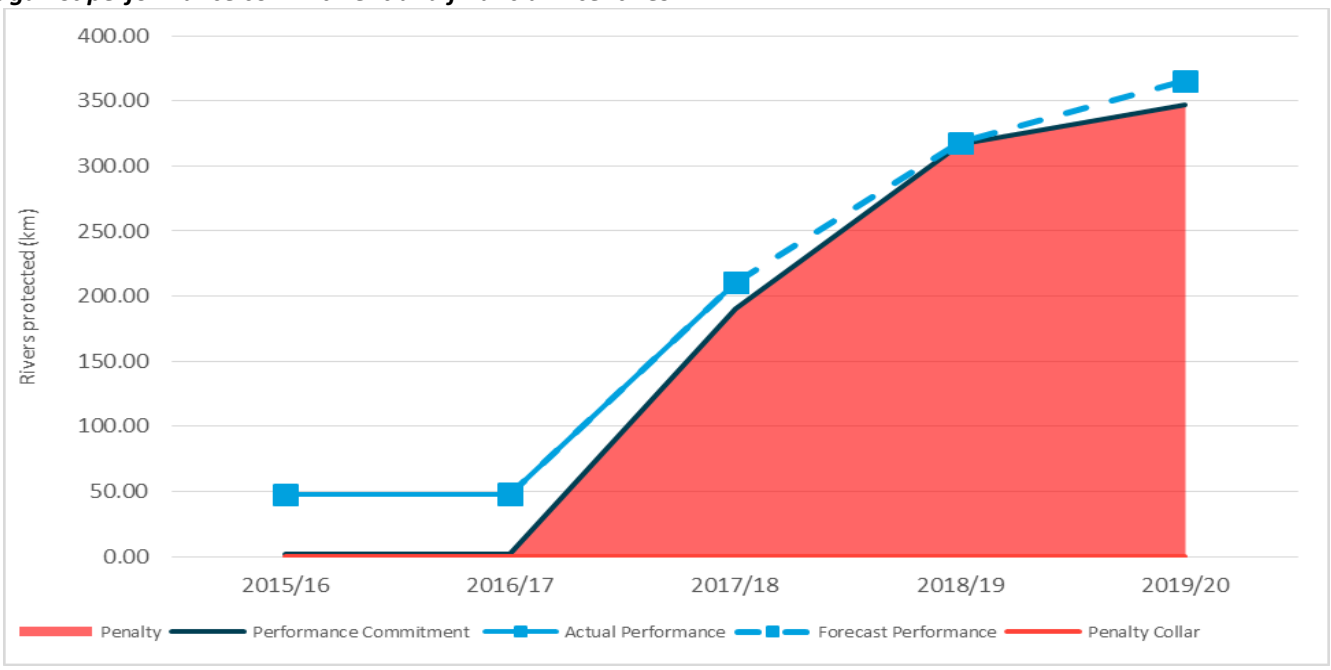
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river protected	1.8	1.8	190.1	316.7	346.6

AMP6 performance

Table 17: Actual and forecast performance for the 'protecting rivers from deterioration due to population growth' performance commitment

AMP6 financial projection	Actual			Forecast	
	2015/16	2016/17	2017/18	2018/19	2019/20
£0m	48.0	48.0	210.5	318.0	365.7

Figure 6: Protecting rivers from deterioration due to population growth - AMP6 actual and forecast performance against performance commitment and financial incentives



Year 1, 2 and 3 performance

Project	Planned delivery dat	Actual/LBE delivery dat	Actual/LBE delivery yea	Actual Km river protected
Kingsmill	31/03/2016	N/A	N/A	N/A
Moston West	N/A	31/03/2016	FY16	48.0
Davyhulme	31/03/2018	05/03/2018	FY18	125.5
Cockermouth	31/03/2018	23/03/2018	FY18	15.2
Brigham (transfer to Cockermouth)	31/03/2018	23/03/2018	FY18	1.3
Papcastle (transfer to Cockermouth)	31/03/2018	23/03/2018	FY18	0.6
Chorley	31/03/2018	28/04/2017	FY18	18.9
Wetheral and Great Corby	31/03/2018	29/03/2018	FY18	1.0
Whalley	31/03/2018	31/03/2020	FY20	0.2
Macclesfield	31/03/2018	N/A	N/A	N/A

During 2015/16 in response to changes to the location of development, we delivered a scheme at Moston West where growth had occurred rather than the originally planned scheme at Kinsgmill where the demand had not materialised. The rivers projected length associated with the Moston West project is 48.0 Km ahead of the performance commitment target of 1.8 km.

We did not plan to and did not deliver any schemes in 2016/17, with the cumulative river length remaining at 48.0 Km ahead of the performance commitment target of 1.8 km.

In 2017/18 we delivered six schemes ahead of or in line with the originally assumed delivery dates, including the major scheme at Dayhulme, our largest WwTW. The scheme at Whalley was delayed until FY20 due to the slower pace of development than had been assumed. Delivery of these schemes increased the cumulative rivers protected length to 210.5km ahead of the performance commitment target of 190.1 km.

Year 4 and 5 anticipated performance

Project	Planned delivery dat	Actual/LBE delivery dat	Actual/LBE delivery yea	Actual Km river protected
Burscough	31/03/2019	N/A	N/A	N/A
Silloth	31/03/2019	29/06/2018	FY19	7.7
Dearham	31/03/2019	01/02/2019	FY19	10.0
Clitheroe	31/03/2019	N/A	N/A	N/A
Alsager	31/03/2019	N/A	N/A	N/A
Sandbach	31/03/2019	09/01/2019	FY19	8.6
Endmoor	31/03/2019	17/12/2018	FY19	11.0
Barton	N/A	31/03/2019	FY19	25.8
Bootle	31/03/2019	16/08/2018	FY19	29.8
Winsford	31/03/2019	07/08/2018	FY19	14.6
Partington	31/03/2019	N/A	N/A	N/A
Cuddington (transfer to Northwich)	31/03/2020	31/03/2020	FY20	4.3
Oakmere (transfer to Northwich)	31/03/2020	31/03/2020	FY20	0.6
Knutsford	31/03/2020	N/A	N/A	N/A
Crewe	N/A	31/03/2020	FY20	42.6

We have developed a dynamic programme so that over the remaining years of the AMP we can respond to the needs of developers to provide the additional capacity needed. We are able to target our investment appropriately and expect to meet the performance commitment whilst using the most up to date information in relation to demand across our region. The continuous review of risk to wastewater treatment works from new development enables us to deliver solutions in the highest priority locations.

In 2018/19 we are planning to deliver six of the schemes that we included in the original programme of work. Development at four sites; Burscough, Clitheroe, Alsager and Partington did not materialise at the pace or scale anticipated, although additional work was required at Barton. Delivery of these schemes would increase the cumulative rivers protected length to 318.0 km, ahead of the performance commitment target of 316.7 km.

In 2019/20 we are planning to deliver two of the schemes that we included in the original programme of work. Development at one site; Knutsford did not materialise at the pace or scale anticipated, although additional work was required at Crewe. Delivery of these schemes would increase the cumulative rivers protected length to 365.7 km, ahead of the performance commitment target of 346.6 km.

Calculation of the Outcome Delivery Incentive

This performance commitment is penalty only and we have or expect to outperform the cumulative performance commitment target in each year of the period.

We are therefore proposing that no penalty is applied for this measure.

Future performance - risk, issue, concern, change or opportunity?

We continually review the timescale and scope of new development at the sites identified within our programme and at others areas that may be at risk. This ensures appropriate prioritisation of investment and ensures we can meet the growing needs of our region.

We are predicting that we will outperform our performance commitment for the remainder of the AMP for this measure but there are some delivery risks which could impact on this towards the end of the AMP, we have also identified some opportunities that may support ensuring deliver of the commitment. The key factors that could impact upon the coverage or timing of the delivery of the programme are set out in the table below.

Future performance - risk, issue, concern, change or opportunity?

Table 18: Factors that could affect the future performance of the protecting rivers from deterioration due to population growth performance commitment

Factor	Potential impact
Delivery timescale estimates	The delivery dates used in assessing the performance commitment are estimates and may change over time. If schemes are delayed or accelerated due to construction issues or opportunities this could have an impact on the overall programme.
Projects where the need to facilitate new development may be delayed or removed.	Through our dynamic approach to managing supply demand at Wastewater treatment works we may identify locations where the assumed growth does not occur or is not required to the same timescales. If such changes occur this would result in us underperforming against the performance commitment.
Projects that were not previously included in the AMP6 programme, but have since had a need identified due to forecast population increase could be added to the programme.	Should additional capacity growth occur we may be required to deliver additional schemes which had not previously been considered. This may require a level of investment greater than originally assumed. If it is possible to deliver these within the AMP6 period we would outperform our performance commitment.

C.4 DWI and other water service commitments

Drinking Water Inspectorate commitments

Commitments made to the DWI

We have made a number of commitments to the DWI for the AMP6 period, as these are covered by legal instruments and the DWI are able to take enforcement action if required, they are not also covered by a specific performance commitment and outcome delivery incentive.

Delivery of these commitments and associated reduction in risk to water quality will however, impact on a number of the operational performance or customer service performance commitments described within our APR and reproduced in Appendix A of this document.

There are also two "delivery" performance commitments for the water service, these are "resilience of impounding reservoirs" and "Thirlmere to West Cumbria transfer". Performance against these two measures is reported later in this Appendix.

Year 1, 2 and 3 performance

Table 19 Legal instruments that were agreed with the DWI through the price review at PR14.

	Legal Instrument Reference	Driver	Status of Legal Instrument
Sweetloves WTW	UUT3311	Taste and Odour	Work completed and LI revoked
Loveclough WTW	UUT3312	Taste and Odour	Work ongoing and LI revoked
Wayoh WTW	UUT3313	Pesticides	Work completed and LI revoked
Lead – High Risk Zones	UUT3314	Lead	Work ongoing and on track
River Dee catchment	UUT3236	MCPA, Mecoprop, Metaldehyde and Total Pesticides	Interim report submitted to DWI, work ongoing and on track
Hurleston WTW (Llangollen canal)	UUT3235	Metaldehyde and Total Pesticides	Interim report submitted to DWI, work ongoing and on track

Table 20 Legal instruments that were agreed with the DWI at PR09, where the work was due to be completed in AMP6.

	Legal Instrument Reference	Driver	Status of Legal Instrument
Cumwhinton to Carlisle Trunk main and WSZ cleaning	UUT2793	Iron and Manganese	DWI issued revised the Undertaking following change in solution to increase scope of work. On track. TM cleaning in AMP6 and WSZ cleaning AMP7.
Lytham Trunk main and WSZ cleaning	UUT2798	Iron and Manganese	Work ongoing, delayed due to unforeseen reasons, work to complete imminently.
Hapsford Trunk Main and WSZ cleaning	UUT2795	Iron and Manganese	Work completed and LI revoked
Crosshill Trunk main and WSZ cleaning	UUT2792	Iron and Manganese	Work completed and LI revoked
Birkenhead Trunk Main and WSZ cleaning	UUT2789	Iron and Manganese	Work completed and LI revoked
Oswestry WTW	UUT2801 (now UUT3477)	Raw water deterioration and reduction in discolouration	Notice revised through PR14, work ongoing and on track

As can be seen from the tables above we have delivered all the schemes that were required to be delivered by the end or 207/18, by the Drinking Water Inspectorate (DWI) in line with the legal agreements that we have in place with them. The only exception to this is the Lytham Trunk main, which was delayed due to unforeseen circumstances, but which is due to be delivered imminently.

We are also predicting that we will deliver the remaining AMP6 commitments to the dates agreed through the price review process.

We continue to track all of the commitments that we have provided to DWI in writing and report completion on a monthly basis to ensure that there is visibility of the requirements and action can be taken proactively to ensure delivery is on track.

We have continued to work proactively with the DWI where unforeseen circumstances may have influenced the delivery of commitments to ensure that the benefits are delivered in a timely manner for the benefit of our customers.

Evidence of the delivery of these commitments is provided in the latest annual report or submission to the DWI.

During AMP6, we have also been working closely with the DWI to agree and implement a water quality transformation programme. This transformation programme has been incorporated into additional legal instruments and is ongoing, the delivery of that programme of work has not adversely influenced any of the commitments agreed with DWI at either PR09 or PR14.

W-B5 Resilience of impounding reservoirs

Measure description

The measure relates to our duty to maintain our statutory reservoirs and represents the resilience of these reservoirs using a total score from risk assessments. We are continually reviewing the potential risks at our reservoirs with the programme being flexible to ensure that we can reduce societal reservoir risks to even lower levels in line with best practice. The scores are calculated using current international best practice and in compliance with Health and Safety Executive guidelines.

The measure is based upon a starting performance score of 151.86, with work undertaken to reduce risk levels increasing the performance score. The higher the performance score the greater the reduction in risk and therefore the better the performance. So the target is to be at or above the performance target in each year of the period.

This measure has a penalty only financial incentivise which is designed to ensure that customers are protected and revenue is returned to customers if the actual programme delivered does not generate the outcome that was originally assumed.

AMP6 performance commitment

Table 21: Regulatory targets for the 'resilience of impounding reservoirs' performance commitment

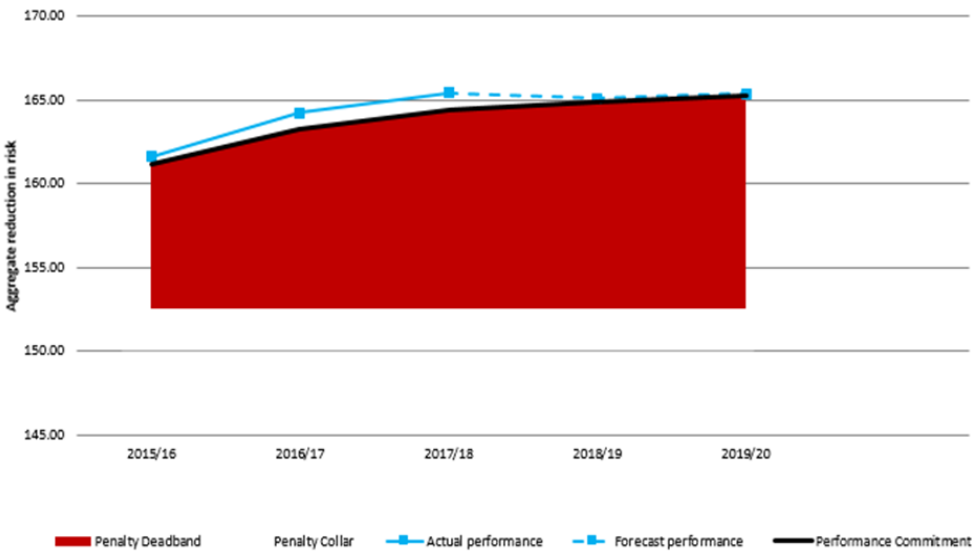
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Aggregate reduction in risk	161.20	163.21	164.44	164.89	165.27

AMP6 performance

Table 22: Actual and forecast performance for the 'resilience of impounding reservoirs' performance commitment

AMP6 financial projection	Actual			Forecast	
	2015/16	2016/17	2017/18	2018/19	2019/20
£0m	161.61	164.25	165.42	165.09	165.37

Figure 7 Resilience of impounding reservoirs - AMP6 actual and forecast performance against performance commitment and financial incentives



How have we performed against this measure?

The Final Determination starting position for AMP6 included some schemes that were completed at the end of AMP5 after the performance commitment target was set. These schemes are included in the table below, which show the initially assumed projects deliver dates and risk reduction and the actual or planned projects, delivery dates and risk reduction. The table demonstrates the level of change to the programme and that the overall outcome each year has or is expected to be delivered.

Project	Planned delivery ye	Planned risk reduction	Actual/LBE delivery da	Actual/LBE delivery ye	Actual risk reduction	Comments
Hollingworth Lake	Pre-AMP	0.46	10/09/2014	Pre-AMP	0.39	
Denton 1 & 2	Pre-AMP	0.19	07/04/2015	FY16	0.18	
Overwater	FY16	5.25	11/12/2015	FY16	5.25	
Millbrook	FY16	0.30	N/A	N/A	N/A	Scheme removed from programme
Hurst	N/A	N/A	31/09/14	Pre-AMP	0.00	Additional scheme delivered
Hayeswater	N/A	N/A	31/09/2014	Pre-AMP	0.01	Additional scheme delivered
Ridgegate	N/A	N/A	07/11/2014	Pre-AMP	0.38	Additional scheme delivered
Readycon Dean	N/A	N/A	09/03/2015	Pre-AMP	0.14	Additional scheme delivered
Chelburn	FY16	1.17	31/01/2018	FY18	1.17	delayed
Sunnyhurst	FY16	0.58	30/08/2016	FY17	0.59	delayed
Crummock	FY16	1.00	14/10/2015	FY16	1.09	
Earnsdale	FY16	0.39	14/09/2016	FY17	0.38	delayed
Borrans	N/A	N/A	17/01/2017	FY17	0.14	Additional scheme delivered
Ridgegate	FY17	0.38	N/A	N/A	N/A	Scheme removed from programme
Whiteholme	FY17	0.46	14/12/2015	FY16	1.57	accelerated
Blackstone Edge	FY17	0.45	13/10/2015	FY16	0.46	accelerated
Hollingworth Lake	FY17	0.46	N/A	N/A	N/A	Scheme removed from programme
Clowbridge	N/A	N/A	23/02/2017	FY17	0.44	Additional scheme delivered
Springs	FY17	0.25	23/02/2017	FY17	0.73	
Warland	FY18	0.13	N/A	N/A	N/A	Scheme removed from programme
Woodgate Hill no.2	FY18	0.27	N/A	N/A	N/A	Scheme removed from programme
Swinden	FY18	0.21	30/09/2015	FY16	0.13	accelerated
Coldwell	FY18	0.19	N/A	N/A	N/A	Scheme removed from programme
Arnfield	FY18	0.15	N/A	N/A	N/A	Scheme removed from programme
Fisher Tarn	FY18	0.18	N/A	N/A	N/A	Scheme removed from programme
Yeoman Hey	FY18	0.10	N/A	N/A	N/A	Scheme removed from programme
Bottoms Macc	FY19	0.08	17/01/2017	FY17	0.07	accelerated
Cogra Moss	N/A	N/A	31/12/2018	FY19	0.03	Additional scheme delivered
Teggsnose	FY19	0.07	17/01/2017	FY17	0.07	accelerated
Rumworth	FY19	0.10	17/01/2017	FY17	0.10	accelerated
Cloughbottom	FY20	0.07	17/01/2017	FY17	0.07	accelerated
Laneshaw	FY20	0.05	31/03/2020	FY20	0.15	
Heaton Park	FY20	0.07	N/A	N/A	N/A	Scheme removed from programme
Hangling Lees	FY20	0.11	31/03/2020	FY20	0.11	
Delph	FY20	0.10	N/A	N/A	N/A	Scheme removed from programme
Simpson Ground	FY19	0.15	16/10/2015	FY16	0.13	accelerated
High Bullough	FY19	0.04	17/01/2017	FY17	0.06	accelerated

As a consequence of the revisions to the programme all but three of the required projects or other improvements have now been delivered. Due to early completion of key projects, implementation of operational solutions, and the reduction in cumulative risk following the completion of site surveys and analysis by the Risk Estimation Team (this includes members of our Reservoir Safety Team and independent, government appointed, Panel Engineers). We have exceeded the target risk reduction in each of the first three years of the period, with our planned programme delivering risk reduction ahead of the target for the remainder of the period.

The three schemes that remain to be completed are: Cogra Moss, Laneshaw and Hanging Lees.

Calculation of the Outcome Delivery Incentive

This performance commitment is penalty only and we have or expect to outperform the cumulative performance commitment target in each year of the period.

We are therefore proposing that no penalty is applied for this measure.

Future performance - risk, issue, concern, change or opportunity?

The programme has a number of challenging projects to deliver before the end of the AMP, and therefore any delivery issues that arise could result in a failure to achieve our performance commitment.

Future performance - risk, issue, concern, change or opportunity?

Table 23: Factors that could affect the future performance of the 'resilience of impounding reservoirs' performance commitment

Factor	Potential impact
Project Delivery Timescales	The majority of projects undertaken in the resilience of impounding reservoirs programme are major capital projects. Major engineering projects can often have long lead-in times. If project delivery is delayed there is a danger that projects may slip into subsequent financial years, placing the annual performance commitment targets at risk.
Unscheduled projects	The resilience of impounding reservoir programme was developed with a focus on dam safety only. Increasingly we are starting to operate reservoirs in new ways, to offer flood mitigation, environmental protection, raw water quality improvements, floating solar power generation, and unscheduled safety interventions delivered for a variety of customer and stakeholder reasons. We will need to manage and balance risk in these areas to ensure that transferring expenditure has minimal impact on our ability to deliver our original programme of work.

W-B6: Thirlmere transfer into West Cumbria

Measure description

This measure reflects our progress in delivering the Thirlmere transfer project which will allow abstraction from Ennerdale Water to cease by providing a transfer main new wastewater treatment works and associated assets to allow water from Thirlmere reservoir to be supplied to the West Cumbria area.

As the project will deliver its final outcome in the AMP7 period, the measure is based upon the earned value of delivering key milestones within the project with the performance commitment being based upon 82% of the earned value of the project being delivered by the end of the AMP6 period.

Penalty and reward incentives for this measure are applied based upon the position at the end of FY20 to reflect any slippage out of or acceleration into the AMP6 period and therefore ensure that customers are protected from any delay or that UUW is appropriately recompensed for the additional costs in the period that would be associated with acceleration of the project.

AMP6 performance commitment

Table 24: Regulatory targets for the 'Thirlmere transfer into West Cumbria' performance commitment

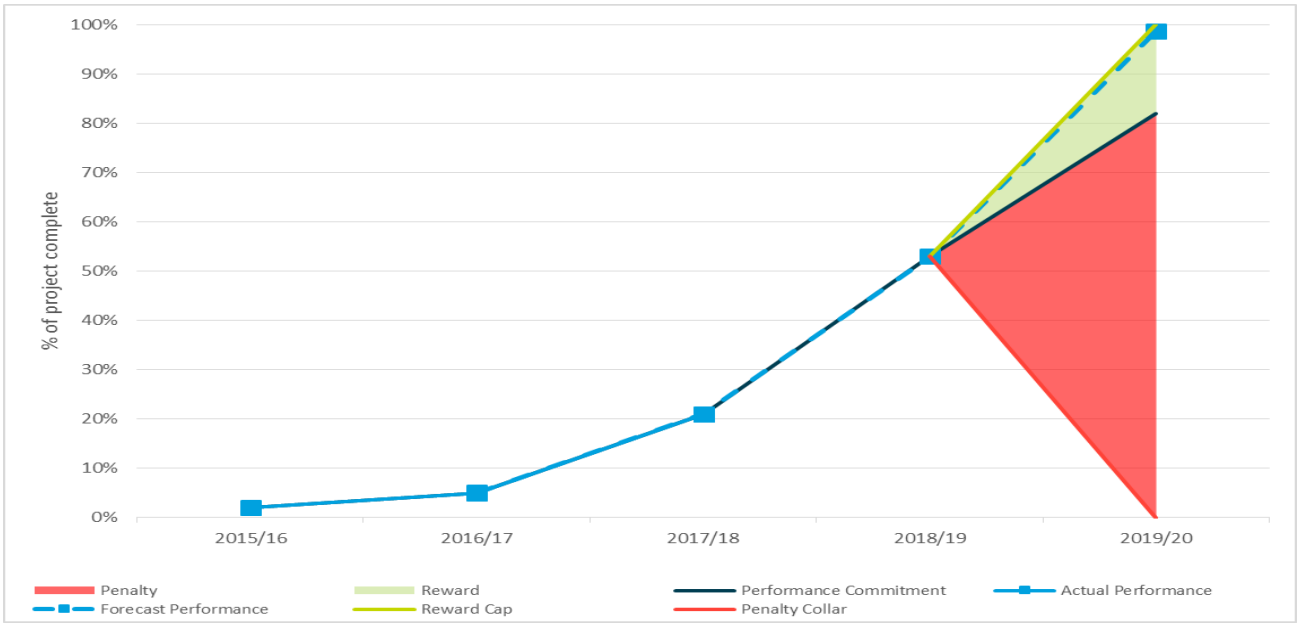
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
% or project complete (based on earned value tied to milestones)	2.00	5.00	21.00	53.00	82.00

AMP6 performance

Table 25: Actual and forecast performance for the 'Thirlmere transfer into West Cumbria' performance commitment

AMP6 financial projection	Actual			Forecast	
	2015/16	2016/17	2017/18	2018/19	2019/20
+£21.20m	2.00	5.00	24.68	58.86	98.70

Figure 8: Thirlmere transfer into West Cumbria - AMP6 actual and forecast performance against performance commitment and financial incentives



Year 1, 2 and 3 performance

Our commercial strategy of splitting the project into five contracts and the setting up of a dedicated commercial team has enabled the project team to make good progress on this project.

We have also set up a planning performance agreement with various authorities and carried out extensive stakeholder management to ensure successful achievement of the planning approved milestone.

Milestone	Planned delivery year	Actual/LBE delivery year	Actual %	Early/late
Tender documents (scope book) submitted to bidders	FY16	FY16	1.00	On time
Planning application submitted	FY16	FY16	1.00	On time
Contract awarded	FY17	FY17	1.50	On time
Planning application approved	FY17	FY17	1.50	On time
Construction started on site	FY18	FY18	7.66	On time
First 23.12% of main in the ground	FY18	FY18	8.34	On time
Thirlmere Bridge End connection works complete	FY20	FY18	3.68	Early

In 2015/2016 we achieved the two planned milestones of 'tenders issued' and 'planning application submitted'. This amounted to 2% of project completion in line with the performance commitment target.

In 2016/2017 we achieved the two planned milestones of 'contracts awarded' and 'planning application approved'.

In 2017/2018 we delivered the two planned milestones of 'construction started on site' and 'first 23.12% of main in the ground'. We also delivered the milestone of 'Thirlmere Bridge End construction works complete'. This work delivered a total earned value for the three years to date of 24.68%, which is ahead of the of project completion in line with the performance commitment target of 21%.

Year 4, 5 and AMP7 anticipated performance

Milestone	Planned delivery year	Actual/LBE delivery year	Actual %	Early/late
Substructure of WTW complete	FY19	FY19	0.85	On time
Substructure of SRs complete	FY19	FY19	0.85	On time
Next 29.64% of main in the ground	FY19	FY19	30.30	On time
Thirlmere Bridge End connection works complete	FY20	FY18	3.68	Early
Next 27.27% of main in the ground	FY20	FY20	25.32	On time
Superstructure of WTW complete	FY21	FY19	2.18	Early
Next 12.54% of main in the ground	FY21	FY20	7.82	Early
SRs complete	FY22	FY21	0.65	On time
WTW complete	FY22	FY21	0.65	On time
Final 7.43% of main in the ground	FY22	FY20	6.70	Early

We are planning to deliver this project as soon as possible.

2018/2019 – we are planning to deliver the three milestones required in the year, with the substructures of the Water Treatment Works (WTW) and service reservoirs being completed and the next 27.27% of main being laid. We are also planning to complete the superstructure of the WTW earlier than originally planned. This would take the total earned value up to 58.86%.

In 2019/20 – We now expect to be able to lay the remainder of the transfer main during 2019/20, which was originally due for completion in FY22. This would only leave the work to complete the service reservoirs and water treatment works remaining to be completed in AMP7.

This would take the total earned value of the project by the end of the AMP6 period up to 98.70%, substantially greater than the 82% assumed within the performance commitment.

Subject to potential construction delays we would hope to be able to complete the service reservoirs in the late summer of 2020 and complete the WTW and complete the project towards the end of 2020/21.

Calculation of the Outcome Delivery Incentive

The reward for this measure applies for outperformance at the end of AMP6. By FY20 we anticipate we will have delivered 98.7% of the project against a target of 82%.

This is an outperformance of 16.7% (98.7-82)

The reward is equal to the outperformance multiplied by the reward rate of £1.271m/earned value %.

Proposed ODI Reward = 16.7% * £1.271m/% = £21.2257m

Future performance - risk, issue, concern, change or opportunity?

Although we are making good progress on this project the successful delivery of the programme is still subject to a number of potential risks. The key risks are highlighted in the table below.

Table 26: Factors that could affect the future performance of the Security of Supply Index performance commitment

Factor	Potential impact
Weather	Drought/excessive rain could slow delivery of the project.
Geotechnical tunnelling difficulties	This could result in delays to the scheme.
Environmental and archaeological discoveries	Should these be discovered, it could potentially slow delivery of the project.

Appendix D: Supporting spreadsheets

The information used within this document is derived from the following PR19 tables:

Table Number	Title
App5	PR14 reconciliation – performance commitments
App6	PR14 reconciliation – sub-measures
App27	PR14 reconciliation – financial outcome delivery incentives summary
App9	Adjustments to RCV from disposals of interest in land
App23	Inflation measures
App25	PR14 reconciliation adjustments summary
App31	Past performance
WS13	PR14 wholesale revenue forecast incentive mechanism for the water service
WS15	PR14 wholesale total expenditure outperformance sharing for the water service
WS17	PR14 water trading incentive reconciliation
WWS13	PR14 wholesale revenue forecast incentive mechanism for the wastewater service
WWS15	PR14 wholesale total expenditure outperformance sharing for the wastewater service
R9	PR14 reconciliation of household retail revenue
R10	PR14 service incentive mechanism

App5 PR14 reconciliation – performance commitments

PR19 Price Control Allocation

Unique ID	Company	PR14 price control	PR19 price control allocation (%)									PC ref. (company)	Performance commitment
			Water resources	Water network plus	Wastewater network plus	Bioresources (sludge)	Residential retail	Business retail	Direct procurement for customers	Dummy control	Total		
PR14UUWSW_A1	UU	WSW									0.0%	A1	A1: Drinking Water Safety Plan risk score
PR14UUWSW_A2	UU	WSW		100.0%							100.0%	A2	A2: Water quality events DWI category 3 or above
PR14UUWSW_A3	UU	WSW		100.0%							100.0%	A3	A3: Water Quality Service Index
PR14UUWSW_B1	UU	WSW		100.0%							100.0%	B1	B1: Average minutes supply lost per property (a year)
PR14UUWSW_B2	UU	WSW		100.0%							100.0%	B2	B2: Reliable water service index
PR14UUWSW_B3	UU	WSW	100.0%								100.0%	B3	B3: Security of supply index (SoSI)
PR14UUWSW_B4	UU	WSW		100.0%							100.0%	B4	B4: Total leakage at or below target
PR14UUWSW_B5	UU	WSW	100.0%								100.0%	B5	B5: Resilience of impounding reservoirs
PR14UUWSW_B6	UU	WSW		100.0%							100.0%	B6	B6: Thirlmere transfer into West Cumbria
PR14UUWSW_C1	UU	WSW	100.0%								100.0%	C1	C1: Contribution to rivers improved - water programme (NEP schemes and abstraction changes at 4 AIM sites)
PR14UUWSW_D1	UU	WSW									0.0%	D1	D1: Delivering our commitments to developers, local authorities and highway authorities
PR14UUWSW_E1	UU	WSW									0.0%	E1	E1: Number of free water meters installed
PR14UUWSWW_S-A1	UU	WSWW			100.0%						100.0%	S-A1	S-A1: Private sewers service index
PR14UUWSWW_S-A2	UU	WSWW			100.0%						100.0%	S-A2	S-A2: Wastewater network performance index
PR14UUWSWW_S-B1	UU	WSWW									0.0%	S-B1	S-B1: Future flood risk
PR14UUWSWW_S-B2	UU	WSWW			100.0%						100.0%	S-B2	S-B2: Sewer flooding index
PR14UUWSWW_S-C1	UU	WSWW			100.0%						100.0%	S-C1	S-C1: Contribution to bathing waters improved (includes NEP phase 3&4 bathing water intermittent discharge
PR14UUWSWW_S-D1	UU	WSWW			100.0%						100.0%	S-D1	S-D1: Protecting rivers from deterioration due to population growth (includes Davyhulme non-delivery penalty)
PR14UUWSWW_S-D2	UU	WSWW			100.0%						100.0%	S-D2	S-D2: Maintaining our wastewater treatment works (includes Oldham and Royton WwTWs special cost factor
PR14UUWSWW_S-D3	UU	WSWW			100.0%						100.0%	S-D3	S-D3: Contribution to rivers improved - wastewater programme (includes Oldham, Royton and Windermere)
PR14UUWSWW_S-D4a	UU	WSWW			100.0%						100.0%	S-D4a	S-D4a: Wastewater serious (category 1 and 2) pollution incidents
PR14UUWSWW_S-D4b	UU	WSWW			100.0%						100.0%	S-D4b	S-D4b: Wastewater category 3 pollution incidents
PR14UUWSWW_S-D5	UU	WSWW				100.0%					100.0%	S-D5	S-D5: Satisfactory sludge disposal
PR14UUHHR_A-1	UU	HHR					100.0%				100.0%	A-1	A-1: Service incentive mechanism (SIM)
PR14UUHHR_R-A2	UU	HHR					100.0%				100.0%	R-A2	R-A2: Customer experience programme
PR14UUHHR_B1	UU	HHR									0.0%	B1	B1: Customers saying that we offer value for money
PR14UUHHR_B2	UU	HHR									0.0%	B2	B2: Per household consumption

2018/19 Performance data

PC ref. (company)	Performance commitment	ODI type	ODI form	In-period ODI	PC unit	PC unit description	Decimal places	2018-19 forecast data (monetary amounts in 2012-13 prices, net of tax)					
								2018-19 performance level - forecast	2018-19 PCL met? forecast	2018-19 forecast outperformance payment or underperformance penalty in-period ODIs	2018-19 forecast outperformance payment or underperformance penalty in-period ODIs (£m)	2018-19 forecast outperformance payment or underperformance penalty accrued at 31 March 2019	2018-19 forecast outperformance payment or underperformance penalty accrued at 31 March 2019 (£m)
A1	A1: Drinking Water Safety Plan risk score	NFI			score	Drinking Water Safety Plan (DWSP) risk score	1	4.3	Yes			-	
A2	A2: Water quality events DWI category 3 or above	Under	RCV or Revenue		nr	No. water quality events DWI cat 3 or above	0	15	No			Underperformance penalty	-0.8940
A3	A3: Water Quality Service Index	Out & under	RCV or Revenue		score	Water Quality Service Index (UU bespoke)	3	114.119	No			Underperformance penalty	-3.6190
B1	B1: Average minutes supply lost per property (a year)	Out & under	RCV or Revenue		time	Mins:secs supply lost per property per year	mins:secs	12:00	Yes			Outperformance payment deadband	0.0000
B2	B2: Reliable water service index	Out & under	RCV or Revenue		score	Reliable water service index (UU bespoke)	3	75.911	No			Underperformance penalty	-7.9740
B3	B3: Security of supply index (SoSI)	Under	RCV or Revenue		score	Security of Supply Index (SOSI)	3	100.000	Yes			-	0.0000
B4	B4: Total leakage at or below target	Out & under	RCV or Revenue		nr	Megalitres per day (Ml/d) variance from target	2	13.40	Yes			Outperformance payment	1.6456
B5	B5: Resilience of impounding reservoirs	Under	RCV or Revenue		nr	Aggregate (cumulative) reduction in risk	2	165.44	Yes			-	0.0000
B6	B6: Thirlmere transfer into West Cumbria	Out & under	RCV or Revenue		%	% project complete based on earned value tied to	0	57	Yes			Outperformance payment deadband	0.0000
C1	C1: Contribution to rivers improved - water programme (NEP schemes and abstraction changes at 4 AIM sites)	Out & under	RCV or Revenue		nr	Kilometres (km) of river improved (cumulative)	1	55.7	Yes			Outperformance payment	0.1848
D1	D1: Delivering our commitments to developers, local authorities and highway authorities	NFI			%	% of jobs completed within response times	0	94	Yes				
E1	E1: Number of free water meters installed	NFI			nr	No. of free water meters installed per year	0	37414	No				
S-A1	S-A1: Private sewers service index	Out & under	RCV or Revenue		score	Private sewers service index (UU bespoke)	2	91.90	Yes			Outperformance payment	7.3760
S-A2	S-A2: Wastewater network performance index	Under	RCV or Revenue		score	Wastewater network performance index (UU bespoke)	2	89.50	Yes			-	0.0000
S-B1	S-B1: Future flood risk	NFI			nr	No. of properties at risk	0	16373	No				
S-B2	S-B2: Sewer flooding index	Out & under	RCV or Revenue		score	Sewer flooding index (UU bespoke)	1	82.8	No			Underperformance penalty	-8.9410
S-C1	S-C1: Contribution to bathing waters improved (includes NEP phase 3&4 bathing water intermittent discharge	Under	RCV or Revenue		nr	Bathing water equivalent (BWE)	2	3.78	Yes			-	0.0000
S-D1	S-D1: Protecting rivers from deterioration due to population growth (includes Davyhulme non-delivery penalty)	Under	RCV or Revenue		nr	Kilometers (km) rivers protected from deterioration	1	318.0	Yes			-	0.0000
S-D2	S-D2: Maintaining our wastewater treatment works (includes Oldham and Royton WwTWs special cost factor	Under	RCV or Revenue		score	Maintaining WwTWs index (UU bespoke)	4	83.8370	No			-	0.0000
S-D3	S-D3: Contribution to rivers improved - wastewater programme (includes Oldham, Royton and Windermere)	Out & under	RCV or Revenue		nr	Kilometres (km) of river improved (cumulative)	2	173.12	Yes			Outperformance payment	0.0721
S-D4a	S-D4a: Wastewater serious (category 1 and 2) pollution incidents	Under	RCV or Revenue		nr	No. of pollution incidents (cats 1 and 2)	0	3	Yes			-	0.0000
S-D4b	S-D4b: Wastewater category 3 pollution incidents	Out & under	RCV or Revenue		nr	No. of pollution incidents (cat 3)	0	150	Yes			Outperformance payment	3.2780
S-D5	S-D5: Satisfactory sludge disposal	Under	RCV or Revenue		%	% satisfactory sludge disposal compliance	2	100.00	Yes			-	0.0000
A-1	A-1: Service incentive mechanism (SIM)	Out & under	Revenue		text	Service incentive mechanism (SIM) score ranking	na	86.81	-			(SIM)	
R-A2	R-A2: Customer experience programme	Under	Revenue		£m	£ million cumulative depreciation	3	6.499	-			-	0.0000
B1	B1: Customers saying that we offer value for money	NFI			%	% customer satisfaction	0	52	Yes				
B2	B2: Per household consumption	NFI			nr	Litres per household per day (l/hh/d)	0	286	Yes				

2019/20 Performance data

PC ref. (company)	Performance commitment	ODI type	ODI form	In-period ODI	PC unit	PC unit description	Decimal places	2019-20 forecast data (monetary amounts in 2012-13 prices, net of tax)					
								2019-20 performance level - forecast	2019-20 PCL met? Forecast	2019-20 forecast outperformance payment or underperformance penalty in-period ODIs	2019-20 forecast outperformance payment or underperformance penalty in-period ODIs (£m)	2019-20 forecast outperformance payment or underperformance penalty accrued at 31 March 2020	2019-20 forecast outperformance payment or underperformance penalty accrued at 31 March 2020 (£m)
A1	A1: Drinking Water Safety Plan risk score	NFI			score	Drinking Water Safety Plan (DWSP) risk score	1	4.3	Yes			-	
A2	A2: Water quality events DWI category 3 or above	Under	RCV or Revenue		nr	No. water quality events DWI cat 3 or above	0	15	No			Underperformance penalty	-1.1920
A3	A3: Water Quality Service Index	Out & under	RCV or Revenue		score	Water Quality Service Index (UU bespoke)	3	117.791	No			Underperformance penalty	-3.6190
B1	B1: Average minutes supply lost per property (a year)	Out & under	RCV or Revenue		time	Mins:secs supply lost per property per year	mins:secs	11:40	Yes			Outperformance payment	1.3260
B2	B2: Reliable water service index	Out & under	RCV or Revenue		score	Reliable water service index (UU bespoke)	3	97.043	No			Underperformance penalty deadband	0.0000
B3	B3: Security of supply index (SoSI)	Under	RCV or Revenue		score	Security of Supply Index (SOSI)	3	100.000	Yes			-	0.0000
B4	B4: Total leakage at or below target	Out & under	RCV or Revenue		nr	Megalitres per day (Ml/d) variance from target	2	13.40	Yes			Outperformance payment	1.6456
B5	B5: Resilience of impounding reservoirs	Under	RCV or Revenue		nr	Aggregate (cumulative) reduction in risk	2	165.70	Yes			-	0.0000
B6	B6: Thirlmere transfer into West Cumbria	Out & under	RCV or Revenue		%	% project complete based on earned value tied to	0	99	Yes			Outperformance payment	21.2003
C1	C1: Contribution to rivers improved - water programme (NEP schemes and abstraction changes at 4 AIM sites)	Out & under	RCV or Revenue		nr	Kilometres (km) of river improved (cumulative)	1	160.3	Yes			Outperformance payment	0.0227
D1	D1: Delivering our commitments to developers, local authorities and highway authorities	NFI			%	% of jobs completed within response times	0	95	Yes				
E1	E1: Number of free water meters installed	NFI			nr	No. of free water meters installed per year	0	37205	No				
S-A1	S-A1: Private sewers service index	Out & under	RCV or Revenue		score	Private sewers service index (UU bespoke)	2	91.90	Yes			Outperformance payment	7.3760
S-A2	S-A2: Wastewater network performance index	Under	RCV or Revenue		score	Wastewater network performance index (UU bespoke)	2	89.50	Yes			-	0.0000
S-B1	S-B1: Future flood risk	NFI			nr	No. of properties at risk	0	16351	No				
S-B2	S-B2: Sewer flooding index	Out & under	RCV or Revenue		score	Sewer flooding index (UU bespoke)	1	80.0	No			Underperformance penalty	-8.7380
S-C1	S-C1: Contribution to bathing waters improved (includes NEP phase 3&4 bathing water intermittent discharge	Under	RCV or Revenue		nr	Bathing water equivalent (BWE)	2	6.56	Yes			-	0.0000
S-D1	S-D1: Protecting rivers from deterioration due to population growth (includes Davyhulme non-delivery penalty)	Under	RCV or Revenue		nr	Kilometers (km) rivers protected from deterioration	1	365.7	Yes			-	0.0000
S-D2	S-D2: Maintaining our wastewater treatment works (includes Oldham and Royton WwTWs special cost factor	Under	RCV or Revenue		score	Maintaining WwTWs index (UU bespoke)	4	84.1	No			Underperformance penalty	-4.3870
S-D3	S-D3: Contribution to rivers improved - wastewater programme (includes Oldham, Royton and Windermere)	Out & under	RCV or Revenue		nr	Kilometres (km) of river improved (cumulative)	2	342.75	Yes			Underperformance penalty	-0.0512
S-D4a	S-D4a: Wastewater serious (category 1 and 2) pollution incidents	Under	RCV or Revenue		nr	No. of pollution incidents (cats 1 and 2)	0	0	Yes			-	0.0000
S-D4b	S-D4b: Wastewater category 3 pollution incidents	Out & under	RCV or Revenue		nr	No. of pollution incidents (cat 3)	0	150	Yes			Outperformance payment	3.2780
S-D5	S-D5: Satisfactory sludge disposal	Under	RCV or Revenue		%	% satisfactory sludge disposal compliance	2	100.00	Yes			-	0.0000
A-1	A-1: Service incentive mechanism (SIM)	Out & under	Revenue		text	Service incentive mechanism (SIM) score ranking	na	-	-			(SIM)	
R-A2	R-A2: Customer experience programme	Under	Revenue		£m	£ million cumulative depreciation	3	11.968	-			Underperformance penalty	-3.7090
B1	B1: Customers saying that we offer value for money	NFI			%	% customer satisfaction	0	53	Yes				
B2	B2: Per household consumption	NFI			nr	Litres per household per day (l/hh/d)	0	284	Yes				

App6 PR14 reconciliation – sub-measures

1	2	3	4	5	6	7	8	9	10	11	12	13	14
										2018-19 forecast data (PCs and sub-measures)		2019-20 forecast data (PCs and sub-measures)	
Unique ID	Company	PR14 price control	PC ref. (company)	Performance commitment	PC ODI type	PC / sub-measure ID	PC / sub-measure	Unit	Decimal places	2018-19 performance level - forecast	2018-19 performance level met? forecast	2019-20 performance level - forecast	2019-20 performance level met? forecast
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index	Out & under	00	A3: Water Quality Service Index	score	3	114.119	No	117.791	No
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		01	WTW coliform non-compliance (%)	%	2	0.01	Yes	0.01	Yes
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		02	SR integrity index	%	2	99.97	Yes	99.97	Yes
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		03	No. of WTW turbidity fails	nr	0	1	Yes	1	Yes
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		04	Mean Zonal Compliance (MZC)	%	2	99.97	No	99.97	No
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		05	Distribution Maintenance Index (%)	%	2	99.89	Yes	99.85	No
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		06	Unwanted customer contacts for water quality (nr per year)	nr	0	10013	No	9605	No
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index	Out & under	00	B2: Reliable water service index	score	3	75.911	No	97.043	No
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		01	Total bursts (nr/annum)	nr	0	4594	Yes	3826	Yes
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		02	Interruptions >12hours (nr of properties/total nr of properties)	nr	0	4117	No	1800	No
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		03	Pressure (nr of properties on DG2 register/ total number of properties)	nr	0	291	No	272	Yes
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		04	Customer contacts for water availability (contacts/annum)	nr	0	42371	Yes	39000	Yes
PR14UUWSWW_S-A1	UU	WSWW	S-A1	S-A1: Private sewers service index	Out & under	00	S-A1: Private sewers service index	score	2	91.90	Yes	91.90	Yes
PR14UUWSWW_S-A1	UU	WSWW	S-A1	S-A1: Private sewers service index		01	Blockages	nr	0	14295	Yes	14295	Yes
PR14UUWSWW_S-A1	UU	WSWW	S-A1	S-A1: Private sewers service index		02	Collapses	nr	0	361	Yes	361	Yes
PR14UUWSWW_S-A1	UU	WSWW	S-A1	S-A1: Private sewers service index		03	Pollution incidents	nr	0	3	Yes	3	Yes
PR14UUWSWW_S-A1	UU	WSWW	S-A1	S-A1: Private sewers service index		04	Properties flooded internally	nr	0	379	Yes	379	Yes
PR14UUWSWW_S-A1	UU	WSWW	S-A1	S-A1: Private sewers service index		05	Areas flooded externally	nr	0	4484	Yes	4484	Yes
PR14UUWSWW_S-A2	UU	WSWW	S-A2	S-A2: Wastewater network performance index	Under	00	S-A2: Wastewater network performance index	score	2	89.50	Yes	89.50	Yes
PR14UUWSWW_S-A2	UU	WSWW	S-A2	S-A2: Wastewater network performance index		01	Blockages	nr	0	7391	Yes	7391	No
PR14UUWSWW_S-A2	UU	WSWW	S-A2	S-A2: Wastewater network performance index		02	Collapses	nr	0	255	Yes	255	Yes
PR14UUWSWW_S-A2	UU	WSWW	S-A2	S-A2: Wastewater network performance index		03	Rising main bursts	nr	0	48	No	48	No
PR14UUWSWW_S-A2	UU	WSWW	S-A2	S-A2: Wastewater network performance index		04	Equipment failures	nr	0	2707	No	2707	No
PR14UUWSWW_S-B2	UU	WSWW	S-B2	S-B2: Sewer flooding index	Out & under	00	S-B2: Sewer flooding index	score	1	82.8	No	80.0	No
PR14UUWSWW_S-B2	UU	WSWW	S-B2	S-B2: Sewer flooding index		01	Properties flooded due to other causes	nr	0	700	No	677	No
PR14UUWSWW_S-B2	UU	WSWW	S-B2	S-B2: Sewer flooding index		02	Properties flooded due to hydraulic overload	nr	0	101	No	98	No
PR14UUWSWW_S-B2	UU	WSWW	S-B2	S-B2: Sewer flooding index		03	Areas flooded due to other causes	nr	0	3026	Yes	2921	Yes
PR14UUWSWW_S-B2	UU	WSWW	S-B2	S-B2: Sewer flooding index		04	Areas flooded due to hydraulic overload	nr	0	258	Yes	250	Yes
PR14UUWSWW_S-B2	UU	WSWW	S-B2	S-B2: Sewer flooding index		05	Incidents of repeat flooding	nr	0	290	No	280	No
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works	Under	00	S-D2: Maintaining our wastewater treatment works	score	4	83.8370	No	84.1000	No
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		01	WwTWs failing EA permit - small (size band 1-4)	score	4	8.1934	No	8.1934	No
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		02	WwTWs failing EA permit - medium (size band 5)	score	4	0.000	Yes	16.3868	No
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		03	WwTWs failing EA permit - large (size band 6a)	score	4	32.7736	Yes	16.3868	Yes
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		04	WwTWs failing EA permit - large (size band 6b)	score	4	40.9668	No	40.9668	No
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		05	WwTWs at high risk of failing EA permit - small (size band 1-4)	score	4	0.2369	Yes	0.3358	Yes
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		06	WwTWs at high risk of failing EA permit - medium (size band 5)	score	4	0.1126	Yes	0.1242	Yes
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		07	WwTWs at high risk of failing EA permit - large (size band 6)	score	4	0.4097	Yes	0.601	Yes
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		08	WwTWs at medium risk of failing EA permit - small (size band 1-4)	score	4	0.3178	Yes	0.3134	Yes
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		09	WwTWs at medium risk of failing EA permit - medium (size band 5)	score	4	0.1092	Yes	0.109	Yes
PR14UUWSWW_S-D2	UU	WSWW	S-D2	S-D2: Maintaining our wastewater treatment works		10	WwTWs at medium risk of failing EA permit - large (size band 6)	score	4	0.7170	Yes	0.6828	No

App9 Adjustments to RCV from disposals of interest in land

Line description		Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2014-20
A	RCV midnight adjustment ~ land sales water											
1	Forecast at previous review	A7001W	£m	3	Outturn (nominal)	1.868						
2	Actual and current forecast sales	BT39301PW	£000	3	Outturn (nominal)	2354.446	2130.592	2852.561	2077.449	2353.534	2353.534	
3	Impact of 50% of proceeds	A7003W	£m	3	Outturn (nominal)	0.243	1.065	1.426	1.039	1.177	1.177	
4	WACC - fully post tax on notional structure	A7004AW	%	2	-	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	
5	RPI: Financial year average year on year %	A7004BW	%	2	-	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	
6	Discount rate (nominal)	A7004W	%	2	-	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	
7	Years for discounting purposes	A7005YR	nr	0	-	-3	-2	-1	0	1	2	
8	Discount factor	A7005W	ratio	2	-	0.83	0.88	0.94	1.00	1.06	1.13	
9	PV effect of 50% of proceeds from disposals of interest in land	A7006W	£m	3	2017-18 FYA (RPI)	0.202	0.943	1.342	1.039	1.251	1.330	
10	NPV effect of 50% of proceeds from disposals of interest in land	A7010W	£m	3	2017-18 FYA (RPI)							-6.106
11	Water ~ NPV effect of 50% of proceeds from disposals of interest in land at 2017-18 FYA CPIH deflated price base	A7011W	£m	3	2017-18 FYA (CPIH deflated)							-6.264
B	RCV midnight adjustment ~ land sales wastewater											
12	Forecast at previous review	A7001WW	£m	3	Outturn (nominal)	0.044						
13	Actual and current forecast sales	BT39301PS	£000	3	Outturn (nominal)	54.932	49.709	192.307	108.047	116.688	116.688	
14	Impact of 50% of proceeds	A7003WW	£m	3	Outturn (nominal)	0.006	0.025	0.096	0.054	0.058	0.058	
15	WACC - fully post tax on notional structure	A7004AWW	%	2	-	3.60%	3.60%	3.60%	3.60%	3.60%	3.60%	
16	RPI: Financial year average year on year %	A7004BWW	%	2	-	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	
17	Discount rate (nominal)	A7004WW	%	2	-	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	
18	Years for discounting purposes	A7005YR	nr	0	-	-3	-2	-1	0	1	2	
19	Discount factor	A7005WW	ratio	2	-	0.83	0.88	0.94	1.00	1.06	1.13	
20	PV effect of 50% of proceeds from disposals of interest in land	A7006WW	£m	3	2017-18 FYA (RPI)	0.005	0.022	0.090	0.054	0.062	0.066	
21	NPV effect of 50% of proceeds from disposals of interest in land	A7010WW	£m	3	2017-18 FYA (RPI)							-0.299
22	Wastewater ~ NPV effect of 50% of proceeds from disposals of interest in land at 2017-18 FYA CPIH deflated price base	A7011WW	£m	3	2017-18 FYA (CPIH deflated)							-0.307

KEY

	Input
	Copy
	Calculation
	Pre populated

App23 Inflation measures

Line description	Item reference	Units	DPs	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
A	**Retail price index**																					
1	RPI: Months of actual data for Financial Year	PB00000	nr	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
2	Retail Price Index for April	BB3805AL	nr	1	234.4	242.5	249.5	255.7	258.0	261.4	270.6	280.2	289.4	298.1	307.0	316.2	325.7	335.5	345.6	355.9	366.6	377.6	388.9
3	Retail Price Index for May	BB3805MY	nr	1	235.2	242.4	250.0	255.9	258.5	262.1	271.7	281.2	290.4	299.1	308.1	317.3	326.8	336.7	346.8	357.2	367.9	378.9	390.3
4	Retail Price Index for June	BB3805JN	nr	1	235.2	241.8	249.7	256.3	258.9	263.1	272.3	282.2	291.4	300.1	309.1	318.4	328.0	337.8	347.9	358.4	369.1	380.2	391.6
5	Retail Price Index for July	BB3805JL	nr	1	234.7	242.1	249.7	256.0	258.6	263.4	272.9	282.6	291.7	300.4	309.4	318.7	328.3	338.1	348.3	358.7	369.5	380.6	392.0
6	Retail Price Index for August	BB3805AT	nr	1	236.1	243.0	251.0	257.0	259.8	264.4	274.7	284.2	293.2	302.0	311.0	320.4	330.0	339.9	350.1	360.6	371.4	382.5	394.0
7	Retail Price Index for September	BB3805SR	nr	1	237.9	244.2	251.9	257.6	259.6	264.9	275.1	284.5	293.6	302.4	311.5	320.9	330.5	340.4	350.6	361.1	372.0	383.1	394.6
8	Retail Price Index for October	BB3805OR	nr	1	238.0	245.6	251.9	257.7	259.5	264.8	275.3	284.7	293.8	302.6	311.7	321.0	330.7	340.6	350.8	361.3	372.2	383.3	394.8
9	Retail Price Index for November	BB3805NR	nr	1	238.5	245.6	252.1	257.1	259.8	265.5	275.8	285.1	293.6	302.4	311.5	320.8	330.5	340.4	350.6	361.1	371.9	383.1	394.6
10	Retail Price Index for December	BB3805DR	nr	1	239.4	246.8	253.4	257.5	260.6	267.1	278.1	287.1	295.8	304.6	313.8	323.2	332.9	342.9	353.1	363.7	374.7	385.9	397.5
11	Retail Price Index for January	BB3805JY	nr	1	238.0	245.8	252.6	255.4	258.8	265.5	276.0	285.0	293.6	302.4	311.4	320.8	330.4	340.3	350.5	361.1	371.9	383.0	394.5
12	Retail Price Index for February	BB3805FY	nr	1	239.9	247.6	254.2	256.7	260.0	268.4	278.1	287.2	295.8	304.7	313.8	323.2	332.9	342.9	353.2	363.8	374.7	386.0	397.6
13	Retail Price Index for March	BB3805MH	nr	1	240.8	248.7	254.8	257.1	261.1	269.3	278.3	287.9	296.5	305.4	314.6	324.0	333.8	343.8	354.1	364.7	375.6	386.9	398.5
B	**Consumer price index (including housing costs)**																					
14	CPIH: Months of actual data for Financial Year	PB00003	nr	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
15	Consumer Price Index (with housing) for April	BB3905AL	nr	1	93.3	95.9	98.0	99.6	99.9	100.6	103.2	105.7	108.0	110.1	112.3	114.6	116.9	119.2	121.6	124.0	126.5	129.0	131.6
16	Consumer Price Index (with housing) for May	BB3905MY	nr	1	93.5	95.9	98.2	99.6	100.1	100.8	103.5	105.9	108.2	110.4	112.6	114.8	117.1	119.5	121.9	124.3	126.8	129.3	131.9
17	Consumer Price Index (with housing) for June	BB3905JN	nr	1	93.5	95.6	98.0	99.8	100.1	101.0	103.5	106.1	108.3	110.5	112.7	115.0	117.3	119.6	122.0	124.4	126.9	129.5	132.0
18	Consumer Price Index (with housing) for July	BB3905JL	nr	1	93.5	95.7	98.0	99.6	100.0	100.9	103.5	106.0	108.2	110.4	112.6	114.8	117.1	119.5	121.9	124.3	126.8	129.3	131.9
19	Consumer Price Index (with housing) for August	BB3905AT	nr	1	93.9	96.1	98.4	99.9	100.3	101.2	104.0	106.4	108.7	110.9	113.1	115.3	117.6	120.0	122.4	124.8	127.3	129.9	132.5
20	Consumer Price Index (with housing) for September	BB3905SR	nr	1	94.5	96.4	98.7	100.0	100.2	101.5	104.3	106.7	108.9	111.1	113.3	115.6	117.9	120.3	122.7	125.1	127.6	130.2	132.8
21	Consumer Price Index (with housing) for October	BB3905OR	nr	1	94.5	96.8	98.8	100.1	100.3	101.6	104.4	106.8	109.1	111.3	113.5	115.8	118.1	120.5	122.9	125.3	127.8	130.4	133.0
22	Consumer Price Index (with housing) for November	BB3905NR	nr	1	94.7	97.0	98.8	99.9	100.3	101.8	104.7	106.9	109.1	111.2	113.5	115.7	118.1	120.4	122.8	125.3	127.8	130.3	133.0
23	Consumer Price Index (with housing) for December	BB3905DR	nr	1	95.0	97.3	99.2	99.9	100.4	102.2	105.0	107.2	109.3	111.5	113.7	116.0	118.3	120.7	123.1	125.6	128.1	130.7	133.3
24	Consumer Price Index (with housing) for January	BB3905JY	nr	1	94.7	97.0	98.7	99.2	99.9	101.8	104.5	106.9	109.0	111.2	113.4	115.7	118.0	120.4	122.8	125.2	127.7	130.3	132.9
25	Consumer Price Index (with housing) for February	BB3905FY	nr	1	95.2	97.5	99.1	99.5	100.1	102.4	104.9	107.3	109.4	111.6	113.9	116.1	118.5	120.8	123.2	125.7	128.2	130.8	133.4
26	Consumer Price Index (with housing) for March	BB3905MH	nr	1	95.4	97.8	99.3	99.6	100.4	102.7	105.1	107.4	109.6	111.8	114.0	116.3	118.6	121.0	123.4	125.9	128.4	131.0	133.6
C	**Indexation rate for index linked debt percentage increase**																					
27	Indexation rate for index linked debt percentage increase	A9001	%	2								3.33%	3.01%	3.18%	2.90%	3.02%	2.86%	3.02%	2.96%	2.86%	2.90%	2.92%	2.89%
D	**Financial year average indices**																					
28	RPI: Financial year average indices	PB00113BP	nr	1	237.3	244.7	251.7	256.7	259.4	265.0	274.9	284.3	293.2	302.0	311.1	320.4	330.0	339.9	350.1	360.6	371.5	382.6	394.1
29	CPIH: Financial year average indices	PB00200	nr	1	94.3	96.6	98.6	99.7	100.2	101.5	104.2	106.6	108.8	111.0	113.2	115.5	117.8	120.1	122.6	125.0	127.5	130.1	132.7
E	**Year on year % change**																					
30	RPI: November year on year %	APP23001	%	2		2.98%	2.65%	1.98%	1.05%	2.19%	3.88%	3.36%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
31	RPI: Financial year average indices year on year %	APP23002	%	2		3.09%	2.88%	1.96%	1.08%	2.14%	3.74%	3.43%	3.13%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
32	RPI: Financial year end indices year on year %	APP23003	%	2		3.28%	2.45%	0.90%	1.56%	3.14%	3.34%	3.45%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
33	CPIH: November year on year %	APP23004	%	2		2.43%	1.86%	1.11%	0.40%	1.50%	2.85%	2.13%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
34	CPIH: Financial year average indices year on year %	APP23005	%	2		2.41%	2.09%	1.14%	0.44%	1.37%	2.63%	2.29%	2.09%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
35	CPIH: Financial year end indices year on year %	APP23006	%	2		2.52%	1.53%	0.30%	0.80%	2.29%	2.34%	2.23%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
36	Wedge between RPI and CPIH	APP23007	%	2		0.68%	0.80%	0.82%	0.64%	0.77%	1.11%	1.14%	1.04%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
F	**Long term inflation rates**																					
37	Long term RPI inflation rate	APP23008	%	2										3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
38	Long term CPIH inflation rate	APP23009	%	2										2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%

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App25 PR14 reconciliation adjustments summary

	Line description	Item reference	Units	DPs	Price base	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
A	**Further 2010-15 reconciliation adjustments**										
1	Water ~ Total Adjustment RCV carry forward to PR19	C00572_L021	£m	3	2012-13 FYA (RPI)						31.834
2	Water ~ Total Adjustment Revenue carry forward to PR19	C00578_L021	£m	3	2012-13 FYA (RPI)						-10.150
3	Wastewater ~ Total Adjustment RCV carry forward to PR19	C00579_L021	£m	3	2012-13 FYA (RPI)						45.924
4	Wastewater ~ Total Adjustment Revenue carry forward to PR19	C00585_L021	£m	3	2012-13 FYA (RPI)						-10.356
5	Water ~ CIS RCV inflation correction	APP25001	£m	3	2012-13 FYA (RPI)						-69.718
6	Wastewater ~ CIS RCV inflation correction	APP25002	£m	3	2012-13 FYA (RPI)						-118.073
7	Water ~ Total Adjustment RCV carry forward to PR19 at 2017-18 FYA CPIH deflated price base	APP25003	£m	3	2017-18 FYA (CPIH deflated)						36.690
8	Water ~ Total Adjustment Revenue carry forward to PR19 at 2017-18 FYA CPIH deflated price base	APP25004	£m	3	2017-18 FYA (CPIH deflated)						-11.698
9	Wastewater ~ Total Adjustment RCV carry forward to PR19 at 2017-18 FYA CPIH deflated price base	APP25005	£m	3	2017-18 FYA (CPIH deflated)						52.930
10	Wastewater ~ Total Adjustment Revenue carry forward to PR19 at 2017-18 FYA CPIH deflated price base	APP25006	£m	3	2017-18 FYA (CPIH deflated)						-11.935
11	Water ~ CIS RCV inflation correction at 2017-18 FYA CPIH deflated price base	APP25007	£m	3	2017-18 FYA (CPIH deflated)						-80.353
12	Wastewater ~ CIS RCV inflation correction at 2017-18 FYA CPIH deflated price base	APP25008	£m	3	2017-18 FYA (CPIH deflated)						-136.086
B	**Adjustment to RCV from disposal of land**										
13	Water ~ NPV effect of 50% of proceeds from disposals of interest in land at 2017-18 FYA CPIH deflated price base	A7011W_CPY	£m	3	2017-18 FYA (CPIH deflated)						-6.264
14	Wastewater ~ NPV effect of 50% of proceeds from disposals of interest in land at 2017-18 FYA CPIH deflated price base	A7011WW_CPY	£m	3	2017-18 FYA (CPIH deflated)						-0.307
C	**Outcome delivery incentive reconciliation adjustments to be applied at PR19**										
15	ODI in~period revenue adjustment ~ Total net revenue adjustment at 2017~18 FYA CPIH deflated price base	APP27040_CPY	£m	3	2017-18 FYA (CPIH deflated)						0.000
16	ODI end of period revenue adjustment ~ Total net revenue adjustment at 2017~18 FYA CPIH deflated price base	APP27047_CPY	£m	3	2017-18 FYA (CPIH deflated)						-27.765
17	ODI end of period RCV adjustment ~ Total net adjustment at 2017~18 FYA CPIH deflated price base	APP27052_CPY	£m	3	2017-18 FYA (CPIH deflated)						35.197
D	**Wholesale total expenditure outperformance sharing**										
18	Water: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WS15026_CPY	£m	3	2017-18 FYA (CPIH deflated)					34.653	
19	Water: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WS15027_CPY	£m	3	2017-18 FYA (CPIH deflated)					67.863	
20	Wastewater: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WWS15021_CPY	£m	3	2017-18 FYA (CPIH deflated)					11.655	
21	Wastewater: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WWS15022_CPY	£m	3	2017-18 FYA (CPIH deflated)					15.508	
E	**Wholesale revenue forecasting incentive mechanism**										
22	WRFIM Total reward / (penalty) at the end of AMP6 ~ water network plus	WS13027_CPY	£m	3	2017-18 FYA (CPIH deflated)					0.000	
23	WRFIM Total reward / (penalty) at the end of AMP6 ~ wastewater network plus	WWS13027_CPY	£m	3	2017-18 FYA (CPIH deflated)					0.000	
F	**Reconciliation of household retail revenue**										
24	Residential retail revenue adjustment at 2017-18 FYA CPIH deflated price base	R9046_CPY	£m	3	2017-18 FYA (CPIH deflated)					6.028	
G	**Water trading incentive reconciliation**										
25	Total value of export incentive - water resources at 2017-18 FYA CPIH deflated price base	WS17028_CPY	£m	3	2017-18 FYA (CPIH deflated)					0.000	
26	Total value of export incentive - water network plus at 2017-18 FYA CPIH deflated price base	WS17029_CPY	£m	3	2017-18 FYA (CPIH deflated)					0.000	
27	Total value of export incentive to be paid after PR19 at 2017-18 FYA CPIH deflated price base	WS17030_CPY	£m	3	2017-18 FYA (CPIH deflated)					0.000	
28	Total value of import incentive - water resources at 2017-18 FYA CPIH deflated price base	WS17031_CPY	£m	3	2017-18 FYA (CPIH deflated)					0.000	
29	Total value of import incentive - water network plus at 2017-18 FYA CPIH deflated price base	WS17032_CPY	£m	3	2017-18 FYA (CPIH deflated)					0.000	
H	**Service incentive mechanism**										
30	SIM forecast revenue adjustment at 2017-18 FYA CPIH deflated price base	R10009_CPY	£m	3	2017-18 FYA(CPIH deflated)						11.447

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App27 PR14 reconciliation – financial outcome delivery incentives summary

	Line description	Item reference	Units	DPs	2015-16	2016-17	2017-18	2018-19	2019-20	Total to be applied at PR19
A	**In-period ODI revenue adjustments by PR14 price control units (2012-13 prices)**									
1	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Wholesale water	APP27001	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
2	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Wholesale wastewater	APP27002	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
3	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Retail (household)	APP27003	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
4	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Retail (non-household)	APP27004	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
5	Total net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ PR14 controls	APP27005	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
B	**End of period ODI revenue adjustments by PR14 price control units (2012-13 prices)**									
6	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Wholesale water	APP27006	£m	3	-8.138	-2.856	-18.115	-10.656	19.384	-20.382
7	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Wholesale wastewater	APP27007	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
8	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Retail (household)	APP27008	£m	3	0.000	0.000	0.000	0.000	-3.709	-3.709
9	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Retail (non-household)	APP27009	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
10	Total net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ PR14 controls	APP27010	£m	3	-8.138	-2.856	-18.115	-10.656	15.675	-24.090
C	**End of period ODI RCV adjustments by PR14 price control units (2012-13 prices)**									
11	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Wholesale water	APP27011	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
12	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Wholesale wastewater	APP27012	£m	3	10.654	9.539	11.082	1.785	-2.522	30.538
13	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Thames Tideway	APP27013	£m	3						
14	Total net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ PR14 controls	APP27014	£m	3	10.654	9.539	11.082	1.785	-2.522	30.538
D	**In-period ODI revenue adjustments allocated to PR19 price controls (2012-13 prices)**									
15	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Water resources	APP27015	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
16	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Water network plus	APP27016	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
17	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Wastewater network plus	APP27017	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
18	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Bioresources	APP27018	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
19	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Residential retail	APP27019	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
20	Net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ Business retail	APP27020	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
21	Total net performance payment / (penalty) applied to revenue for in-period ODI adjustments ~ PR19 controls	APP27021	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
E	**End of period ODI revenue adjustments allocated to PR19 price controls (2012-13 prices)**									
22	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Water resources	APP27022	£m	3	0.056	0.185	0.185	0.185	0.023	0.633
23	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Water network plus	APP27023	£m	3	-8.194	-3.041	-18.300	-10.841	19.361	-21.015
24	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Wastewater network plus	APP27024	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
25	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Bioresources	APP27025	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
26	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Residential retail	APP27026	£m	3	0.000	0.000	0.000	0.000	-3.709	-3.709
27	Net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ Business retail	APP27027	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
28	Total net performance payment / (penalty) applied to revenue for end of period ODI adjustments ~ PR19 controls	APP27028	£m	3	-8.138	-2.856	-18.115	-10.656	15.675	-24.090
F	**End of period ODI RCV adjustments allocated to PR19 price controls (2012-13 prices)**									
29	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Water resources	APP27029	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
30	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Water network plus	APP27030	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
31	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Wastewater network plus	APP27031	£m	3	10.654	9.539	11.082	1.785	-2.522	30.538
32	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Thames Tideway	APP27032	£m	3						
33	Total net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ PR19 controls	APP27033	£m	3	10.654	9.539	11.082	1.785	-2.522	30.538
G	**In-period ODI revenue adjustments input to PR19 financial model (2017-18 prices)**									
34	ODI in~period revenue adjustment ~ Water resources at 2017~18 FYA CPIH deflated price base	APP27034	£m	3						0.000
35	ODI in~period revenue adjustment ~ Water network plus at 2017~18 FYA CPIH deflated price base	APP27035	£m	3						0.000
36	ODI in~period revenue adjustment ~ Wastewater network plus at 2017~18 FYA CPIH deflated price base	APP27036	£m	3						0.000
37	ODI in~period revenue adjustment ~ Bioresources at 2017~18 FYA CPIH deflated price base	APP27037	£m	3						0.000
38	ODI in~period revenue adjustment ~ Residential retail at 2017~18 FYA CPIH deflated price base	APP27038	£m	3						0.000
39	ODI in~period revenue adjustment ~ Business retail at 2017~18 FYA CPIH deflated price base	APP27039	£m	3						0.000
40	ODI in~period revenue adjustment ~ Total net revenue adjustment at 2017~18 FYA CPIH deflated price base	APP27040	£m	3						0.000
H	**End of period ODI revenue adjustments input to PR19 financial model (2017-18 prices)**									
41	ODI end of period revenue adjustment ~ Water resources at 2017~18 FYA CPIH deflated price base	APP27041	£m	3						0.730
42	ODI end of period revenue adjustment ~ Water network plus at 2017~18 FYA CPIH deflated price base	APP27042	£m	3						-24.221
43	ODI end of period revenue adjustment ~ Wastewater network plus at 2017~18 FYA CPIH deflated price base	APP27043	£m	3						0.000
44	ODI end of period revenue adjustment ~ Bioresources at 2017~18 FYA CPIH deflated price base	APP27044	£m	3						0.000
45	ODI end of period revenue adjustment ~ Residential retail at 2017~18 FYA CPIH deflated price base	APP27045	£m	3						-4.274
46	ODI end of period revenue adjustment ~ Business retail at 2017~18 FYA CPIH deflated price base	APP27046	£m	3						0.000
47	ODI end of period revenue adjustment ~ Total net revenue adjustment at 2017~18 FYA CPIH deflated price base	APP27047	£m	3						-27.765
I	**End of period ODI RCV adjustments input to PR19 financial model (2017-18 prices)**									
48	ODI end of period RCV adjustment ~ Water resources at 2017~18 FYA CPIH deflated price base	APP27048	£m	3						0.000
49	ODI end of period RCV adjustment ~ Water network plus at 2017~18 FYA CPIH deflated price base	APP27049	£m	3						0.000
50	ODI end of period RCV adjustment ~ Wastewater network plus at 2017~18 FYA CPIH deflated price base	APP27050	£m	3						35.197
51	ODI end of period RCV adjustment ~ Thames Tideway at 2017~18 FYA CPIH deflated price base	APP27051	£m	3						
52	ODI end of period RCV adjustment ~ Total net adjustment at 2017~18 FYA CPIH deflated price base	APP27052	£m	3						35.197

App31 Past performance

Line description		Item reference	Units	DPs	2015-16	2016-17	2017-18	2018-19	2019-20
Price base					Not applicable				
A	Complaints from residential and business customers								
1	Stage 1 complaints received	BN200	nr	0	12059	9597	6721	6406	6152
2	Complaints escalated internally to stage 2	SM000035	nr	0	974	882	186	176	150
3	Complaints referred to CCWater	APP310003	nr	0	375	208	100	100	100
4	Investigations opened by CCWater	APP310004	nr	0	2	2	0	0	0
5	Complaints investigated by Ofwat or WATRS	APP310005	nr	0	19	19	6	12	12
B	Major incidents								
6	Total number of major incidents	APP310006	nr	0	3	3	1		
C	Compliance with Environment Agency/National Resources Wales statutory requirements								
7	Number of category 1 & 2 serious pollution incidents	QEBS047	nr	0	5	2	1	3	0
8	Number of category 3 pollution incidents	BC40499	nr	0	175	170	169	188	190
9	Discharge permit compliance	APP310009	%	1	96.9%	97.4%	98.8%	98.5%	98.5%
10	Satisfactory sludge use / disposal	APP310010	%	1	100.0%	100.0%	100.0%	100.0%	100.0%
11	Prosecutions for breach of relevant environmental requirements enforced by EA/NRW	APP310011	nr	0	1	0	1		
12	Enforcement undertakings for breach of relevant environmental requirements from EA/NRW	APP310012	nr	0	0	0	2		
13	Formal cautions for breach of relevant environmental requirements from EA/NRW	APP310013	nr	0	4	2	2		
D	Compliance with DWI statutory requirements								
14	Formal cautions for breach of drinking water quality requirements	APP310014	nr	0	0	0	0		
15	Completed prosecutions for breach of drinking water quality requirements	APP310015	nr	0	0	0	1		
E	Compliance with Ofwat regulatory requirements								
16	Completed enforcement action taken under the Water Industry Act 1991 and the licence	APP310016	nr	0	0	0	0		
17	Completed enforcement action taken under competition law	APP310017	nr	0	0	0	0		

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WS13 PR14 wholesale revenue forecast incentive mechanism for the water service

Line description		Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
A	**Company details for WRFIM model**											
1	Company name		text	-								NWT
2	Company type	BF200	Nr	0								2
3	Company has accepted WRFIM licence modification	WS13003	Boolean	0								TRUE
B	**WRFIM model parameters**											
4	Penalty rate scaling minimum threshold (+/-)	WS13004	%	2	-							2.00%
5	Penalty rate scaling maximum threshold (+/-)	WS13005	%	2	-							3.00%
6	Penalty rate (+/-)	WS13006	%	2	-							3.00%
7	Specified discount rate	WS13007	%	2	-							0.00%
8	Threshold for additional variance analyses (+/-)	WS13008	%	2	-							6.00%
C	**Allowed revenue**											
9	Allowed revenue - water	WS13009	£m	3	Outturn (nominal)	689.769						
10	Actual RPI: November index year on year change	APP23001_CPY	%	2	-		1.98%	1.05%	2.19%	3.88%	3.36%	
11	K ~ water	WS13011	nr	2	-		0.00	1.54	1.00	0.79	0.76	
12	Total revenue forecast ~ water	WS13012	£m	3	Outturn (nominal)	689.769	703.449	721.670	744.720	779.495	811.590	
D	**AMP5 RCM blind year adjustment**											
13	RCM blind year 14/15 adjustment for implementing via WRFIM ~ water	C00052_L021	£m	3	2012-13 FYA	-7.853						
14	Percentage of RCM adjustment by year ~ water	WS13014	%	2	-				33.33%	33.33%	33.33%	
E	**Revenue recovered**											
15	Water: Unmeasured ~ household	CR581	£m	3	Outturn (nominal)		328.404	331.810	324.679	337.098	345.537	
16	Water: Unmeasured ~ non-household	CR583	£m	3	Outturn (nominal)		2.422	2.321	3.660	2.698	2.639	
17	Water: Measured ~ household	CR582	£m	3	Outturn (nominal)		182.165	186.199	197.445	216.726	232.274	
18	Water: Measured ~ non-household	CR584	£m	3	Outturn (nominal)		185.828	182.037	189.516	196.119	201.572	
19	Water: Third party revenue ~ household	W9008HH	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
20	Water: Third party revenue ~ non-household	W9008NHH	£m	3	Outturn (nominal)		2.232	2.581	4.341	4.574	4.673	
21	Water: Revenue collected from household and non-household	BR589	£m	3	Outturn (nominal)		701.050	704.948	719.641	757.214	786.696	
22	Water: Grants and contributions	BC11274IN	£m	3	Outturn (nominal)		11.536	18.406	14.505	16.875	17.943	
23	Water: Revenue recovered	W9014	£m	3	Outturn (nominal)		712.586	723.354	734.146	774.089	804.638	
F	**Variance analysis of grants and contributions**											
24	Water: Capital contributions from connection charges and revenue from infrastructure charges (PR14 FD)	C_ES_000660_A001	£m	3	2012-13 prices		8.779	9.140	9.237	9.871	10.282	
25	Water: Grants and contributions	BC11274_CPY	£m	3	Outturn (nominal)		11.536	18.406	14.505	16.875	17.943	
26	Water: Grants and contributions variance	WS13028	£m	3	Outturn (nominal)		2.227	8.507	4.126	5.404	5.620	
G	**Penalties**											
27	Main revenue adjustment as incurred ~ water	WS13023	£m	3	Outturn (nominal)				-10.127	-1.919	-3.218	
28	Penalty adjustment as incurred ~ water	WS13024	£m	3	Outturn (nominal)				0.000	0.000	0.000	
29	WRFIM adjustment as incurred ~ water	WS13025	£m	3	Outturn (nominal)				-10.127	-1.919	-3.218	
30	WRFIM Total reward / (penalty) at the end of AMP6 ~ water	WS13026	£m	3	Outturn (nominal)						0.000	
31	WRFIM Total reward / (penalty) at the end of AMP6 ~ water network plus	WS13027	£m	3	2017-18 FYA (CPIH deflated)						0.000	

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WS15 PR14 wholesale total expenditure outperformance sharing for the water service

Line description		Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
A	**Company details**											
1	Company type	BF200	Nr	0								2
2	Is company enhanced?	WS15001	text	0								No
3	Financing rate	WS15003	%	2								3.60%
B	**Menu choices**											
4	Water: Implied menu choice	C00729_W004	Nr	1	0							100.5
5	Water: FD pension deficit recovery costs allowance	C00558	£m	3	2012-13 FYA (RPI)		8.229	8.229	8.229	8.229	8.229	
6	Water: Final menu choice	WS15006	nr	1	-							100.5
C	**TOTEX**											
7	Water: Baseline Totex	C00007_W011	£m	3	2012-13 FYA (RPI)		447.526	469.144	470.073	499.114	459.200	
8	Water: FD allowed totex inclusive of menu cost exclusions, less PDRC allowance	C00772_A001	£m	3	2012-13 FYA (RPI)		449.400	471.055	473.237	502.115	460.448	
9	Water: Actual Totex	W3026MTIN	£m	3	Outturn (nominal)		534.758	597.107	601.498	636.067	551.512	
D	**Adjustments to TOTEX**											
10	Water: Third party services (opex)	BM323TASIN	£m	3	Outturn (nominal)		2.422	2.826	1.169	1.164	1.280	
11	Water: Third party services (capex)	BM333TASIN	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
12	Water: Pension deficit recovery costs	CRW003	£m	3	Outturn (nominal)		11.975	16.042	16.210	16.582	17.011	
13	Water: Other cash items	CR00561TOT	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
14	Water: Disallowables	WS15014	£m	3	Outturn (nominal)		23.774	3.027	1.705	0.274	0.283	
15	Water: Transition expenditure	BP767NTIN	£m	3	2012-13 FYA (RPI)	10.290						
E	**PAYG**											
16	Water: PAYG ratio	C00766_A001	%	2	-		67.17%	65.61%	64.97%	62.09%	70.35%	
F	**Business rates IDoK**											
17	Company specific water business rate sharing rate	WS15017	%	2	-							
18	Menu Cost Sharing Rate	WS15018	nr	2	-							0.50
19	Menu Choice Expenditure Factor	WS15019	%	2	-							100.00%
20	Water business rate constant 2017, 2018, 2019	WS15020	nr	3	2012-13 FYA (RPI)							
21	Water business rate constant 2017, 2018, 2019	WS15021	nr	3	Outturn				0.000	0.000	0.000	
22	Applicable Water Business Rate Costs	WS15022	nr	3	Outturn							
23	Water: IDoK Business rates adjustment	WS15023	nr	3	Outturn							
G	**Totex menu adjustments**											
24	Water: revenue adjustment from totex menu model	WS15024	£m	3	2012-13 FYA (RPI)						30.066	
25	Water: RCV adjustment from totex menu model	WS15025	£m	3	2012-13 FYA (RPI)						58.880	
26	Water: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WS15026	£m	3	2017-18 FYA (CPIH deflated)						34.653	
27	Water: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WS15027	£m	3	2017-18 FYA (CPIH deflated)						67.863	

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WS17 PR14 water trading incentive reconciliation

	Line description	Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2015-20
A	**General parameters**																															
1	Does the company have an Ofwat-approved trading and procurement code?	WS17001	Boolean	0	-																											TRUE
B	**Time value of money adjustment for export incentive**																															
2	Real cost of capital	WS17023	%	2	-																											3.60%
3	Year for discounting purposes	WS17003	nr	0	-	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
C	**New export 1**																															
4	Name/reference of export trade	WS17NE1004	Text	0	-																											
5	Has the company produced a report to evidence that this is a new export and complies with its Ofwat-approved trading and procurement code?	WS17NE1005	Boolean	0	-																											
6	Proportion of the incentive allocated to the water resources control	WS17NE1006	%	2	-																											
7	Proportion of the incentive allocated to the network plus water control	WS17NE1007	%	2	-																											
8	Forecast revenue from export 1	WS17NE1008	£m	3	2012-13 FYA (RPI)																											
9	Forecast cost (inclusive of return on capital) of export 1	WS17NE1009	£m	3	2012-13 FYA (RPI)																											
10	Net revenue/(cost) for export 1	WS17NE1010	£m	3	2012-13 FYA (RPI)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
11	First year to include in cap calculation	WS17NE1011	year	0	-																											2016
12	Last year to include in cap calculation	WS17NE1012	year	0	-																											2020
D	**New export 2**																															
13	Name/reference of export trade	WS17NE2004	Text	0	-																											
14	Has the company produced a report to evidence that this is a new export and complies with its Ofwat-approved trading and procurement code?	WS17NE2005	Boolean	0	-																											
15	Proportion of the incentive allocated to the water resources control	WS17NE2006	%	2	-																											
16	Proportion of the incentive allocated to the network plus water control	WS17NE2007	%	2	-																											
17	Forecast revenue from export 2	WS17NE2008	£m	3	2012-13 FYA (RPI)																											
18	Forecast cost (inclusive of return on capital) of export 2	WS17NE2009	£m	3	2012-13 FYA (RPI)																											
19	Net revenue/(cost) for export 2	WS17NE2010	£m	3	2012-13 FYA (RPI)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
20	First year to include in cap calculation	WS17NE2011	year	0	-																											2016
21	Last year to include in cap calculation	WS17NE2012	year	0	-																											2020
E	**New export 3**																															
22	Name/reference of export trade	WS17NE3004	Text	0	-																											
23	Has the company produced a report to evidence that this is a new export and complies with its Ofwat-approved trading and procurement code?	WS17NE3005	Boolean	0	-																											
24	Proportion of the incentive allocated to the water resources control	WS17NE3006	%	2	-																											
25	Proportion of the incentive allocated to the network plus water control	WS17NE3007	%	2	-																											
26	Forecast revenue from export 3	WS17NE3008	£m	3	2012-13 FYA (RPI)																											
27	Forecast cost (inclusive of return on capital) of export 3	WS17NE3009	£m	3	2012-13 FYA (RPI)																											
28	Net revenue/(cost) for export 3	WS17NE3010	£m	3	2012-13 FYA (RPI)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
29	First year to include in cap calculation	WS17NE3011	year	0	-																											2016
30	Last year to include in cap calculation	WS17NE3012	year	0	-																											2020
F	**Total value of export incentive**																															
31	Total value of export incentive to be paid to water resources at PR19	WS17013	£m	3	2012-13 FYA (RPI)																											
32	Total value of export incentive to be paid to water network plus at PR19	WS17014	£m	3	2012-13 FYA (RPI)																											
33	Total value of export incentive to be paid after PR19	WS17015	£m	3	2012-13 FYA (RPI)																											
G	**Time value of money adjustment for import incentive**																															
34	Real cost of capital	WS17002_CPY	%	2	-																											3.60%
35	Years for time value of money calculation	WS17016	nr	0	-		5	4	3	2	1																					
H	**New import 1**																															
36	Name/reference of import trade	WS17NI1017	Text	0	-																											
37	Has the company provided evidence that this is a new import and complies with its Ofwat-approved trading and procurement code?	WS17NI1018	Boolean	0	-																											
38	Cost of water imported under new import 1	WS17NI1019	£m	3	2012-13 FYA (RPI)																											0.000
39	Proportion of the incentive allocated to the water resources control	WS17NI1020	%	2	-																											
40	Proportion of the incentive allocated to the network plus water control	WS17NI1021	%	2	-																											
I	**New import 2**																															
41	Name/reference of import trade	WS17NI2017	Text	0	-																											
42	Has the company provided evidence that this is a new import and complies with its Ofwat-approved trading and procurement code?	WS17NI2018	Boolean	0	-																											
43	Cost of water imported under new import 2	WS17NI2019	£m	3	2012-13 FYA (RPI)																											0.000
44	Proportion of the incentive allocated to the water resources control	WS17NI2020	%	2	-																											
45	Proportion of the incentive allocated to the network plus water control	WS17NI2021	%	2	-																											
J	**New import 3**																															
46	Name/reference of import trade	WS17NI3017	Text	0	-																											
47	Has the company provided evidence that this is a new import and complies with its Ofwat-approved trading and procurement code?	WS17NI3018	Boolean	0	-																											
48	Cost of water imported under new import 3	WS17NI3019	£m	3	2012-13 FYA (RPI)																											0.000
49	Proportion of the incentive allocated to the water resources control	WS17NI3020	%	2	-																											
50	Proportion of the incentive allocated to the network plus water control	WS17NI3021	%	2	-																											
K	**Application of import incentive cap**																															
51	Import incentive rate (%)	WS17022	%	1	-		5.0%	5.0%	5.0%	5.0%	5.0%																					
52	Company's water activity turnover	C_ES_000670_A001	£m	3	2012-13 FYA (RPI)		653.777	659.951	665.911	672.459	678.837																					
53	Cap rate (%)	WS17024	%	1	-		0.1%	0.1%	0.1%	0.1%	0.1%																					
L	**Total value of import incentive**																															
54	Total value of import incentive - water resources	WS17025	£m	3	2012-13 FYA (RPI)																											
55	Total value of import incentive - water network plus	WS17026	£m	3	2012-13 FYA (RPI)																											
M	**Total value of export and import incentives in 2017-18 prices**																															
56	Total value of export incentive - water resources at 2017-18 FYA CPIH deflated price base	WS17027	£m	3	2017-18 FYA (CPIH deflated)																											
57	Total value of export incentive - water network plus at 2017-18 FYA CPIH deflated price base	WS17028	£m	3	2017-18 FYA (CPIH deflated)																											
58	Total value of export incentive to be paid after PR19 at 2017-18 FYA CPIH deflated price base	WS17029	£m	3	2017-18 FYA (CPIH deflated)																											
59	Total value of import incentive - water resources at 2017-18 FYA CPIH deflated price base	WS17030	£m	3	2017-18 FYA (CPIH deflated)																											
60	Total value of import incentive - water network plus at 2017-18 FYA CPIH deflated price base	WS17031	£m	3	2017-18 FYA (CPIH deflated)																											

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WWS13 PR14 wholesale revenue forecast incentive mechanism for the wastewater service

Line description		Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
A	**Company details for WRFIM model**											
1	Company name	SYS01	text	0								NWT
2	Company type	BF200	Nr	0								2
3	Company has accepted WRFIM licence modification	WWS13003	Boolean	0								TRUE
B	**WRFIM model parameters**											
4	Penalty rate scaling minimum threshold (+/-)	WWS13004	%	2	-							2.00%
5	Penalty rate scaling maximum threshold (+/-)	WWS13005	%	2	-							3.00%
6	Penalty rate (+/-)	WWS13006	%	2	-							3.00%
7	Specified discount rate	WWS13007	%	2	-							0.00%
8	Threshold for additional variance analyses (+/-)	WWS13008	%	2	-							6.00%
C	**Allowed revenue**											
9	Allowed revenue - wastewater	WWS13009	£m	3	Outturn (nominal)	818.137						
10	Actual RPI: November index year on year change	APP23001_CPY	%	2	-		1.98%	1.05%	2.19%	3.88%	3.36%	
11	K ~ wastewater	WWS13011	nr	2	-		0.00	1.64	1.13	0.87	0.27	
12	Total revenue forecast ~ wastewater	WWS13012	£m	3	Outturn (nominal)	818.137	834.363	856.809	885.290	927.336	960.975	
D	**AMP5 RCM blind year adjustment**											
13	RCM blind year 14/15 adjustment for implementing via WRFIM ~ wastewater	C00053_L021	£m	3	2012-13 prices	-1.690						
14	Percentage of RCM adjustment by year ~ wastewater	WWS13014	%	2	-				33.33%	33.33%	33.33%	
E	**Revenue recovered**											
15	Wastewater: Unmeasured ~ household	CR881	£m	3	Outturn (nominal)		342.902	345.592	353.755	365.799	368.253	
16	Wastewater: Unmeasured ~ non-household	CR883	£m	3	Outturn (nominal)		3.663	4.101	3.416	3.742	4.010	
17	Wastewater: Measured ~ household	CR882	£m	3	Outturn (nominal)		190.899	197.859	216.749	238.473	259.563	
18	Wastewater: Measured ~ non-household	CR884	£m	3	Outturn (nominal)		291.567	301.671	301.455	309.660	323.409	
19	Wastewater: Third party revenue ~ household	S9008HH	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
20	Wastewater: Third party revenue ~ non-household	S9008NHH	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
21	Wastewater: Revenue collected from household and non-household	BR689	£m	3	Outturn (nominal)		829.031	849.223	875.376	917.674	955.235	
22	Wastewater: Grants and contributions	BC11374IN	£m	3	Outturn (nominal)		5.187	9.610	7.411	6.606	7.203	
23	Wastewater: Revenue recovered	S9014	£m	3	Outturn (nominal)		834.218	858.833	882.786	924.280	962.438	
F	**Variance analysis of grants and contributions**											
24	Wastewater: Capital contributions from connection charges and revenue from infrastructure charges (PR14 FD)	C_ES_000830_A001	£m	3	2012-13 prices		4.449	4.754	4.910	5.360	5.701	
25	Wastewater: Grants and contributions	BC11374_CPY	£m	3	Outturn (nominal)		5.187	9.610	7.411	6.606	7.203	
26	Wastewater: Grants and contributions variance	WWS13028	£m	3	Outturn (nominal)		0.470	4.461	1.894	0.377	0.371	
G	**Penalties**											
27	Main revenue adjustment as incurred ~ wastewater	WWS130023	£m	3	Outturn (nominal)				0.161	-2.306	2.267	
28	Penalty adjustment as incurred ~ wastewater	WWS130024	£m	3	Outturn (nominal)				0.000	0.000	0.000	
29	WRFIM adjustment as incurred ~ wastewater	WWS13025	£m	3	Outturn (nominal)				0.161	-2.306	2.267	
30	WRFIM Total reward / (penalty) at the end of AMP6 ~ wastewater	WWS13026	£m	3	Outturn (nominal)						0.000	
31	WRFIM Total reward / (penalty) at the end of AMP6 ~ wastewater network plus	WWS13027	£m	3	2017-18 FYA (CPIH deflated)						0.000	

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WWS15 PR14 wholesale total expenditure outperformance sharing for the wastewater service

Line description		Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
A	**Company details**											
1	Company type	BF200	Nr	0	-							2
2	Is company enhanced?	WWS15001	text	0	-							No
3	Financing rate	WWS15003	%	2	-							3.60%
B	**Menu choices**											
4	Sewerage: Implied menu choice	C00728_S004	Nr	1	-							106.2
5	Sewerage: FD pension deficit recovery costs allowance	C00559	£m	3	2012-13 FYA (RPI)		7.697	7.697	7.697	7.697	7.697	
6	Sewerage: Final menu choice	WWS15006	nr	1	-							106.2
C	**TOTEX**											
7	Sewerage: Baseline Totex	C00008_S011	£m	3	2012-13 FYA (RPI)		545.276	565.056	617.712	626.896	539.656	
8	Sewerage: FD allowed totex inclusive of menu cost exclusions, less PDRC allowance	C00768_A001	£m	3	2012-13 FYA (RPI)		554.150	573.869	627.347	636.674	548.074	
9	Sewerage: Actual Totex	S3040MTIN	£m	3	Outturn (nominal)		713.207	696.552	711.578	643.676	594.454	
D	**ADJUSTMENTS TO TOTEX**											
10	Sewerage: Third party services (opex)	BM823TASIN	£m	3	Outturn (nominal)		0.000	0.000	0.262	0.131	0.132	
11	Sewerage: Third party services (capex)	BM833TASIN	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
12	Sewerage: Pension deficit recovery costs	CRS003	£m	3	Outturn (nominal)		11.201	15.004	15.162	15.509	15.911	
13	Sewerage: Other cash items	CR00562TOT	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
14	Sewerage: Disallowables	WWS15014	£m	3	Outturn (nominal)		3.311	-0.636	0.288	0.878	0.907	
15	TTT control: logging up / (down) of scope swaps	WWS15015	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
16	TTT control: Land - 100:0 (customer: company) cost sharing factor	WWS15016	£m	3	Outturn (nominal)		0.000	0.000	0.000	0.000	0.000	
17	Sewerage: Transition expenditure	BP867NTIN	£m	3	2012-13 FYA (RPI)	16.179						
E	**PAYG**											
18	Sewerage: PAYG ratio	C00770_A001	%	2	-		51.41%	50.91%	47.06%	46.31%	54.13%	
F	**Business rates IDoK - Not applicable to wastewater service**											
G	**Totex menu adjustments**											
19	Wastewater: revenue adjustment from totex menu model	WWS15019	£m	3	2012-13 FYA (RPI)						10.113	
20	Wastewater: RCV adjustment from totex menu model	WWS15020	£m	3	2012-13 FYA (RPI)						13.456	
21	Wastewater: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WWS15021	£m	3	2017-18 FYA (CPIH deflated)						11.655	
22	Wastewater: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WWS15022	£m	3	2017-18 FYA (CPIH deflated)						15.508	

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R9 PR14 reconciliation of household retail revenue

Line description		Item reference	Units	DPs	Price base	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
A	Forecast customer numbers										
1	Unmetered water-only customer	R9001	nr	0		47,109	47,109	47,109	47,109	47,109	
2	Unmetered wastewater-only customer	R9002	nr	0		28,269	28,269	28,269	28,269	28,269	
3	Unmetered water and wastewater customer	R9003	nr	0		1,678,184	1,616,836	1,558,102	1,505,809	1,459,174	
4	Metered water-only customer	R9004	nr	0		23,188	23,503	23,838	24,195	24,575	
5	Metered wastewater-only customer	R9005	nr	0		14,968	14,968	14,968	14,968	14,968	
6	Metered water and wastewater customer	R9006	nr	0		1,142,043	1,215,584	1,287,897	1,355,314	1,418,178	
B	Reforecast customer numbers										
7	Unmetered water-only customer	R9007	nr	0		45,716	45,782	42,910	42,729	42,287	
8	Unmetered wastewater-only customer	R9008	nr	0		27,267	26,065	22,033	22,800	22,757	
9	Unmetered water and wastewater customer	R9009	nr	0		1,691,242	1,688,909	1,631,043	1,597,027	1,576,289	
10	Metered water-only customer	R9010	nr	0		25,146	24,803	27,152	28,235	29,909	
11	Metered wastewater-only customer	R9011	nr	0		15,521	15,990	42,661	51,164	52,281	
12	Metered water and wastewater customer	R9012	nr	0		1,115,567	1,139,493	1,197,996	1,237,244	1,296,903	
C	Actual customer numbers										
13	Unmetered water-only customer	R9013	nr	0		45,009	44,617	44,146	43,266	42,287	
14	Unmetered wastewater-only customer	R9014	nr	0		25,120	24,682	24,279	23,730	22,757	
15	Unmetered water and wastewater customer	R9015	nr	0		1,714,540	1,688,940	1,642,920	1,612,744	1,576,289	
16	Metered water-only customer	R9016	nr	0		25,068	25,996	27,298	28,597	29,909	
17	Metered wastewater-only customer	R9017	nr	0		16,729	44,369	49,720	51,141	52,281	
18	Metered water and wastewater customer	R9018	nr	0		1,098,587	1,143,348	1,186,980	1,239,754	1,296,903	
D	Actual revenue collected										
19	Unmetered water-only customer	R3017RR	£m	3	Outturn (nominal)	1.180	1.102	1.057	1.014	0.984	
20	Unmetered wastewater-only customer	R3019RR	£m	3	Outturn (nominal)	0.535	0.501	0	0	0	
21	Unmetered water and wastewater customer	R3021RR	£m	3	Outturn (nominal)	76.190	69.163	60	57	56	
22	Metered water-only customer	R3018RR	£m	3	Outturn (nominal)	0.596	0.589	1	1	1	
23	Metered wastewater-only customer	R3020RR	£m	3	Outturn (nominal)	0.400	0.700	1	1	1	
24	Metered water and wastewater customer	R3022RR	£m	3	Outturn (nominal)	50.855	50.007	48	47	50	
E	Revenue sacrifice										
25	Unmetered water-only customer	R9025	£m	3	Outturn (nominal)	0.000	0.003	0.005	0.007	0.008	
26	Unmetered wastewater-only customer	R9026	£m	3	Outturn (nominal)	0	0	0	0	0	
27	Unmetered water and wastewater customer	R9027	£m	3	Outturn (nominal)	1	2	6	7	8	
28	Metered water-only customer	R9028	£m	3	Outturn (nominal)	0	0	0	0	0	
29	Metered wastewater-only customer	R9029	£m	3	Outturn (nominal)	0	0	0	0	0	
30	Metered water and wastewater customer	R9030	£m	3	Outturn (nominal)	0	0	1	2	2	
F	Actual revenue collected (net)										
31	Unmetered water-only customer	R9031	£m	3	Outturn (nominal)	1.180	1.105	1.062	1.021	0.993	
32	Unmetered wastewater-only customer	R9032	£m	3	Outturn (nominal)	0.535	0.501	0.472	0.462	0.439	
33	Unmetered water and wastewater customer	R9033	£m	3	Outturn (nominal)	77.492	71.477	66.474	64.198	64.408	
34	Metered water-only customer	R9034	£m	3	Outturn (nominal)	0.596	0.589	0.597	0.583	0.599	
35	Metered wastewater-only customer	R9035	£m	3	Outturn (nominal)	0.400	0.700	0.650	0.655	0.693	
36	Metered water and wastewater customer	R9036	£m	3	Outturn (nominal)	51.155	50.351	49.412	49.168	52.043	
G	Modification factor										
37	Unmetered water-only customer	C00739_A001	£	2		32.78	31.30	29.61	28.28	28.83	
38	Unmetered wastewater-only customer	C00740_A001	£	2		32.78	31.30	29.61	28.28	28.83	
39	Unmetered water and wastewater customer	C00741_A001	£	2		42.61	40.69	38.50	36.76	37.47	
40	Metered water-only customer	C00736_A001	£	2		39.14	37.70	36.00	34.02	34.12	
41	Metered wastewater-only customer	C00737_A001	£	2		37.16	35.65	33.90	32.50	33.17	
42	Metered water and wastewater customer	C00738_A001	£	2		49.59	47.71	44.89	42.51	42.78	
H	Materiality threshold for financing adjustment										
43	Materiality threshold	R9043	%	2							2.00%
44	Discount Rate	R9044	%	2							3.74%
I	Total reward / (penalty) at the end of AMP6										
45	Residential retail revenue adjustment at the end of AMP6	R9045	£m	3	Outturn (nominal)					6.339	
46	Residential retail revenue adjustment at 2017-18 FYA CPIH deflated price base	R9046	£m	3	2017-18 FYA (CPIH deflated)					6.028	

KEY

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R10 PR14 service incentive mechanism

Line description		Item reference	Units	DPs	2015-16	2016-17	2017-18	2018-19	2019-20	2015-20
Price base										2017-18 FYA (CPIH deflated)
A	Qualitative performance									
1	1st survey score	SIMAMP6_QL1	nr	2	4.28	4.33	4.36	4.49	4.49	
2	2nd survey score	SIMAMP6_QL2	nr	2	4.09	4.42	4.44	4.49	4.49	
3	3rd survey score	SIMAMP6_QL3	nr	2	4.35	4.40	4.54	4.49	4.49	
4	4th survey score	SIMAMP6_QL4	nr	2	4.36	4.56	4.61	4.49	4.49	
5	Qualitative SIM score (out of 75)	SIMAMP6_QLS	nr	2	61.31	64.27	65.41	65.44	65.44	
B	Quantitative performance									
6	Quantitative composite score	SIMAMP6_CS	nr	2	95.33	76.60	70.80	72.50	72.50	
7	Quantitative SIM score (out of 25)	SIMAMP6_QNS	nr	2	20.23	21.17	21.46	21.37	21.37	
C	SIM score									
8	Total annual SIM score (out of 100)	KI001U	nr	0	82	85	87	87	87	
D	Revenue adjustment for SIM performance									
9	SIM forecast revenue adjustment at 2017-18 FYA CPIH deflated price base	R10009	£m	3						11.447

KEY

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Appendix E – Table commentary

This appendix provides commentaries on the tables listed below.

Table Number	Title
App5	PR14 reconciliation – performance commitments
App6	PR14 reconciliation – sub-measures
App27	PR14 reconciliation – financial outcome delivery incentives summary
App9	Adjustments to RCV from disposals of interest in land
App23	Inflation measures
App25	PR14 reconciliation adjustments summary
App31	Past performance
WS13	PR14 wholesale revenue forecast incentive mechanism for the water service
WS15	PR14 wholesale total expenditure outperformance sharing for the water service
WS17	PR14 water trading incentive reconciliation
WWS13	PR14 wholesale revenue forecast incentive mechanism for the wastewater service
WWS15	PR14 wholesale total expenditure outperformance sharing for the wastewater service
R9	PR14 reconciliation of household retail revenue
R10	PR14 service incentive mechanism

Introduction

Restatement of historic values

The data tables used within this submission comes from four main sources:

- information that is directly input to the tables;
- Information that is calculated directly within the tables;
- information that is generated by the reconciliation models and reimported to the tables, and
- “green cells” which are pre-populated by Ofwat and which is found within the “F_Inputs” worksheet

The pre-populated data for all the PR19 tables has been provided by Ofwat to all companies using previous data submissions but where we have restated values, for example previous Annual Performance Review corrigenda, we have updated these values accordingly to remain consistent.

To ensure that the adjusted historic data is used in the population of the PR14 reconciliation data tables and models, we have:

- Copied the original “F_Inputs” table to another worksheet within the spreadsheet.
- Updated the “F_Inputs” sheet with the restated values and highlighted these restated values in yellow
- Added a “Change_log” worksheet, which highlights the initial and revised value and the evidence that has been provided to Ofwat to justify the proposed restated value.

A summary of these adjustments is provided in the table on the next page, which sets out the table, item originally populated and restated values and the source for the restated value. This information and all data sources have previously been reported through other publications.

Table	Item description	Old value	Restated value	Source
WS15	Menu choices - Water: Final menu choice	100.500	100.470	UU menu confirmation letter sent 16/01/2015
WS15	Water: Actual Totex	537.122	534.758	Corrigendum to the United Utilities 2015/2016 Annual Performance Report 31 January 2017
WS15	Water: Transition expenditure	9.570	10.290	Annual performance report 2016/2017 table 4B indexed to 2012/13 RPI FYA.
WWS15	Menu choices - Sewerage: Final menu choice	106.200	106.240	UU menu confirmation letter sent 16/01/2015
WWS15	Sewerage: Transition expenditure	28.056	16.179	Annual performance report 2016/2017 table 4B indexed to 2012/13 RPI FYA.
WS13	AMP5 RCM blind year adjustment - Percentage of RCM adjustment by year ~ water	0.330	1/3	Revenue correction mechanism 2010-15 final reconciliation https://www.ofwat.gov.uk/wp-content/uploads/2016/12/Revenue-correction-mechanism-2010-15-final-reconciliation.pdf
WS13	Water: Grants and contributions	9.172	11.536	Corrigendum to the United Utilities 2015/2016 Annual Performance Report 31 January 2017
WWS13	AMP5 RCM blind year adjustment - Percentage of RCM adjustment by year ~ wastewater	0.330	1/3	Revenue correction mechanism 2010-15 final reconciliation https://www.ofwat.gov.uk/wp-content/uploads/2016/12/Revenue-correction-mechanism-2010-15-final-reconciliation.pdf
R10	1st survey score	4.270	4.280	2015-16 Wave 1 survey score amended to reflect restated value agreed by McCallum Layton in September 2015 (confirmation email included in table commentary)
R10	4th survey score	4.350	4.360	The McCallum-Layton quoted score for Wave 4 2015/16 is incorrectly quoted. The correct value has been included in our submission table
R10	Qualitative SIM score (out of 75)	61.219	61.310	The values for 2015/16 are incorrectly quoted. The correct values, as quoted in the 2015/16 CCWater report have been included in the submission table.
R10	Quantitative composite score	93.375	95.330	The restated value of 95.33 is based upon the data provided to CCW which confirmed the number of contacts as: Unwanted telephone contacts 195,438 Written complaints 10,227 Escalated written complaints 503 CCWater escalated complaints 1 Which produces the quantitative composite score of 95.33.

Table commentaries

Table App5 PR14 reconciliation – performance commitments

Details of our performance commitments are set out in **Appendix A**.

Table App6 PR14 reconciliation – sub-measures

Details of our sub-measures are set out in **Appendix B** to the UUW Annual Performance Report.

Table App9 Adjustments to RCV from disposals of interest in land

United Utilities own a significant value and volume of land and buildings fixed assets which are considered to be regulated assets, held for the purpose of undertaking the role of a regulated water and wastewater business. Profit on disposal of land and buildings is excluded from Totex in annual Regulatory Reporting, and instead, a once off adjustment is made to recognise the proceeds and the fact that we must share these proceeds 50:50 with our customers in the following AMP.

As per Ofwat updated table guidance (https://www.ofwat.gov.uk/wp-content/uploads/2017/12/PR19-Final-guidance-on-business-plan-tables-May-2018-update-v2.pdf) App9 derives the adjustment needed for the RCV for disposals of interest in land expected in the current control period 2015-20. The benefits of such proceeds are split 50:50 between the company and customers (on an NPV neutral basis). Actual disposals for 2014-15 are compared to the estimate used in PR14 and the difference adjusted at 1 April 2020. Disposals of interest in land include the creation of an interest or right in or over land – for example, the granting of leases and wayleaves. Proceeds from all such transactions are included.

App9 has been completed in line with that described in the table Methodology statement and P&CS. All historic information about proceeds has been taken from the signed-off Regulatory Reporting Table 2E's from FY16, FY17 and FY18. FY19 and FY20 estimated proceeds have been set by taking AMP6's three historic years of data (FY16, FY17 and FY18) and taking an average. Due to land sales sometimes being unpredictable, it was agreed that taking a three year average was the most logical approach.

Table App23 Inflation measures

The source data for this table is external. Therefore, while we ensure we only use data from reputable sources, the accuracy of this data depends on the accuracy of the external forecasts we use.

Data Sources
Historic data on RPI/CPI/CPIH is obtained from the Office for National Statistics (ONS). United Utilities uses external forecasts from Barclays, HSBC, BNPP, Goldmann Sachs and Natwest as the basis for our inflation forecasts up to December 2019. Annual inflation forecasts up until 2021 are obtained from Her Majesty's Treasury (HMT).

Forecast Method
We forecast in two stages. The first stage creates a base forecast for each inflation measure. The second stage determines appropriate smoothing rates.

Calculation methods are the same across inflation measures unless stated otherwise.

Base Forecasts
Historic ONS data to November 2017 used is unchanged. We then take the average of inflation forecasts from Barclays, HSBC, BNPP, Goldmann Sachs and Natwest to get a forecast of inflation until December 2019. The only banks to forecast CPIH are Barclays and HSBC.
CPIH is forecasted to December 2020 by applying an annual CPIH increase that transitions from the bank forecasts to the internal long term CPIH forecast of 2%. Forecast CPIH data for January 2021 onwards is calculated by applying the internal long term CPIH annual increase assumption of 2% to the prior year's index figure for the relevant month.
Forecasts for RPI and CPI until December 2021 is calculated by applying the relevant calendar year's forecast annual RPI increase from the HMT report to the prior year's RPI index figure for the relevant month. Forecasts for January 2022 to December 2022 are calculated by applying an annual increase that transitions from the HMT 2021 figure to the internal long term forecast of 3% for RPI and 2% for CPIH. Forecasts for January 2023 onwards are calculated by applying the internal long term annual increase assumption of 3% for RPI and 2% for CPI to the prior year's RPI index figure for the relevant month.

Smoothing
The average year-on-year increase is calculated for each inflation forecast for November 2019, AMP7 and AMP8. From this, we determine the most appropriate RPI, CPI and CPIH rates to smooth the data, which is normally a rounding of the average year-on-year increase over the period. Finally, the smoothed year-on-year rates are applied to indices in order to obtain smoothed inflation forecasts.

Table App25 PR14 reconciliation adjustments summary

This table summarises the adjustments arising from the 2010-15 reconciliation and from each of the PR14 reconciliations of performance in the period ending 31 March 2020. This table copies values entered in the tables for each of the PR14 reconciliation mechanisms.

Lines 1-4

Ofwat definition: 2010-15 reconciliation adjustments at 2012-13 FYA (RPI) price base:

- Water ~ Total Adjustment RCV carry forward to PR19
- Water ~ Total Adjustment Revenue carry forward to PR19
- Wastewater ~ Total Adjustment RCV carry forward to PR19
- Wastewater ~ Total Adjustment Revenue carry forward to PR19

These are the further adjustments arising from the update to take account of actual 2014-15 performance. Prepopulated cells as per definition.

Lines 5-6

Ofwat definition: The adjustments to ensure consistency in how we apply inflation indices for the PR09 capital expenditure incentive scheme, we published the adjustments in October 2016.

- Water ~ CIS RCV inflation correction
- Wastewater ~ CIS RCV inflation correction

Both at 2012-13 FYA (RPI) price base.

Prepopulated cells as per definition.

Line 7
Line 1, “Water ~ Total Adjustment RCV carry forward to PR19”, inflated to 2017-18 prices. This is an output from the RCV adjustments model.

Line 8
Line 2, “Water ~ Total Adjustment Revenue carry forward to PR19”, inflated to 2017-18 prices. This is an output from the revenue adjustments model.

Line 9
Line 3, “Wastewater ~ Total Adjustment RCV carry forward to PR19”, inflated to 2017-18 prices. This is an output from the RCV adjustments model.

Line 10
Line 4, “Wastewater ~ Total Adjustment Revenue carry forward to PR19”, inflated to 2017-18 prices. This is an output from the revenue adjustments model.

Line 11
Line 5, “Water ~ CIS RCV inflation correction“, inflated to 2017-18 prices. This is an output from the RCV adjustments model.

Line 12
Line 6, “Wastewater ~ CIS RCV inflation correction”, inflated to 2017-18 prices. This is an output from the RCV adjustments model.

Table App27 PR14 reconciliation – financial outcome delivery incentives summary

This table shows the net performance payments/penalties earned in each PR14 price control for the 2015-2020 period for all financial outcome delivery incentives (ODIs), and how these amounts are to be applied to the PR19 price controls.

The data in this table is consistent with the data provided in tables App5 and App6.

We have completed the assessment of our performance commitments and associated outcome delivery incentives for the 2015-20 period using Ofwat's reconciliation feeder model in accordance with the guidance set out in the October 2016 publication 'Ofwat PR14 reconciliation rulebook'. We have:

- Input all PR14 final determination information using the source specified within the Ofwat PR14 reconciliation rulebook.
- Utilised the recalibrated ODI rates due to our menu choices rather than those stated in the PR14 final determination that assumed 50% customer/company sharing rates.
- Updated our (final determination) performance commitments in line with the published corrigenda[22]. Further details about the wastewater contribution to rivers improved performance commitment are set out within **Appendix C**.
- Used actual performance levels for the first three years of the 2015-20 period (for both calendar and financial year performance commitments), which are consistent with the audited data published within our Annual Performance Report. And have used our latest best estimate of future performance as reviewed and agreed at executive level.
- Rounded both actual and forecast performance to the specific number of decimal places which is set out within the performance commitment definitions and APR table 3A.
- Adjusted the output of the ODI feeder model to comply with the statements in the company specific appendix of the PR14 final determination whereby we *"calculate a cumulative net penalty or reward for all of UUW's financial measures within a price control. Where a cumulative net penalty is calculated for a price control, this will be applied as a revenue adjustment to ensure customers are fully compensated for any underperformance. Where a cumulative net reward for a price control is calculated, this will be applied as an upward adjustment to the RCV, to minimize the short-term impact on customer bills."* (Ofwat, Ofwat PR14 reconciliation rulebook, 2016). Allocations to a price control are based on the individual ODI measures.
- This approach was set out in an email from James Bullock (United Utilities Strategy and Regulation Director) to Keith Mason (Ofwat) dated 9 November 2015 and confirmed by Andrew Chesworth (Ofwat) in an email dated 21 June 2016.
- Identified the resulting reward/penalty for each price control based on performance up to the end of the period in line with our final determination.
- Allocated the resultant reward/penalty for each PR14 price control across the PR19 price controls in line with the allocation of ODIs to price controls set out within table App5.
- Claimed the full net reward or penalty implied by the automatic operation of our ODIs.
- Input the resulting adjustments at 2012-13 prices to the RCV and revenue feeder models to calculate the adjustments at FY18 CPIH prices to be applied at PR19.

[22] https://www.ofwat.gov.uk/publication/united-utilities-company-specific-appendix-corrigenda/

App 27 Lines 1-5 In-period ODI revenue adjustments by PR14 price control units (2012-13 prices)
United Utilities has no in-period ODIs therefore the value in these lines is nil.

App 27 Lines 6-10 End of period ODI revenue adjustments by PR14 price control units (2012-13 prices)

These lines show the net performance payment/penalty applied to revenue for end of period ODI adjustments for each of the four PR14 price controls; Wholesale water, Wholesale wastewater, Retail (household) and Retail (non-household), as well as the overall total net performance payment/penalty applied to revenue for end of period ODI adjustments. Each line shows how the net payment/penalty is accrued across the 2015-2020 period and the total in 2012-13 prices to be applied to PR19 price controls. The lines use actual data for the first three years of the 2015-2020 period, and forecast data for the final two years of the period.
For Line 8, the Retail (household) adjustment applied relates to our ODI for the Customer Experience Programme. This ODI mechanism allows for the depreciation allowed for the programme to be returned to customers where we have experienced lower than anticipated levels of depreciation or changes in the timing or scope of the programme. As the allowed depreciation was specified at nominal prices in the PR14 final determination, we have converted the forecast outturn position of £4.738m to a 2012-13 FYA price equivalent value of £3.696m. The details of this indexation process are set out within the “Revenue adjustment Feeder model” on the “retail adjustment factors” tab.

App 27 Lines 11-14 End of period ODI RCV adjustments by PR14 price control units (2012-13 prices)

These lines show the net performance payment/penalty applied to RCV for end of period ODI adjustments for each of the wholesale PR14 price controls; Wholesale water and Wholesale wastewater, as well as the overall total net performance payment/penalty applied to RCV for end of period ODI adjustments. Each line shows how the net payment/penalty is accrued across the 2015-2020 period and the total to be applied to PR19 price controls. The lines use actual data for the first three years of the 2015-2020 period, and forecast data for the final two years of the period.

App 27 Lines 15-21 In-period ODI revenue adjustments allocated to PR19 price controls (2012-13 prices)

United Utilities has no in-period ODIs therefore the value in these lines is nil.

App 27 Lines 22-28 End of period ODI revenue adjustments allocated to PR19 price controls (2012-13 prices)

These lines show how the net performance payments/penalties applied to revenue for end of period ODI adjustments are split across the six PR19 price controls; Water Resources, Water network plus, Wastewater network plus, Bioresources, Residential retail and Business retail, as well as the overall total net performance payment/penalty applied to revenue for end of period ODI adjustments. The allocation of performance commitments to PR19 price controls is set out in table App5.
Each line shows how the net payment/penalty is accrued across the 2015-2020 period and the total to be applied to PR19 price controls. The lines use actual data for the first three years of the 2015-2020 period, and forecast data for the final two years of the period. These are inputs to the revenue adjustment feeder model.

App 27 Lines 29-33 End of period ODI RCV adjustments allocated to PR19 price controls (2012-13 prices)

These lines show how the net performance payments/penalties applied to RCV for end of period ODI adjustments are split across the three relevant wholesale PR19 price controls; Water Resources, Water network plus and Wastewater network plus, as well as the overall total net performance payment/penalty applied to RCV for end of period ODI adjustments. There is no RCV adjustment applied to the Bioresources price control. The allocation of performance commitments to PR19 price controls is set out in table App5.
Each line shows how the net payment/penalty is accrued across the 2015-2020 period and the total to be applied to PR19 price controls. The lines use actual data for the first three years of the 2015-2020 period, and forecast data for the final two years of the period. These are inputs to the RCV adjustment feeder model.

App 27 Lines 34-40 In-period ODI revenue adjustments input to PR19 financial model (2017-18 prices)

United Utilities has no in-period ODIs therefore the value in these lines is nil.

App 27 Lines 41-47 End of period ODI revenue adjustments input to PR19 financial model (2017-18 prices)

These lines show the total performance payments/penalties to be applied to revenue at PR19 for end of period ODI adjustments at 2017/18 FYA CPIH deflated price base. These are outputs from the revenue adjustment feeder model and are inputs to the PR19 financial model.

For Line 45, the Retail (household) adjustment relates to our ODI for the Customer Experience Programme. The value directly output from the revenue adjustment feeder model is £4.274m at FY18 CPIH prices. This value when inflated to average AMP7 prices using CPIH and applied as an even adjustment across the AMP7 period generates the required outturn adjustment of £4.738m, which is the value generated through the ODI. The details of this indexation process are set out within the "Revenue adjustment Feeder model" on the "retail adjustment factors" tab.

App 27 Lines 48-52 End of period ODI RCV adjustments input to PR19 financial model (2017-18 prices)

These lines show the total performance payments/penalties to be applied to RCV at PR19 for end of period ODI adjustments at 2017/18 FYA CPIH deflated price base. These are outputs from the RCV adjustment feeder model and are inputs to the PR19 financial model.

Table App31 Past performance

App 31 Lines 1-5

For the years 2015/16 and 2016/17 the figures have been taken from the Table 5 customer complaints information. For 2017-18 the forecast figures comprise of Household complaints, plus Wholesale Non Household complaints only. Non-household complaints relating to Billing, Metering and Other are also omitted from the figures in 2017/18 and the forecast for 2018/19 & 2019/20.

The volumes are based on completed dates rather than receipt data as per Regulatory Reporting.

We have been asked to provide more information on Line 4 - Investigations opened by CCWater and Line 5 – Complaints investigated by Ofwat or WATRS.

For the period 2015/16 to 2017/18 there were four investigations opened by CCWater. The table below gives the detail of the two 2015/16 cases:

Area	Reason for complaint	Outcome
Domestic	The customer rang to request information on their charges. The complaint was regarding the level of service received from the agent dealing with the query	Customer was given compensation to settle the complaint
Business	The customer wanted an explanation of their high consumption	The cases was referred to WATRS

Two investigations which took place in 2016/17 related to Business customers. These were opened post 1 October 2016 which was the point at which United Utilities were carrying out Shadow Operations prior to the Non Household Market opening on 1 April 2017. United Utilities has exited the Non Household Retail Market records for these cases are properly held by WaterPlus.

For the period 2015/16 to 2017/18 there were 44 complaints investigated by WATRS. The table below gives the detail of 41 of these cases:

Area	Reason for complaint	Settled or defended	WATRS decision if defended
	2015/16		
D	Customer believed they were being overcharged as they were not connected for surface water. Charges allowed but the customer also wanted inflation on the charges.	Defended	Claim succeeded in part
W	The customer had a complaint regarding discoloured water	Settled	
D	The customer was unhappy as they had phoned 3 times to get an explanation about their charges and found this very frustrating. They explained that they had now been given the answer to the questions however they were unhappy with the time taken. They commented advisors were very unsure of themselves and they were kept waiting while we obtained the information.	Settled	
D	The customer wished to revert to RV charges but it was several years since the free meter option had been installed.	Settled	
B	The customer claimed for a backdated site area charge refund	Defended	Claim succeeded in part
D	The customer is on a meter and specifically wanted a 91 day billing and payment arrangement	Defended	Claim did not succeed
B	The customer claimed a refund of service water charges plus interest	Defended	Claim succeeded in part

Area	Reason for complaint	Settled or defended	WATRS decision if defended
B	The customer believed that they did not receive appropriate notice before the water supply was disconnected for non-payment of the account and wanted compensation	Settled	
D	The customer had a meter exchange and their consumption reduced. They believed that the previous meter was faulty for 13 years and wanted compensation	Settled	
D	The customer wanted interest on the overcharged surface water payments	Settled	
W	The customer had blockages at their property (no internal flooding) and wanted 3 options considered from the relaying sewers to regular cleaning: they wanted the bills clearing & compensation for devaluation of their house	Defended	Claim succeeded in part
B	The customer said that it came to light that United Utilities had failed to charge them correctly (the customer submitted that the company undercharged them over a number of years) and this resulted in outstanding charges being left on their account. The customer wanted the company to waive part of the outstanding bills	Defended	Claim succeeded in part
D	The customer wanted compensation for United Utilities causing damage to their garden, taking photos in their house and for causing distress: the installation of an external water meter for free: past monthly bills to be calculated based upon actual usage and refund the difference backdated between this and the annual bill.	Settled	
D	The customer wanted United Utilities to reduce their bills to reasonable and fair levels and pay them compensation	Defended	Claim did not succeed
D	The customer wanted United Utilities to “follow instructions given by government; provide the additional essential information on customer’s bills; no longer mislead customers into thinking that meters are fitted free of charge; put customers’ care before profit and; be stopped from putting misleading comments into the company accounts” and pay compensation	Defended	Claim did not succeed
D	The customer had not been charged since 1999, there was no meter at the property which had a swimming pool. The customer did not want a meter but wanted to be charged based on RV. The customer wanted United Utilities to cancel the outstanding charges and pay compensation	Defended	Claim did not succeed
D	The customer wanted United Utilities to (1) make an apology for failing to show them the location of the water meter, for basing the opening water meter reading on a spurious estimate, for denying them the right to check the water meter, for sending inflated bills and for adding £100.00 (court fees) to their water account; (2) provide the customer with the water meter reading at the date before the occupant took up residence at their current home address, (3) refund the court fees applied to the account; (4) separate the charges applicable to his current address and their previous address; (5) disregard the current bill; (6) provide a detailed breakdown of what is alleged to be owed from the customer’s previous address and (7) give compensation	Defended	Claim did not succeed
D	The customer was unhappy with the level of compensation for the Franklaw incident and wanted August's monthly payments to be reduced	Settled	
W	The customer wanted extra wages for being a United Utilities employee during the Franklaw incident	Defended	Claim did not succeed
	2016/17		
D	Customer wanted bills reducing and was worried about the debt	Defended	Claim succeeded
D	Customer wanted an apology from the CEO and an explanation as to why the meter was destroyed	Settled	
B	Customer wanted 2 bills waiving	Settled	
W	Customer wanted wages increasing due to Franklaw incident	Defended	Claim did not succeed
B	Customer wanted bills reducing and a breakdown of a refund for double billing	Defended	Claim succeeded in part
B	Customer wanted a refund and explanation of their high consumption	Defended	Claim succeeded in part

Area	Reason for complaint	Settled or defended	WATRS decision if defended
W	Customer wanted compensation as her husband had lost a job opportunity and they had lost the sale of their property due to UU works ongoing for over 7 months	Defended	Claim did not succeed
B	Customer thought they were being overcharged and wanted a more reasonable bill	Defended	Claim did not succeed
W	The customer believed that subsidence was United Utilities' responsibility. *Under 3.5 of the Water Redress Scheme Rules UU believed that the complaint was properly the subject of other statutory or regulatory agency investigations or regulatory action or alternative formal complaint resolution processes. The subsidence may be due to mining works in the area and not UU's responsibility. Case was ineligible*	N/A	
B	Customer wanted a credit note for surface water charges and compensation plus interest	Defended	Claim succeeded in part
W	Complaints regarding the Franklaw incident - the correspondence between the company and Consumer Council for Water ("CCW") submitted by the company as evidence to confirm its submissions that its approach to paying compensation was shared with, discussed and endorsed by CCW.	Defended	Claim did not succeed
B	Customer believed that they had overpaid surface water charges	Defended	Claim did not succeed
D	Customer was incorrectly issued with a County Court Judgment	Settled	
B	Customer requested that United Utilities remove all surface water charges from the shared site	Defended	Claim succeeded in part
D	Customer believed United Utilities had installed a meter without permission and wanted us to remove it: customer wanted us to apply AVC tariff and apologise and compensate	Defended	Claim did not succeed
D	The customer believed his water bills were 25-30% higher than those of his neighbours and had been for the past 26 years due to his RV being higher than those of his neighbour. The customer wanted his bill to be reduced to reflect fairness and affordability.	Defended	Claim did not succeed
	2017/18		
W	The customer experienced internal wastewater flooding	Defended	Claim did not succeed
W	The customer experienced internal flooding, during heavy rainfall, and sewer flooding	Defended	Claim succeeded in part
D	The customer complained about the default notice they received	Defended	Claim did not succeed
W	The customer believed that a drain at their property which was presenting odour and pest issues was United Utilities' responsibility	Defended	Claim did not succeed
W	The customer believed that United Utilities were responsible for damage to their property due to water collecting in the cellar	Defended	Claim did not succeed
W	The customer believed that flooding at their property was due to United Utilities' assets	Defended	Claim did not succeed

Area
B = Business
D = Domestic
W= Wholesale

In 2016/17 there was a total of 19 complaints investigated by WATRS. The above table covers 16 of these. There was an additional three which related to Business customers. These were opened post 1 October 2016 which was the point at which United Utilities were carrying out Shadow Operations prior to the Non Household Market

opening on 1 April 2017. As United Utilities has exited the Non Household Retail Market records for these cases are properly held by WaterPlus.

App 31 Line 6 – Total number of major incidents

We have had no EA category 1 incidents in the first three years of AMP6.

In 2015/16, we had one category 4 incident and two category 5 DWI incidents, as detailed below.

Category 4 incident: Shaw Discoloured Water: This event was originally classified as a category 3, but the event assessment letter recorded it as category 4, however, the Chief Inspector's annual report then stated that it was category 3. We have chosen to include it here for transparency.

Event date: 6 June 2015

Population affected: 65,000

Summary:

The Company received 112 recorded customer contacts related to discoloured water, 49 related to aerated water, 152 related to low pressure/ no supplies, 2 contacts related to an update regarding the event and one contact reporting white cloudy water in parts of Water Supply Zones (WSZ) 239 and 240 between the period of 06 June and 08 June 2015. The Company's Network Team flushed hydrants at strategic locations and carried out water quality sampling.

Duration: 2 days

Key lessons learnt: We improved the circulation of the reservoir inspection reports and updated the reservoir drain down procedure.

Category 5 incident: Sweetloves Wastewater Treatment Works Suboptimal Disinfection: The company was prosecuted (this year) and pleaded guilty to failure to comply with Regulation 26.

Event date: 18 July 2015

Population affected: 80,000

Summary:

On 18 July 2015, pH instruments began to drift low at Sweetloves WTW. This was caused by a sampling system failure for the pre second stage filter pH instruments. Without a flow of water, the instruments ceased to read accurately. These pH instruments control the dosing of the pH correction. The pH meter readings caused the automated systems to dose a greater amount of sodium hydroxide, causing it to increase to the maximum pump speed. This lead to suboptimal disinfection at the WTW. The works was isolate from supply causing a loss of supply event, with 540 customer contacts reporting loss of supply or poor pressure and a "Boil Water Advice" issued to c. 80,000 people.

Duration: 7 days

Key lessons learnt: Significant lessons were learnt and implemented into the Water Transformation Programme, covering: Telemetry and Alarms; Policy and Procedures; Asset Improvements on Process (Start up to waste, UV enabling and HazRev) and Network (SR inspection improvements and enhanced programme, mains cleaning); WQ Management & Culture change.

Category 5 incident: Franklaw Wastewater Treatment Works Cryptosporidium and Boil Water Advice: The company was prosecuted (this year) and pleaded guilty to failure to comply with Regulation 4 and 26.

Event date: 5 August 2015

Population affected: 712,000

Summary:

Following a second low level detection of Cryptosporidium in the final water at Franklaw water treatment works, in coordination with a Strategic Coordination Group set up as part of the Local Resilience Forum, on 06 August 2015 the decision was made to issue a "Boil Water" notice to 300,000 properties in the Blackpool, Fylde and Preston Area. Rezoning and use of Ultraviolet light disinfection permitted the lifting of the advice. There was no evidence of an increase in cryptosporidiosis in the community, outside of national trends.

Duration: 32 days

Key lessons learnt: As with Sweetloves event significant lessons were learnt and implemented into the Water Transformation Programme, covering: Telemetry and Alarms; Policy and Procedures; Asset Improvements on Process (Start up to waste, UV enabling and HazRev) and Network (SR inspection improvements and enhanced programme, mains cleaning); WQ Management & Culture change.

In 2016/17, we had three category 4 DWI incidents as detailed below.

Category 4 incident: Woodgate Hill Wastewater Treatment Works Cryptosporidium detection

Event date: 2 March 2016

Population affected: 1,463,00

Summary:

In early March 2016 there were two single oocyst detections (0.001 oocyst/ 10 litres) at Woodgate Hill No.2 WTW. Enhanced sampling was initiated following the first Cryptosporidium detection, analyses were fast tracked in the laboratory. On receipt of the second positive Cryptosporidium detection at Woodgate Hill No.2 WTW the Company isolated contact tank 2 from supply.

Duration: 5 days

Key lessons learnt: The company no longer permits working over "live" treated water storage tanks, all capital works with significant risk to water quality are reviewed by the Water Quality Risk Board.

Category 4 incident: Thirlmere Aqueduct Taste and Odour

Event date: 26 September 2016

Population affected: 1,176,000

Summary:

Following the regional rezone of the distribution system to facilitate the Haweswater Aqueduct outage the Company received over 500 customer contacts relating to taste and odour in the Lancaster and Greater

Manchester area over a 12 day period. The Company installed dechlorination at Watchgate WTW and installed PAC dosing at Lostock WTW.

Duration: 22 days

Key lessons learnt: Reviewed procedures and frequency for examining its LDTMs/aqueducts; Land Agents and Catchment Managers briefed on risks associated with paper pulp; additional liaison with the EA.

Category 4 incident: Buckton Castle Boil Water Advice

Event date: 11 December 2016

Population affected: 37,000

Summary:

Following a loss of carrier water to the polyelectrolyte and lime dosing and lime and polyelectrolyte batching systems at Buckton Castle WTW, the Company issued a precautionary Boil Water Advice (BWA) notice to 17,177 properties across the Stalybridge, Dukinfield, Ashton under Lyne, Saddleworth and Greenfield areas on 11 December 2016. Whilst the fault with the carrier water system was rectified, inadequately treated water had already entered the local water distribution network. Customers were advised that water should be boiled for drinking, food preparation and brushing of teeth.

Duration: 3 days

Key lessons learnt: Significant improvements to make the treatment process more robust; rebriefing of the processes for responding to alarms.

In 2017/18, we had one category 4 DWI incident as a result of switching supplies in West Cumbria from a soft water source supplied from Ennerdale water treatment works to a hard water source from South Egremont boreholes. This is detailed below.

Category 4 incident: Copeland Customer Contacts

Event date: 7 June 2017

Population affected: 67,000

Summary:

To balance the amount of water taken from Ennerdale water IR to protect local wildlife the Company made a change to the blend of water from Ennerdale water IR with borehole water from the South Egremont boreholes which is harder water. Ennerdale WTW supplies WSZ031 and WSZ 032 which normally receive a soft water source from Ennerdale Water IR. Since the change was made the Company has received an increase in the customer contacts from the area enquiring about water hardness or reporting taste and odour, illness and popping kettles.
Duration: 90 days

Key lessons learnt: Committed to better communication with customers of planned changes to in water quality; remit of Water Quality Risk Board extended to include review of changes of water sources, including hardness.

App 31 Lines 7 and 8 – pollution incidents

Line 7 shows the number of category 1 and 2 pollution incidents as defined by the EA. Line 8 shows the number of category 3 pollution incidents as defined by the EA. Details of our performance on pollution incidents are reported within our APR.

App 31 Line 9 – Discharge permit compliance

The methodology followed for reporting these figures is the published Environment Agency's Environmental Performance Assessment (EPA) methodology (version 3). The measure is calculated on a calendar year basis where 2015/16 in the table reflects calendar year 2015.

In the 2015 Environmental Performance Assessment, only numeric permit compliance at wastewater treatment works were recorded. From 2016, numeric permit compliance at water treatment works were also included. The revised methodology, published in November 2017, outlines the updates. We have re-calculated the 2015 figures to follow the new way of reporting however this means the values will not match the published 2015 Environmental Performance Assessment. The figures reported in 2016 align to those reported to the Environment Agency and is published in the 2016 Environmental Performance Assessment.

In 2017, the Environment Agency confirmed that 30 water and 374 wastewater treatment works discharges would be included within the annual review for the EPA (404 in total). The total number of sites has reduced from 419 in 2016, due to a review of which sites are counted under the EPA methodology.

In the last few years we have driven improving performance on the treatment works compliance EPA measure. This is a result of a focused effort put on treatment works compliance with interventions, including:

- Operational and maintenance plans to ensure appropriate maintenance and effective operation is undertaken at our treatment works
- Increasing the skills of our workforce
- Embedding Mobile Asset Resource Scheduling (MARS), enabling better workforce mobilisation and data capture
- The integration of mechanical, civil and operational technology engineers into the area operational teams ('deployed engineers')

The number of treatment works included within this assessment varies year on year with the introduction of new sites and the surrender of permits at others. The forecast number of non-compliant discharges is in line with the AMP6 measure of success forecast for our 'maintaining our wastewater treatment works'.

We have reviewed our AMP6 projects and the current view of water and wastewater treatment work permit surrenders and expect that by 2019 the number of works will reduce to 382. This means that even though we are predicting the same number of sites to failure over AMP7, the percentage compliance is on a slight downwards trend, due to the total number of treatment works discharges decreasing. This also puts us at greater risk of losing our 4* EPA status, as only one performance measure is allowed to be amber.

App 31 Line 10 – Satisfactory Sludge Use/Disposal

The table shows 100% satisfactory sludge use/disposal compliance forecast until the end of AMP6. This assumption is made based on past historical performance for the AMP showing a performance level of 100%. We therefore assume that this trend will stay the same and no variations will occur. If sludge in the future is not set to achieve this it will undergo further treatment processes to ensure the level does not drop below 100%.

App 31 Line 11 - Prosecutions for breach of relevant environmental requirements enforced by EA/NRW

There are 2 wastewater prosecutions since 2015, details below:

Prosecution in 2015
Wastewater Process
Incident Date: 13/05/2013
Incident Location: King Street (LIL WWPS), Millom, Copeland
Watercourse affected: Salthouse pool, Duddon estuary
Incident Details: The duty high flow pump failed due to the shaft breaking and incoming flows were discharged to the watercourse, Salthouse Pool. The standby pump which should have automatically operated was away for repair for the same fault. The dry weather flow pumps were activated and kept up with flows, there were no further spills as the weather was dry. Furthermore a telemetry alarm was generated but the telemetry system incorrectly indicated that the standby pump was healthy and so the telemetry controller did not pass out the alarm.

Prosecution 2017
Wastewater Network
Incident Data: 14/10/2014
Incident Location: Snipe Clough CSO, Honeywell Lane, Oldham
Watercourse affected: River Medlock
Incident Details: United Utilities attended Snipe Clough CSO/attenuation tank after report of high level alarm. Investigation determined the pass forward flow from attenuation tank was found to be at a reduced rate due to an issue within the penstock. This caused water levels to rise within attenuation tank and subsequently discharge to outfall at River Medlock via associated upstream CSO.

App 31 Line 12 - Enforcement undertakings for breach of relevant environmental requirements from EA/NRW

Enforcement Undertaking in 2017
Wastewater Network
Incident Date: 25/07/2016
Incident Location: Bingswood Industrial Estate, Whaley Bridge, High Peak
Watercourse affected: River Goyt
Incident Details: The pollution incident was reported to UU by the EA after officers noted a pollution in New Mills where the watercourse was discoloured and opaque. The outfall was identified as that from the Bingswood Storm Sewage Overflow, which has a permit to discharge storm sewerage during storm conditions only. The root cause of the pollution was determined to be a Fats/Oils/Grease (FOG) blockage on the flow control orifice plate fitted to the outlet of the CSO chamber which is located immediately adjacent to the tank. There was elevated levels of pollutants, sewage fungi, and significant deleterious impact on the invertebrate community downstream of the outfall.

Enforcement Undertaking in 2017
Wastewater Network
Incident Date: 02/08/2016
Incident Location: Swineshaw, Grove Road, Millbrook, Tameside
Watercourse affected: Swineshaw Brook
Incident Details: On 2 August 2016 an Environment Agency officer noted sewage fungus in a water quality sample taken from Swineshaw Brook above its confluence with the River Tame. A connecting sewer was blocked by rags which had caught on a lead jointing gasket, and was overflowing into Swineshaw Brook within a culvert in the vicinity of Bramble Court, 500 metres upstream of the River Tame. The blockage was cleared and the pollution was stopped. There was elevated levels of pollutants, sewage fungi, and significant deleterious impact on the invertebrate community for at least 250m downstream of the discharge.

App 31 Line 13 – Formal cautions for breach of drinking water quality requirements

The number of formal cautions issued by the Drinking Water Inspectorate (DWI) following a water quality event demonstrates regulatory compliance and Company performance. This is a new reporting line and, as such, the methodology is new.

The numbers of formal cautions issued to the Company are historically very low and therefore the methodology for compiling and checking the data is a simple count of formal cautions from a list. There are no complex calculations.

The number of formal cautions for breach of drinking water quality requirements data is abstracted from records published on the Drinking Water Inspectorate's website. The DWI update this record promptly following the issue of a caution. The Company also keeps a record of any formal cautions received by letter from DWI on a secure file server.

Upon notification of an event to the DWI, the DWI assesses all the information available in relation to the event. The event will be categorised and consideration will be given as to whether issuing of a formal caution is the appropriate outcome. Assessment of events can take an unspecified amount of time and it is possible that the number of formal cautions associated with events which occurred within a specified timeframe (e.g. events which occurred during 2017) may increase in number if the final assessment of an event occurs after the data is abstracted.

It is also possible that the location of the data on the DWI website, which the Company has no control over as it is owned by the DWI, is not up to date at the time of abstracting the data.

It has been confirmed by the Company's Economic Regulation team, the above issues are mitigated by recording in the data table the number of formal cautions for the calendar year in which they were received, rather than the year in which the event occurred. Checks of the information recorded on the DWI website will be checked against the Company's own records i.e. the Drinking Water Regulation (DWR) team Formal Cautions Folder, which is the Company's record of any formal cautions received from DWI by letter on a secure file server, and a check of the DWR team events tracker, a record of all water quality events sent to DWI.

A risk of potential prosecution or caution has been identified by the Company in relation to an event which occurred during 2016 which, as indicated on the DWR team Events Tracker, is currently being actively investigated by the DWI and interviews under caution have taken place. The Company considers it is likely that the DWI will consider prosecuting or formally cautioning the Company for this event.

App 31 Line 14 – Formal cautions for breach of drinking water quality requirements

The number of formal cautions issued by the Drinking Water Inspectorate (DWI) following a water quality event demonstrates regulatory compliance and Company performance. This is a new reporting line and, as such, the methodology is new.

The numbers of formal cautions issued to the Company are historically very low and therefore the methodology for compiling and checking the data is a simple count of formal cautions from a list. There are no complex calculations.

The number of formal cautions for breach of drinking water quality requirements data is abstracted from records published on the Drinking Water Inspectorate's website. The DWI update this record promptly following the issue of a caution. The Company also keeps a record of any formal cautions received by letter from DWI on a secure file server.

Upon notification of an event to the DWI, the DWI assesses all the information available in relation to the event. The event will be categorised and consideration will be given as to whether issuing of a formal caution is the appropriate outcome. Assessment of events can take an unspecified amount of time and it is possible that the number of formal cautions associated with events which occurred within a specified timeframe (e.g. events which occurred during 2017) may increase in number if the final assessment of an event occurs after the data is abstracted.

It is also possible that the location of the data on the DWI website, which the Company has no control over as it is owned by the DWI, is not up to date at the time of abstracting the data.

It has been confirmed by the Company's Economic Regulation team, the above issues are mitigated by recording in the data table the number of formal cautions for the calendar year in which they were received, rather than the year in which the event occurred. Checks of the information recorded on the DWI website will be checked against the Company's own records i.e. the Drinking Water Regulation (DWR) team Formal Cautions Folder, which is the Company's record of any formal cautions received from DWI by letter on a secure file server, and a check of the DWR team events tracker, a record of all water quality events sent to DWI.

There have been no formal cautions during the reporting period.

A risk of potential prosecution or caution has been identified by the Company in relation to an event which occurred during 2016 which, as indicated on the DWR team Events Tracker, is currently being actively investigated by the DWI and interviews under caution have taken place. The Company considers it is likely that the DWI will consider prosecuting or formally cautioning the Company for this event.

App 31 Line 15 – Completed Prosecutions for Breach of Drinking Water Requirements

The number of completed prosecutions against the Company for breach of drinking water requirements following a water quality event demonstrates regulatory compliance and Company performance. This is a new reporting line and, as such, the methodology is new.

The numbers of prosecutions against the Company are historically very low and therefore the methodology for compiling and checking the data is a simple count of prosecutions from a list. There are no complex calculations.

The number of completed prosecutions for breach of drinking water requirements data is abstracted from records published on the Drinking Water Inspectorate's website. The DWI update this record promptly following the issue of a caution. The Company also keeps a record of prosecutions against the Company from DWI on a secure file server.

It has been confirmed by Economic Regulation, multiple associated events which are sentenced as one should be counted as one prosecution.

Upon notification of an event to the DWI, the DWI Inspectorate assesses all the information available in relation to the event. The event will be categorised and consideration will be given as to whether the Company will be prosecuted. Assessment of events and the process of prosecution takes an unspecified amount of time and it is possible that the number of successful, completed prosecutions associated with water quality events which occurred within a specified timeframe (e.g. events which occurred during 2017) may increase in number if the prosecution proceedings have not been completed at the time the data is abstracted.

It is also possible that the location of the data on the DWI website, which the Company has no control over as it is owned by the DWI, is not up to date at the time of abstracting the data.

It has been confirmed by the Company's Economic Regulation team, the above issues are mitigated by recording in the data table the number of completed prosecutions for the calendar year in which they were received, rather

than the year in which the event occurred. Checks of the information recorded on the DWI website will be checked against the Company's own records i.e. the Drinking Water Regulation (DWR) team events tracker, a record of all water quality events sent to DWI.

There was one prosecution associated with Franklaw WTW Cryptosporidium event concluded on 10/10/2017. There was also a prosecution outside the reporting period for Sweetloves WTW which was concluded on 05/06/2018 and which will be included in future regulatory reporting.

A risk of potential prosecution or caution has been identified by the Company in relation to an event which occurred during 2016 which, as indicated on the DWR team Events Tracker, is currently being actively investigated by the DWI and interviews under caution have taken place. The Company is awaiting further information from the Inspectorate as to their next steps.

App 31 Lines **16 and 17 – Completed enforcement action taken under the Water Industry Act 1991, our license and competition law**

We have not been subject to completed enforcement action taken under the Water Industry Act 1991, our licence or competition law.

Table WS13 PR14 wholesale revenue forecast incentive mechanism for the water service

All historical revenue data has been sourced directly from the Annual Performance Report Table 2I (Revenue analysis & wholesale control reconciliation). Forecast revenues for 2018/19 and 2019/20 are expected to equal revenues allowed under the wholesale price control.

Lines 1-31

1. 2015/16 water revenues were £9.1m (1.3%) higher than allowed under the wholesale price control. No penalty was incurred since the variance was within 2%.
2. 2016/17 water revenues were £1.7m (0.2%) higher than allowed under the wholesale price control. No penalty was incurred since the variance was within 2%.
3. 2017/18 revenues were £2.8m (0.4%) higher than allowed under the wholesale price control. This is within the penalty tolerance threshold of 2%.
4. 2018/19 revenues are expected to equal revenues allowed under the wholesale price control
5. 2019/20 revenues are expected to equal revenues allowed under the wholesale price control

Therefore we are not currently forecasting any WRFIM adjustments in AMP7.

Table WS15 PR14 total expenditure outperformance sharing for the water service

Lines 1-27

Both the table and associated feeder models have been populated with our latest best estimate of expenditure requirements (actual and future) and in line with the guidance provided in the Ofwat PR14 reconciliation rulebook (Ofwat, Ofwat PR14 reconciliation rulebook, 2017) and the line definitions provided within the PR19 data table.

We have not sought an IDoK to correct for any differences in assumptions to those made at PR14 as a result of the recent water business rates revaluation and therefore have left this section of the table blank which results in error flags within the completion check. We believe that this check does not apply and that value entries to remove the validation check would be incorrect. Similarly, we have left this section of the totex menu feeder model blank in order to prevent any incorrect adjustments being made.

We have corrected the values for lines 6, 7, 9 and 15 as per the issues raised in our query dated 01/06/2018.

Table WS17 PR14 water trading incentive reconciliation

We do not participate in water trading as defined by this incentive mechanism.

Table WWS13 PR14 wholesale revenue forecast incentive mechanism for wastewater service

All historical revenue data has been sourced directly from the Annual Performance Report Table 2I (Revenue analysis & wholesale control reconciliation). Forecast revenues for 2018/19 and 2019/20 are expected to equal revenues allowed under the wholesale price control.

Revenues subject to the price control for 2015/16 and 2016/17, as reported in the annual performance report, exclude income for s104 sewer adoption fees and s106 sewer connection fees in line with Regulatory Accounting Guidelines in place at the time. For the purposes of this table, actual 2017/18 revenues and forecast 2018/19 and 2019/20 revenues also exclude s104 and s106 income as this is consistent with our PR14 Final Determination which did not include this income within the wholesale price control. In December 2017 we notified Ofwat that, whilst we will report this income as price control income in the APR in line with the Regulatory Accounting Guidelines for 2017/18, for the purposes of calculating the WRFIM adjustment we would be excluding income that did not form part of our allowed revenue. s104 and s106 revenues reported in the 2017/18 APR were £2.3m.

Lines 1-31

6. 2015/16 wastewater revenues were £0.1m (0.0%) lower than allowed under the wholesale price control. No penalty was incurred since the variance was within 2%.
7. 2016/17 wastewater revenues were £2.0m (0.2%) higher than allowed under the wholesale price control. No penalty was incurred since the variance was within 2%.
8. 2017/18 wastewater revenues were £2.0m (0.2%) lower than allowed under the wholesale price control. This is within the penalty tolerance threshold of 2%.
9. 2018/19 revenues are expected to equal revenues allowed under the wholesale price control
10. 2019/20 revenues are expected to equal revenues allowed under the wholesale price control

Therefore we are not currently forecasting any WRFIM adjustments in AMP7.

Table WWS15 PR14 total expenditure outperformance sharing for the wastewater service

Lines 1-22

Both the table and associated feeder models have been populated with our latest best estimate of expenditure requirements (actual and future) and in line with the guidance provided in the Ofwat PR14 reconciliation rulebook (Ofwat, Ofwat PR14 reconciliation rulebook, 2017) and the line definitions provided within the PR19 data table.

We have adjusted the prepopulated values for lines 6, 7, 9 and 17 in line with the values previously reported in the Annual Performance Review (Table 4B).

A detailed assessment of expenditure performance and the resulting adjustments can be found in supplementary chapter AMP6 reconciliation which has been provided alongside this table.

Table R9 reconciliation of household retail revenue

A Forecast Customer Numbers; Lines 1-6
Definition: Forecast customer numbers as set out in the PR14 final determination company specific appendix.

These numbers are taken from the "Final price control determination notice: company-specific appendix – United Utilities" (PR14 Annex 2, Table AA2.3).

B Reforecast Customer Numbers; Lines 7-12
Definition: Reforecast customer numbers for each customer type at the beginning of each year from company regulatory reporting.

These numbers are taken from the forecast charge multipliers at the beginning of each year (those used in setting the tariffs for the relevant year). Future year forecast customer numbers by category are consistent with other parts of the plan, and are based on the assumptions within the water resources management plan 2019 (including the same total new connections as the plan, but re-profiled to reflect management view of when these will actually happen).

C Actual Customer Numbers; Lines 13-18
Definition: Actual customer numbers for each customer type each year from company regulatory reporting. Number of customers – RAG Proforma 2F.

The actual customer numbers reported as measured water are in line with those previously reported through the annual performance reporting (APR). Future year forecast customer numbers by category are consistent with other parts of the plan, and are based on the assumptions within the water resources management plan 2019 (including the same total new connections as the plan, but re-profiled to reflect management view of when these will actually happen).

D Actual Revenue Collected; Lines 19-24
Definition: The revenue that each company actually collected per customer type from company regulatory reporting. Retail revenue per customer type – RAG Proforma 2F.

The actual retail revenues in each reporting category are in line with those previously reported through the annual performance reporting (APR). The forecast retail revenues by category are consistent with underlying customer numbers used in other parts of the plan, and are based on the assumptions within the water resources management plan 2019 (including the same total new connections as the plan, but re-profiled to reflect management view of when these will actually happen).

E Revenue Sacrifice; Lines 25-30
Definition: Revenue sacrifice. Revenue voluntarily foregone by companies, for example through customer discounts from company regulatory reporting.

The revenues in each reporting category are based on actual revenue sacrifice due to offering support and social tariffs to customers who require financial assistance. This has been calculated based on the difference between an average full bill for these customers, compared to what they were actually billed on the support or social tariff. For the support tariff 100% of the difference is treated as revenue sacrifice. In line with social tariff customer mandates, the discount is split 50:50 between UU and customers up to the point where this adds 43 pence on to customer bills – any discount above this threshold is funded by customers until the point where it adds £1.80 to customer bills. Forecast revenue sacrifice numbers are consistent with underlying customer numbers used in other parts of the plan.

F Actual Revenue Collected (Net); Lines 31-36
Definition: Actual revenue collected (Net). The revenue that each company actually collected per customer type less any forgone revenue. Calculated.

Calculated cell using above actual revenue collected, and revenue sacrifice figures.

G Modification Factor; Lines 37-42
Definition: Modification Factors. Each company has a specific modification factor for each customer type each year from PR14 final determination company specific appendix.

These numbers are taken from the "Final price control determination notice: company-specific appendix – United Utilities" (PR14 Annex 2, Table AA2.2)

H Materiality Threshold for Financing Adjustment; Line 43 Materiality
Definition: Materiality threshold is specified at 2% of revenue expected from actual customers from AMP6.

Prepopulated cell as per definition

H Materiality Threshold for Financing Adjustment; Line 44 Discount Rate
Definition: The discount rate used to provide a financing adjustment for the time value of money of the incentive reward / penalty. Input to be defined at PR19, if required. This may be required if the materiality threshold is exceeded.

Populated with the AMP6 appointee WACC is/was 3.74% in real terms (RPI stripped)

I Total reward / (penalty) at the end of AMP6; Line 45 Total reward / (penalty) at the end of AMP6
Definition: The total revenue adjustment for household retail due to differences in actual and forecast customer numbers and differences in revenue per customer type. Output item from household retail revenue reconciliation model as appears on the Calc sheet.

Calculated figure taken from the Ofwat provided model titled "Household Retail PR14 Reconciliation", once the above sections A-H have been fed into the input sheet in that workbook. A calculated reward or penalty is linked to from the calc sheet within that workbook.

I Total reward / (penalty) at the end of AMP6; Line 46 Total reward / (penalty) at the end of AMP6
Definition: Output item from revenue adjustments model. The value entered is prior to profiling.

Once all other sections of Table R9 above is completed, these feed into the Ofwat provided model titled "PR19-Revenue-adjustments-feeder-model", which provides the output feeding into this line.

Table R10 Service incentive mechanism

This table asks companies to include their actual and forecast SIM scores and ranking. The table is based on the APR SIM table for consistency. The table also asks companies to forecast their SIM scores and ranking for 2019-20 as this informs whether they have met their own performance commitments and reputational ODIs. This information will not be used to inform any financial incentives.

Adjustments to Ofwat Input Values
There are a number of "green cells" which are pre-populated by Ofwat and which is found within the "F input" worksheet. The pre-populated data for all the PR19 tables has been provided by Ofwat to all companies and there are a number of areas where the latest information provided by companies has not been fully reflected within the "F input table".

We have amended a number of data points in table R10 in order to show the correct SIM quantitative and qualitative figures, specifically for values in 2015/16 (as reported as part of our annual regulatory return). Note, the overall impact on the SIM combined figure of these changes for 2015/16 is net zero.

The 2015/16 correct numbers are highlighted in green in the table below:

Line description		Incorrect input	Corrected input
A	**Qualitative performance**		
1	1st survey score	4.27	**4.28**
4	4th survey score	4.35	**4.36**
5	Qualitative SIM score (out of 75)	61.22	**61.31**
B	**Quantitative performance**		
6	Quantitative composite score	93.37	**95.33**
7	Quantitative SIM score (out of 25)	20.33	**20.23**

Explanation of corrections

A1 Correction: 1st Survey Score

On 9th September 2015 Matt Counsell of McCallum Layton confirmed that UU's wave 1 survey score should be restated due to the incorrect allocation of a customer survey.

From: Matt Counsell [mailto:MattCounsell@mccallum-layton.co.uk]
Sent: 09 September 2015 15:18
To: Woollams, Emma <Emma.Woollams@uuplc.co.uk>
Subject: RE: Confirmation of revised UU scores (Water Commercial customer - Wave 1 Mr Rooke - Farm)

Hi Emma
Stephen has confirmed Mr Rooke will be removed and Matt has checked that your revised scores are indeed correct.
Kind regards
Matt

From: Woollams, Emma [mailto:Emma.Woollams@uuplc.co.uk]
Sent: 09 September 2015 15:16
To: Matt Prince; Matt Counsell
Cc: Whitlow, John W; Boardman, Jason
Subject: FW: Confirmation of revised UU scores (Water Commercial customer - Wave 1 Mr Rooke - Farm)

Hi Matt,
I know you said you were looking into this, but prior to distribution of wave 2, can you confirm following the email we received from Stephen at Ofwat the revised scores below are correct?
Thanks Emma

From: Woollams, Emma
Sent: 26 August 2015 09:48
To: Matt Counsell (MattCounsell@mccallum-layton.co.uk) <MattCounsell@mccallum-layton.co.uk>
Cc: Matt Prince (MattPrince@mccallum-layton.co.uk) <MattPrince@mccallum-layton.co.uk>
Subject: Confirmation of revised UU scores (Water Commercial customer - Wave 1 Mr Rooke - Farm)

Hi Matt,

Following Ofwat's decision to remove this customer from wave 1, could you review the attached please? I would like to update the business with our revised scores prior to wave 2 results coming out.

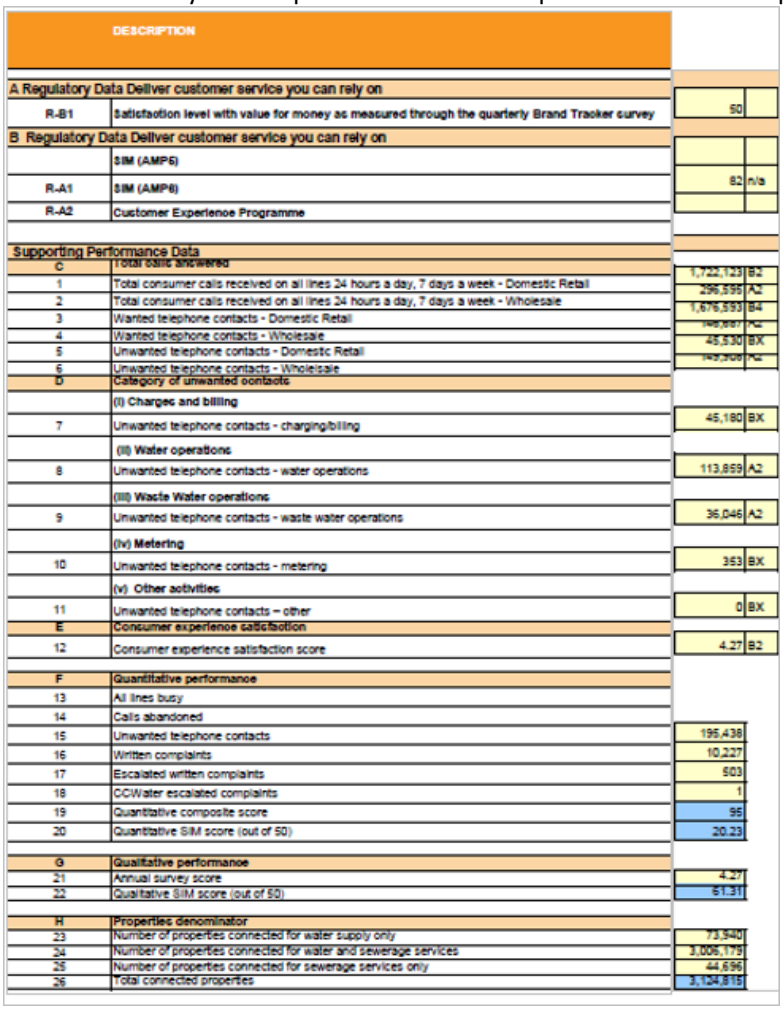
I have calculated what the revised water and UUW total score would now be following the removal of the commercial farm. Changes I've highlighted in colour, in summary:

- Water score from 4.23 to 4.28
- UUW score from 4.27 to 4.28

Many thanks
Emma

A4 Correction: 4th Survey Score:
The McCallum-Layton quoted score for Wave 4 2015/16 is incorrectly quoted. The correct value has been included in our submission table

A4, B6 and B7 Correction: 2015/16 results in CCW report
The values for 2015/16 are incorrectly quoted. The correct values have been included in the submission table, as demonstrated by this snapshot of UU's CCW report for the relevant period.



	DESCRIPTION		
A Regulatory Data Deliver customer service you can rely on			
R-B1	Satisfaction level with value for money as measured through the quarterly Brand Tracker survey	50	
B Regulatory Data Deliver customer service you can rely on			
	SIM (AMP5)		
R-A1	SIM (AMP6)	82	n/a
R-A2	Customer Experience Programme		
Supporting Performance Data			
C	Total calls answered		
1	Total consumer calls received on all lines 24 hours a day, 7 days a week - Domestic Retail	1,722,123	B2
2	Total consumer calls received on all lines 24 hours a day, 7 days a week - Wholesale	296,595	A2
3	Wanted telephone contacts - Domestic Retail	1,676,593	B4
4	Wanted telephone contacts - Wholesale	146,687	A2
5	Unwanted telephone contacts - Domestic Retail	45,530	BX
6	Unwanted telephone contacts - Wholesale	149,908	A2
D	Category of unwanted contacts		
	(i) Charges and billing		
7	Unwanted telephone contacts - charging/billing	45,180	BX
	(ii) Water operations		
8	Unwanted telephone contacts - water operations	113,859	A2
	(iii) Waste Water operations		
9	Unwanted telephone contacts - waste water operations	36,046	A2
	(iv) Metering		
10	Unwanted telephone contacts - metering	353	BX
	(v) Other activities		
11	Unwanted telephone contacts – other	0	BX
E	Consumer experience satisfaction		
12	Consumer experience satisfaction score	4.27	B2
F	Quantitative performance		
13	All lines busy		
14	Calls abandoned		
15	Unwanted telephone contacts	195,438	
16	Written complaints	10,227	
17	Escalated written complaints	503	
18	CCWater escalated complaints	1	
19	Quantitative composite score	95	
20	Quantitative SIM score (out of 50)	20.23	
G	Qualitative performance		
21	Annual survey score	4.27	
22	Qualitative SIM score (out of 50)	51.31	
H	Properties denominator		
23	Number of properties connected for water supply only	73,340	
24	Number of properties connected for water and sewerage services	3,006,179	
25	Number of properties connected for sewerage services only	44,696	
26	Total connected properties	3,124,815	

Commentary on performance

The Service Incentive Mechanism (SIM) is designed to improve the level of service that water companies provide. It is based on two consumer experience measures:

- A quantitative measure based on the number of complaints and unwanted contacts a company receives.
- A qualitative measure (one based on the quality of the experience) derived from a consumer experience survey.

These two measures aim to capture both the number of times a company fails to meet the expectations of its consumers, as well as the experience of those customers. SIM is a comparative measure and is both a reward and penalty measure. It encourages companies to understand and take responsibility for delivering what their customers expect.

Customer service is a priority across the entire company. A number of key activities and achievements have been carried out so far this AMP to improve overall customer experience:

- We have delivered a substantial improvement in customer service level, as indicated by a steady improvement in SIM performance and substantial reductions in both stage one and stage two complaints
- A reduction in the time to respond to initial customers calls, along with improving the tone and approach of the agents, with a drive for first time resolution
- We have extended our billing centre opening hours to 8am-8pm, Monday to Friday and 8am to 4pm Saturday
- Dedicated service teams for more complex services such as our Moving Home and Free Meter Options processes mean quicker resolution of customer requests with the reduced need for error correction and rework
- We use our “Rant and Rave” capability and voice analytics to monitor daily our customer satisfaction and sentiment. This allows us to change processes and policies where necessary to improve and develop our service
- We proactively contact dissatisfied customers via weekly surveys in order to gain customer feedback and make improvements to our services
- A new dedicated webchat team, meaning skilled agents can handle a higher number of webchats at any one time, helping to reduce costs per contact
- We are committed to providing effective, accessible digital channels, and believe we now have one of the highest rates of digital interactions in the water sector
- We have developed new propositions and offerings, including new mobile services via website and app
- We have improved our Automated Speech Recognition system with features such as touch pad technology, a new friendly voice and a call back option for out of hours
- We have introduced our Unified Messaging Service allowing us to actively contact impacted customers in the event of a network incident. This means we can keep customers better informed of developments whilst simultaneously reducing inbound call handling costs

In March 20018 we received the quarter 4 SIM results which placed us at 1st out of 18 companies, our highest ever company score. This gave us a score of 4.49 for the year, placing us at a record high of 3rd out of all 18 water companies for 2017/18.

The improvements in SIM performance is also echoed by the UK Institute of Customer Service rankings. The UKCSI is a national survey which looks at the customer service offered by many brands, from Amazon and Mercedes to British Gas. This year United Utilities is the most improved utility brand in the rankings and we are currently the number one Water and Sewerage Company.