United Utilities Water Ltd

PR14 Reconciliation update

July 2019

United Utilities

helping life flow smoothly

Background and purpose of this document

During 2018, all water companies, including United Utilities, published PR14 reconciliation submissions which set out:

- How they had performed against the PR14 incentive regimes for the first three years of the AMP6 period and how they expected to perform in the final two years of the period
- How this performance would be reflected in AMP7 revenue and the opening RCV adjustments, calculated using the relevant PR14 rulebook and applied through the PR19 process
- How the precedent from performance in the AMP6 period, demonstrated the deliverability of the proposed package of AMP7 performance and expenditure.

Ofwat published its initial Assessment of Plans feedback on these submissions in January 2019. The feedback on UUW's submission is available via this link.

As part of this feedback Ofwat assessed UUW as "B", which was the highest achievable rating and stated that "*Overall, United Utilities' business plan demonstrates high quality accounting for past delivery, with sufficient and convincing evidence both in support of PR14 reconciliations and on deliverability of the 2020-25 plan given past performance".*

"In the round, we do not have concerns with the evidence for deliverability for the 2020-25 plan".

"There is sufficient and convincing evidence for seven out of eight PR14 reconciliation areas and insufficient evidence for ODIs. There is only a marginal difference (within 0.05% of 2019/20 revenue) between expected and proposed reconciliations. In the round we consider that this supports the accounting for past delivery test area score".

Ofwat also confirmed that in July 2019, companies should refresh all their 2018 PR14 reconciliation submissions to replace 2018/19 forecast performance with 2018/19 actual performance and that they should update the evidence for their forecast 2019/20 performance taking into account the actual 2018/19 performance.

This document, which is being provided alongside our 2019 Annual Performance Report, sets out in detail how we have performed against the PR14 incentive regimes for the first four years of the AMP6 period and how we expect to perform in the final year of the period.

It also sets out how this performance varies from the position we assumed in 2018 and shows how this performance would be reflected in revenue and the opening RCV adjustments in the PR19 final determination in December 2019.

The document follows the same format and uses equivalent tables and models to our 2018 submission, and provides additional evidence for the areas highlighted by Ofwat in its feedback on our 2018 submission and contains the following sections:

- Overview of the PR14 reconciliation – summarising the impacts of each mechanism and the impact that this would have on customer bills in the AMP7 period
- Impact of the reconciliation models – detailed review of how each mechanism works and the impact of our performance against each mechanism
- Appendices – providing more detail on: our performance commitments; our customer experience programme; the delivery of our outputs and environmental commitments and also providing copies of the data tables and a detailed table commentary.

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 2018/19, together with additional information setting out how we anticipate we will perform in the remaining year of the AMP6 period.

Contents

Executive summary

1. **In 2018 UUW published a PR14 reconciliation which set out our actual performance for the first three years of the AMP6 period and our predicted performance for the final two years**
2. **In its January 2019 Initial assessment of plans (IAP), Ofwat confirmed that we had applied the adjustment mechanisms, with an accuracy of 99%, but identified a small number of areas where additional evidence was required to justify our future performance predictions.**
3. **During 2018/19:**
    a. **Our performance against our ODIs was better than we had anticipated**
    b. **To maintain customer service during the dry summer of 2018, we incurred c£80m of atypical expenditure and have committed to an additional £100m of outperformance reinvestment to make a flying start on our AMP7 performance commitments.**
4. **We have repopulated the data tables and models to reflect both the actual performance in 2018/19 and our revised prediction of performance in 2019/20**
5. **We have provided additional evidence in the areas highlighted by Ofwat in their IAP feedback**
6. **The impact of applying these changes to the opening RCV and required revenue through the PR14 adjustment mechanisms is approximately £73.0m and £54.3m respectively, which we estimate to be equivalent to an adjustment of approximately £4.77 to the average bill in 2024/25 (all values at 17/18 prices).**

At PR14, Ofwat set companies stretching performance and efficiency targets for the period from April 2015 to March 2020. UUW was set a significant efficiency challenge over and above that already reflected in our PR14 business 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 performance for the water quality service index measure.

To meet these challenges we have had to deliver on a number of fronts. 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. It 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 now seeing the benefits of this approach. In our last submission we said that we had achieved our best ever scores against Ofwat’s qualitative Service Incentive Mechanism (SIM), we maintained this strong performance during 2018/19 and as this measure will only be measured over four years, we expect to have finished the assessment in an upper quartile position for WaSCs and to have earned a reward of c£16m.

Operationally 2018 was a challenging year, with an extended period of hot and dry weather putting severe pressure on our services. To ensure that we were able to manage these pressures without impacting customer service, we made £80m of atypical expenditure. This additional expenditure supported operational performance in 2018/19, contributing to our performance commitments and outcome delivery incentives being better than we had assumed in our 2018 reconciliation submission, with a net outperformance payment of £19m.

A benefit of receiving ‘fast track’ status for PR19 is that we have greater certainty over AMP7 requirements. This has enabled us to commit to an additional £100m of investment in this period, providing a flying start to AMP7 and helping meet some of the tougher targets for the 2020-2025 period. This additional investment was not anticipated in our 2018 submission and as a result we will be recovering more of this expenditure through the AMP6 totex expenditure mechanisms than we had assumed in 2018.

Our performance against each of the incentive mechanisms is set out in detail in Section 2 of this document.

1.1 Wholesale performance commitments

Performance against our performance measures and outcome delivery incentives is reported within our Annual Performance Report (APR). To support this submission our 2018/19 APR contains additional detail on our predicted performance in the final year of the AMP6 period (2019/20).

The detailed review of the performance against each measure for the first four years of the period, together with our prediction of likely performance against each measure for the remaining year of the period, from this year's APR, has been reproduced as **Appendix A** to this document. The additional information requested in Ofwat's IAP feedback on ODIs is also included within this appendix.

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.

In our 2018 submission we set out that although our performance levels had generally improved – in many cases significantly so - we had not always been able to meet or outperform the performance targets set. Our performance on the wastewater service had been positive and had generated a net outperformance payment of £31.28m, whereas performance against the water service measures had been more challenging and had generated a net penalty of £29.11m for the first three years.

As the performance targets for some of our measures became increasingly challenging in the latter years of the period, we estimated that we would end the five year period with a net ODI outperformance payment of £10m across water and wastewater. Performance in 2018/19 was better than anticipated, with a net outperformance payment of £19.2m. As a result, our expectations of the overall outcome for AMP6 are that the total outperformance payments will be higher. However, the performance targets for 2019/20 are higher than in any other year and our performance against these is uncertain. We can therefore anticipate ending the period having earned a net outperformance payment of anything between £30m and £60m. We have included a central estimate of c£45m within this submission.

It must be noted that our 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. This means it is difficult to accurately predict the penalty or outperformance that might be earned and the outturn position could still vary from this value.

1.2 Household retail performance

During the AMP6 period we implemented a major transformation programme designed to allow us to both reduce our retail cost to serve and to improve customer service, with investment in this programme being underpinned by an ODI. In 2018 we set out that because we had revised the scope of this programme and had been able to deliver the programme at lower cost than anticipated, we would be returning £4.27m (2017/18 prices)[1] of allowed depreciation to customers. In their IAP feedback Ofwat did not argue with the basis of the adjustment but did apply a different adjustment for inflation.

In this resubmission we have clarified and updated the basis for the valuation of the adjustment, and have taken account of increased efficiencies and therefore reduced depreciation. Based upon this we now consider that the

[1] Equal to £3.7m in 2012/13 prices and £4.7m on a nominal basis

adjustment should be £5.17m (2017/18 prices)[2]. 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 over 25% reduction in our costs since 2014/15. 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 performance will generate a reward of £16m nominal (£15m 2017/18 prices).

1.3 Wholesale totex

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 menu totex for the water service of £2.348bn (2012/13 prices) and an assumed totex for the wastewater service of £2.940bn (2012/13 prices).

In our 2018 submission we set out that we expected to be able to deliver the AMP6 programme of work on a like for like and outturn cost basis, for approximately £100 million lower than the totex assumed at PR14, that we had significantly accelerated our AMP6 investment programmes to deliver a better performance against our performance commitments and that we had committed to an additional £250 million of investment to support resilience projects bringing additional customer benefits during AMP6 and in the longer term. We therefore anticipated that total spend would be approximately £150 million higher than assumed within PR14 price limits.

We still expect to be able to deliver the AMP6 programme of work on a like for like and outturn cost basis for approximately £100 million lower than the totex assumed at PR14. However, during 2018/19 the North West experienced an extended period of hot and dry weather that resulted in reductions in reservoir levels that mirrored those last seen in 1995 when a 14 month Temporary Use Ban (more commonly described as a hosepipe ban) was introduced across the region. In 2018, we were able to manage these events in a way which ensured that no water restrictions were introduced for customers in the North West.

The work undertaken to avoid the water restrictions in 2018 increased our expenditure for the AMP by c£80 million above the values that we had predicted in our 2018 submission with much of the work providing resilience benefits in 2019 and beyond. These longer term benefits include:

- A 70% increase in the number of mobile water tankers we own.
- An increase in the availability of our groundwater sources by 35 megalitres per day.
- An increase of up to 50% in the amount of water we can pump from Merseyside to Manchester.

In line with our established track record, in 2019/20 we will again be sharing some of our AMP6 outperformance with customers. We are increasing our reinvestment by another £100 million, taking the total additional investment to £350 million in the 2015-20 period. We will be using this additional investment to put the foundations in place that are required to enable us to deliver the further performance improvements required in the next regulatory period.

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

[2] Equal to £4.5m in 2012/13 prices and £5.7m on a nominal basis

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 1.5% and the wholesale wastewater variance having been no more than 0.6%. 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 year.

As we are now reporting on four years of actual data we have applied actual revenue levels to the WRFIM model and calculated the adjustment that should be made to AMP7 revenues. It should be noted that the WRFIM model, as provided by Ofwat, does not take into account the fact that we have accelerated the early return of £8.236m within 2019/20. We have therefore amended the model to ensure that the calculations work appropriately. Details of this revision are set out in section 2.4 of this document.

Household retail mechanism - The household retail price control provides for annual revenue adjustment factors to reflect differences between actual and expected customer numbers and numbers of metered customers. In 2018 we stated that customer numbers had been slightly above PR14 assumptions and proposed to recover £6.03m (2017/18 prices) of additional revenue, in line with this mechanism. Using revised 2018/19 yearend figures we now forecast that the total reconciliation value will be £5.21m (2017/18 prices).

In the IAP Ofwat asked for further clarity on the reasons for the difference between reforecast customer numbers and actual customer numbers in 2018/19. As we set out in detail in the table commentary (*Appendix E: Table commentary* of this document) values for 2018/19 are now yearend actuals, and the differences in forecast values for 2019/20 are explained.

Land Sales - The land sales 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. In 2018 we estimated that the value of this during the AMP6 period was £6.57m (2017/18 prices).

In the IAP Ofwat asked for additional evidence to support the forecast trajectory reported in data table App 9. As we set out in detail in the table commentary *(Appendix E: Table commentary* of this document) we have now undertaken a more detailed bottom up assessment of these values, with the five year total now being £6.75m (2017/18 prices).

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.

Uncertainty mechanism (water rates) - The only uncertainty mechanism (notified item) within the AMP6 final determination is for water business rates. As our actual costs are not materially different to those assumed at PR14 we are not applying this mechanism.

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 price 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 opening 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[3] [4].

As part of the PR14 process, the wholesale incentive mechanisms were applied to the two 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.

In our 2018 submission we set out that, at aggregate level, the adjustments would increase allowed revenues by £13.23m (2017/18 prices) and reduce the opening RCV by £14.82m. Mainly due to the improved performance against our ODIs and the additional expenditure that was incurred in 2018/19 and is planned to be incurred in 2019/20 the adjustments will increase allowed revenues by £54.3m (2017/18 prices) and increase the opening RCV by £73.0m.

The following five tables provide a summary of the 2018 submission and the updated view 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)	17/18 adjustments	18/19 adjustments	Variance
Total revenue adjustment	(1.35)	29.90	31.25
RCV adjustment	17.94	58.18	40.24

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

Water resources (£m)	17/18 adjustments	18/19 adjustments	Variance
Total revenue adjustment	0.78	0.74	(0.03)
RCV adjustment	-	-	-

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

Wastewater network plus (£m)	17/18 adjustments	18/19 adjustments	Variance
Total revenue adjustment	(0.30)	7.61	7.91
RCV adjustment	(32.76)	14.87	47.62

[3] UUW's PR14 ODIs 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.

[4] 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.

Overview

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

Bioresources (£m)	17/18 adjustments	18/19 adjustments	Variance
Total revenue adjustment	-	-	-
RCV adjustment	-	-	-

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

Retail household (£m)	17/18 adjustments	18/19 adjustments	Variance
Total revenue adjustment	14.10	15.99	1.90

The values shown in the tables above are made up from adjustments through eight separate incentive mechanisms. The impact of each of these mechanisms by price control is set out in the following sections.

Revenue adjustments by incentive mechanism

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

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

Water revenue adjustments	17/18 adjustments total	18/19 adjustments total	Variance
Final 2010-15 reconciliation	(12.49)	(12.38)	0.11
Water trading	-	-	-
WRFIM	-	(6.41)	(6.41)
Outcome delivery incentive (net penalty)	(25.09)	(3.45)	21.64
Totex menu revenue adjustment	37.01	52.89	15.88
Water service: revenue adjustment	**(0.57)**	**30.65**	**31.22**

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

Wastewater revenue adjustments	17/18 adjustments total	18/19 adjustments total	Variance
Final 2010-15 reconciliation	(12.75)	(12.63)	0.12
WRFIM	-	8.31	8.31
Outcome delivery incentive (net penalty)	-	-	-
Totex menu revenue adjustment	12.45	11.93	(0.52)
Wastewater service: revenue adjustment	**(0.30)**	**7.61**	**7.91**

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

Household retail revenue adjustments	17/18 adjustments total	18/19 adjustments total	Variance
Customer Experience (CEP)	(4.57)	(5.51)	(0.95)
Household retail revenue	6.44	5.55	(0.89)
Service Incentive Mechanism (SIM)	12.23	15.96	3.73
Household retail revenue adjustment	**14.10**	**15.99**	**1.90**

As can be seen from the tables above, the PR14 incentive mechanisms generate:

- A net increase to wholesale water revenues of £30.65m
- A net increase to wholesale wastewater revenues of £7.61m and
- A net increase to household retail revenues of £15.99m

The combined impact of all the incentive mechanisms is an overall net increase to revenues of £54.25m.

Regulatory Capital Value adjustments by incentive mechanism

The adjustments we are proposing to make for each incentive mechanism to the opening water and wastewater service RCVs are set out in ***Table 9*** to ***Table 11*** below. ***Table 9*** and ***Table 11*** set out the impacts of the incentive mechanisms determined at PR14, with ***Table 10*** and

Table 12 adding in the impact of the PR09 CIS RCV indexation adjustment to determine the total required adjustments.

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	17/18 adjustments (£m)	18/19 adjustments (£m)	Variance (£m)
Net PR14 RCV adjustment carried forward to PR19	36.69	36.42	(0.28)
Outcome delivery incentives (net reward)	-	-	-
AMP6 Totex menu RCV adjustment	67.86	107.77	39.91
NPV effect of 50% of proceeds of land disposals 2014-20	(6.26)	(6.25)	(0.01)
Other adjustment to wholesale water RCV	-	-	-
Total Water RCV adjustment	**98.29**	**137.93**	**39.64**

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

Water RCV adjustments (total)	17/18 adjustments (£m)	18/19 adjustments (£m)	Variance (£m)
Net impact of PR14 mechanisms	98.29	137.93	39.64
PR09 CIS RCV indexation adjustment	(80.35)	(79.75)	0.60
Total Water RCV Adjustment	**17.94**	**58.18**	**40.24**

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	17/18 adjustments (£m)	18/19 adjustments (£m)	Variance (£m)
Net PR14 RCV adjustment carried forward to PR19	52.93	52.53	(0.40)
Outcome delivery incentives (net reward)	35.20	55.87	20.68
Totex menu RCV adjustment	15.51	42.02	26.51
NPV effect of 50% of proceeds of land disposals 2014-20	(0.31)	(0.49)	(0.19)
Other adjustment to wholesale wastewater RCV	0.00	0.00	0.00
Total Wastewater RCV adjustment	**103.33**	**149.93**	**46.60**

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

Wastewater RCV Adjustments (total)	17/18 adjustments (£m)	18/19 adjustments (£m)	Variance (£m)
Net impact of PR14 mechanisms	103.33	149.93	46.60
CIS RCV indexation adjustment as at 31 March 2015	(136.09)	(135.06)	1.02
Total Wastewater RCV adjustment	**(32.76)**	**14.87**	**47.62**

As can be seen from Table 9 and Table 11 above the PR14 incentive mechanisms generate a net increase to the opening RCV for both the water and wastewater services. As shown in Table 10 and

Table 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 opening RCV by £73.05m, increasing the Water RCV by £58.18m and increasing the Wastewater RCV by £14.87m.

1.6 Application of IFRS 16 adjustment to regulatory capital value

As part of the PR19 process we will also make a one-off adjustment to the wholesale regulatory capital values to account for the reclassification of operating leases to finance leases under IFRS16. These reclassified leases are also therefore included on the balance sheet. This RCV adjustment is in addition to those arising from incentive mechanisms. This adjustment is made to the opening RCV balances, in a similar manner to the incentive mechanism adjustments which impact the RCVs.

In our 2018 submission, we included data table App 33 "Wholesale operating leases reclassified under IFRS16" with an accompanying commentary. This explained the basis of the calculation and the subsequent RCV adjustment included on App 8 lines 17, 31, 56 and 70. The calculation of the adjustment was made in line with Ofwat's guidance set out in Information Notice 18/09.

We do not propose any amendment to this IFRS16 adjustment proposed in our 2018 submission. The adjustment on each opening wholesale RCV proposed in our 2018 submission is set out below.

Table 13 IFRS16 RCV adjustments made to opening wholesale RCVs

	App 8 line	2017/18 FYA CPIH (£m)	App 33 line	2017/18 FYE CPIH (£m)
Water resources IFRS16 RCV adjustment	17	0.003	21	0.003
Water network plus IFRS16 RCV adjustment	31	0.578	42	0.582
Bioresources IFRS16 RCV adjustment	56	0.033	63	0.033
Wastewater network plus IFRS16 RCV adjustment	70	53.890	84	54.347
Total IFRS16 RCV adjustment	**n/a**	**54.503**	**111**	**54.967**

The net impact of these adjustments is to increase the opening RCV by £54.503m (2017/18 FYA CPIH).

1.7 Impact of the adjustments on customer bills

Customer bills in the 2020-25 period will be set for the water and wastewater services, both of which will 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. The vast majority of this revenue is obtained through either household customer or non-household customer bills.

For context, the indicative impact of the revenue and RCV adjustments described above on customer bills is summarised below.

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 revised wholesale water and wastewater revenue adjustments are set out in Figure and Figure 1 below.

Figure 1 Impact of the adjustments on Water Service revenues (expressed in 2017/18 prices)

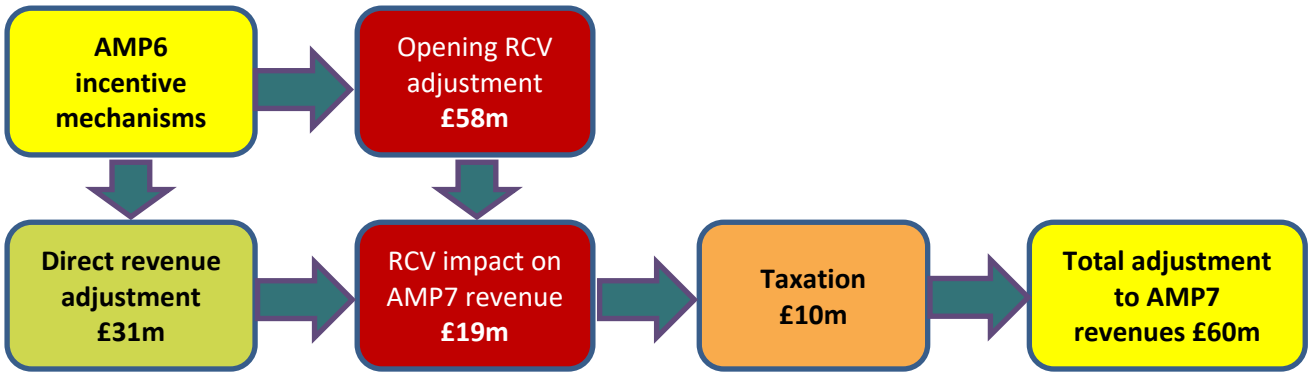
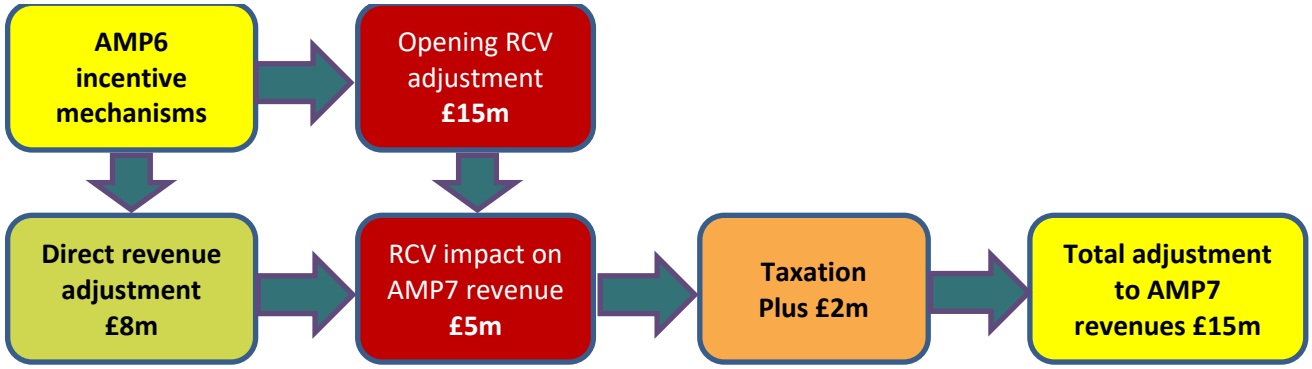


Figure 1 Impact of the adjustments on Wastewater Service revenues (expressed in 2017/18 prices)



Impact of the adjustments in wholesale revenue on customer bills

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 the five years of AMP7 to produce an annual average bill impact. This process is demonstrated in Table 14 below.

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

	Adjustment to UUW revenue in AMP7 (£m)	Revenue impact through non-household bills (£m)	Revenue impact through household bills (£m)	5 year average household bill impact (£)	Annual average household bill impact (£)
Water	**60.2**	15.5	44.7	14.59	2.91
Wastewater	**14.8**	5.4	9.4	3.07	0.62
Wholesale	**75.0**	**20.9**	**54.1**	**17.67**	**3.53**

Impact of the retail adjustments on customer bills

The net impact of the PR14 incentive regimes will be to increase household retail revenues by £19.27m (2017/18 prices) over AMP7 or £3.85m for each year of the AMP7 period after tax.

As UUW has approximately 3.1 million household customers this would increase the average annual household retail charge by approximately £1.24 per customer per year.

Combined impact on average household bills

Table 15 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 and compares this to the values calculated from our 2018 submission.

Table 15 Indicative impact on average household bills expressed in 2017/18 FYA CPIH price base

Bill component	Impact of the adjustments on annual average household bills		
	2018 (£)	2019 (£)	Variance
Wholesale water impact (£)	0.12	2.91	2.79
Wholesale wastewater impact (£)	(0.26)	0.62	0.88
Household retail impact (£)	1.07	1.24	0.17
Net impact on average household bill (£)	**0.93**	**4.77**	**3.84**

As can be seen the impact of the adjustment mechanisms would be to increase average household bills by approximately £4.77 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.

1.8 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 four 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 year 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 four 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 controls over 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 year has been based upon predicted performance. Assumptions for the final year 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 reviewing:

- 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
- Board Assurance statements are supportable, in particular in respect of the stated assurance activities

PR14 Reconciliation

Overview

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 and 2018/19 regulatory reporting processes (RR18 and RR19) was also extended to review the forecast data for the remaining years of the period.

This review is published within our 2018/19 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 2019 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 Jacobs on the factual AMP6 data reported for the first four years of the submission and the review of the submission undertaken by UU Corporate Audit.

The Corporate Audit review had the objectives of reviewing:

- 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
- 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 2019 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 opening 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 opening 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 an average 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 opening 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

	17/18 adjustment total	18/19 adjustment total	Variance
Water resources	0.779	0.744	(0.035)
Water network plus	(1.352)	29.903	31.255
Bioresources	-	-	-
Wastewater network plus	(0.299)	7.609	7.908
Retail Household	14.098	15.994	1.896

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.

Impact of the reconciliation mechanisms

For our 2018 submission, we profiled the net adjustments on a constant annuity basis using a an appointed cost of capital of 3.4%[5] (CPIH-stripped) in order to smooth the impact over the five year period, thereby preventing any excessive spikes in bill profiles. For this updated submission, we have again profiled the net adjustments on a constant annuity basis, but this time using a discount rate of 3.30% (the wholesale CPIH-stripped cost of capital) for both the wholesale and retail services. This change reflects the guidance provided by Ofwat following the 2018 submissions.

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

	17/18 adjustment total	18/19 adjustment total	Variance
ODI in-period revenue adjustment	-	-	-
ODI end of period revenue adjustment	0.779	0.744	(0.035)
Water trading incentives	-	-	-
Water resources revenue adjustment	**0.779**	**0.744**	**(0.035)**

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

	17/18 adjustment total	18/19 adjustment total	Variance
2010-15 reconciliation revenue adjustment	(12.493)	(12.376)	0.117
ODI in-period revenue adjustment	-	-	-
ODI end of period revenue adjustment	(25.868)	(4.198)	21.670
Totex menu revenue adjustment	37.009	52.889	15.879
Water trading export incentive	-	-	-
Water trading import incentive	-	-	-
WRFIM reward / (penalty) end of AMP6	-	(6.412)	-6.412
Water network plus revenue adjustment	**(1.352)**	**29.903**	**31.255**

[5] 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 19 Bioresources revenue adjustments to be made to AMP7 £m 2017/18 CPIH FYA prices

	17/18 adjustment total	18/19 adjustment total	Variance
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

	17/18 adjustment total	18/19 adjustment total	Variance
2010-15 reconciliation revenue adjustment	(12.747)	(12.628)	0.119
Totex menu revenue adjustment	12.448	11.925	-0.523
ODI in-period revenue adjustment	-	-	-
ODI end of period revenue adjustment	-	-	-
WRFIM reward / (penalty) end of AMP6	-	8.311	8.311
Wastewater network plus revenue adjustment	(0.299)	7.609	7.908

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

	17/18 adjustment total	18/19 adjustment total	Variance
ODI in-period revenue adjustment	-	-	-
ODI end of period revenue adjustment	(4.565)	(5.514)	(0.949)
Residential retail revenue adjustment	6.438	5.553	(0.886)
SIM forecast revenue adjustment	12.225	15.956	3.731
Household retail revenue adjustment	14.098	15.994	1.896

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 22 and Table 23 below.

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

	Adjustment
Water - Total adjustment RCV carry forward to PR19	36.415
Water - CIS RCV inflation adjustment as at 31 March 2015	(79.751)
Water - NPV effect of 50% of proceeds from disposals of interest in land	(6.255)
ODI end of period RCV adjustment - Water resources	-
Water - Totex menu RCV adjustment	107.771
Water - Other adjustment to wholesale RCV	-

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

	Adjustment
Wastewater - Total adjustment RCV carry forward to PR19	52.533
Wastewater - CIS RCV inflation adjustment as at 31 March 2015	(135.065)
Wastewater - NPV effect of 50% of proceeds from disposals of interest in land	(0.495)
ODI end of period RCV adjustment - Wastewater network plus	55.872
Wastewater - Totex menu RCV adjustment	42.022
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 Table 24 below.

Table 24 Impact of adjustments on an average annual household bill (£ (2017/18 FYA CPIH prices))

Incentive mechanism	Bill Impact[6] (£)
Outcome delivery incentives - water	(0.20)
Outcome delivery incentives - wastewater	0.90
Outcome delivery incentives – retail household	(0.43)
Service Incentive mechanism (SIM)	1.24
Totex menu reconciliation - water	5.16
Totex menu reconciliation - wastewater	1.27
Wholesale revenue forecasting incentive mechanism	0.04
Household retail mechanism	0.43
Uncertainty mechanism (water rates)	0.00
Water trading	0.00
Land disposals	(0.13)
Final reconciliation of 2010 15 performance	0.19
PR09 Capital incentive scheme RCV inflation correction	(3.70)
Total	**4.77**

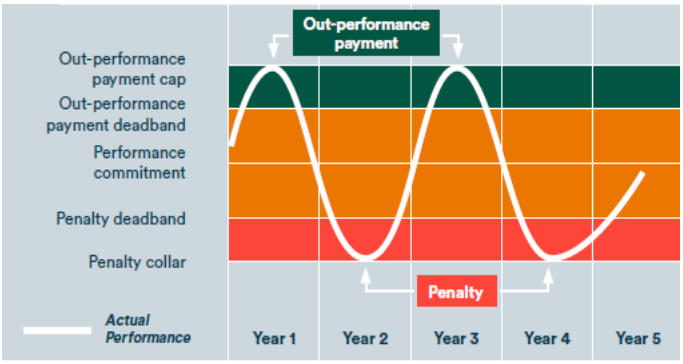
[6] Bill impact is calculated based on the average household bill

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 2 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 third parties heavily influence our assets 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 25***.

Impact of the reconciliation mechanisms

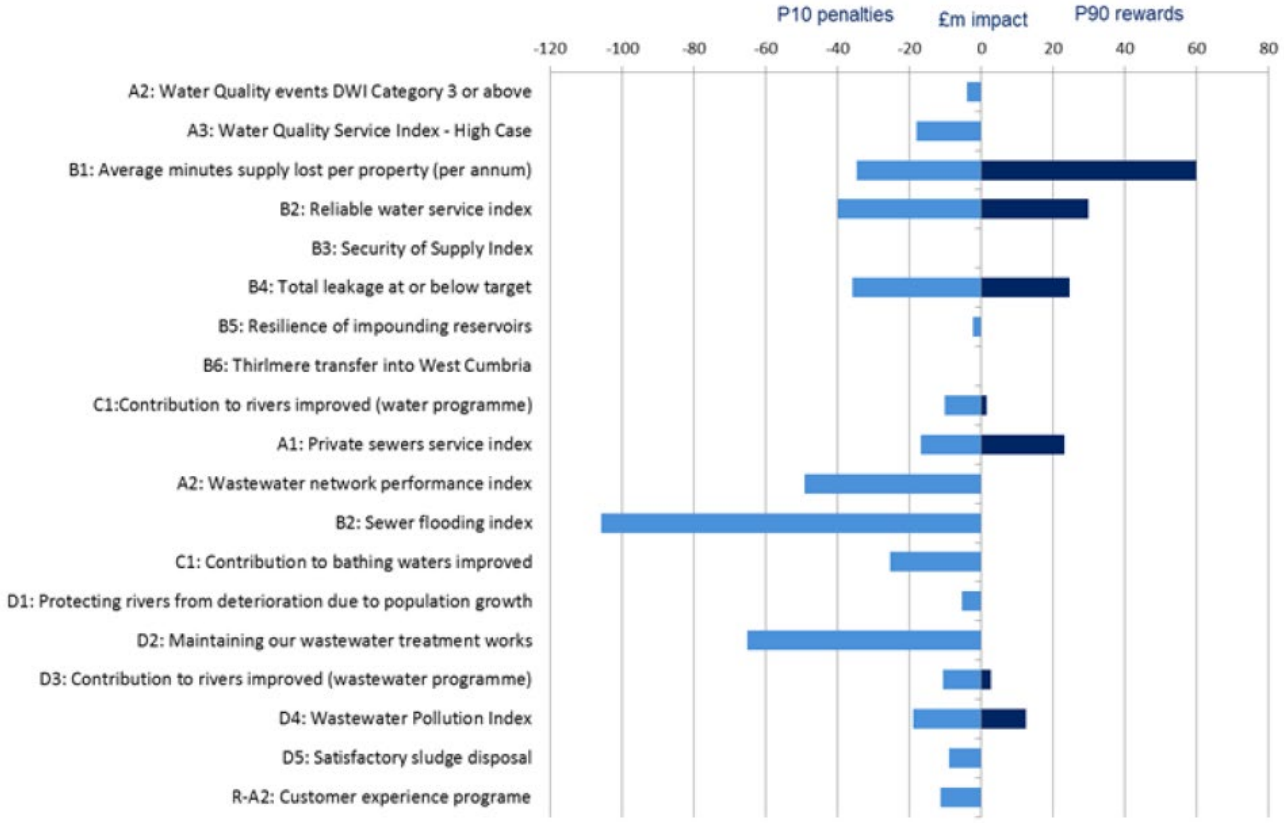
Table 25 Composition of the package of ODIs for AMP6

	Reward and penalty	Penalty-only	Non-financial incentive
Wholesale Water	6	3	3
Wholesale Wastewater	4[7]	6	1
Retail Household	1	1	2
Total	**11**	**10**	**6**

Wholesale Outcome delivery - overview and AMP6 challenge

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

Figure 3 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.

[7] Counting two performance commitments for pollution incidents separately

Impact of the reconciliation mechanisms

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, and we can envisage ending the period having earned a net outperformance payment of between £30m and £60m. We have used a mid-point estimate of c£45m for this publication.

Wholesale performance to date

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 2018/19 financial year, we achieved a net reward of £19.24m, comprising a £7.82m reward in the water service and an £11.42m reward in the wastewater service. Our cumulative position for the first four years of the AMP6 period stands at a £21.41m outperformance payment.

Table 26 Wholesale operational performance summary 2018/19

Water	Actual Performance				2019 Performance Commitment		Incentive (£m 2012/13 prices)	
	2015/16	2016/17	2017/18	2018/19	2018/19 Target	Pass / Fail	Impact	2018/19 Annual
A1: Drinking Water Safety Plan risk score	4.3	4.3	4.3	4.8	<= 4.3	Pass	Reputational	N/A
A2: Water quality events DWI category 3 or above	35	22	27	6	<= 9	Pass	At target	-
A3: Water Quality Service Index	120.465	116.923	98.645	101.182	>= 145.9	Fail	Penalty	(3.62)
B1: Average minutes supply lost per property (a year)	16:42	13:33	13:09	09:10	<= 12:00	Pass	Reward	11.26
B2: Reliable water service index	16.447	77.840	70.827	98.457	>= 100	Fail	Deadband	-
B3: Security of supply index	100	100	100	100	= 100	Pass	At target	-
B4: Total leakage at or below target	10.8	23.4	9.1	6.7	>= 0	Pass	Deadband	-
B5: Resilience of impounding reservoirs	161.61	164.25	165.42	165.72	>= 164.87	Pass	No reward	-
B6: Thirlmere transfer into West Cumbria	2%	5%	25%	57%	>= 53%	On Track	At target	-
C1: Contribution to rivers improved - water programme	36.85	82.55	80.56	50.48	>= 6.6km	Pass	Reward	0.18
D1: Delivering our commitments to developers	95.20%	97.50%	93.83%	89.03%	>= 94%	Fail	Reputational	N/A
E1: Number of free water meters installed	27,197	32,447	36,615	32,069	>= 47,421	Fail	Reputational	N/A
							Total incentive for the water service 2018/19	7.82

Impact of the reconciliation mechanisms

Wastewater								
S-A1: Private sewers service index	91.69	91.90	85.00	89.27	<= 100	Pass	Reward	7.38
S-A2: Wastewater network performance index	90.95	89.47	86.17	90.75	<= 95.60	Pass	No reward	-
S-B1: Future flood risk	16,472	16,418	16,395	16,379	<= 16,247	Fail	Reputational	N/A
S-B2: Sewer flooding index	100.80	94.40	69.99	61.66	<= 70.30	Pass	Reward	0.57
S-C1: Contribution to bathing waters improved	0.47	0.66	1.49	4.21	>= 3.78	Pass	At target	-
S-D1: Protecting rivers from deterioration due to growth	48.00	48.00	210.50	322.96	>= 316.7	Pass	No reward	-
S-D2: Maintaining our wastewater treatment works	91.48	58.71	30.47	39.17	<= 54.32	Pass	No reward	-
S-D3: Contribution to rivers improved wastewater (Km)	0.76	46.98	120.73	178.93	>= 173.38	On track	Reward	0.20
S-D4a: Wastewater (category 1 & 2) pollution incidents	4	2	0	1	<= 3	Pass	No reward	-
S-D4b: Wastewater category 3 pollution incidents	136	150	129	143	<= 195	Pass	Reward	3.28
S-D5: Satisfactory sludge disposal	100	100	100	100	<= 100	Pass	At target	-
					Total incentive for the wastewater service 2018/19			**11.43**

Wholesale performance – future predictions

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 2012/13 prices)

	Incentive Type	Cumulative Incentive Position 2018/19	Forecast Incentive		Applied to PR19 Price Control
			2019/20	AMP6 Total	
Water					
A2: Water quality events DWI category 3 or above	Penalty only	(1.79)	(1.19)	**(2.98)**	Water Network
A3: Water Quality Service Index	Reward and penalty	(10.63)	(3.62)	**(14.25)**	Water Network
B1: Average minutes supply lost per property (a year)	Reward and penalty	5.30	1.66	**6.95**	Water Network
B2: Reliable water service index	Reward and penalty	(23.92)	-	**(23.92)**	Water Network

Impact of the reconciliation mechanisms

B3: Security of supply index (SoSI)	Penalty only	-	-	-	Water Resources
B4: Total leakage at or below target	Reward and penalty	9.15	-	**9.15**	Water Network
B5: Resilience of impounding reservoirs	Penalty only	-	-	-	Water Resources
B6: Thirlmere transfer into West Cumbria	Reward and penalty	-	21.61	**21.61**	Water Network
C1: Contribution to rivers improved - water programme	Reward and penalty	0.61	-	**0.61**	Water Resources
Totals		**(21.29)**	**18.45**	**(2.83)**	
Wastewater					
S-A1: Private sewers service index	Reward and penalty	29.49	7.38	**36.88**	Wastewater Network
S-A2: Wastewater network performance index	Penalty only	-	-	-	Wastewater Network
S-B2: Sewer flooding index	Reward and penalty	(0.92)	-	**(0.92)**	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	1.02	(0.12)	**0.90**	Wastewater Network
S-D4a: Wastewater (category 1 & 2) pollution incidents	Penalty only	-	-	-	Wastewater Network
S-D4b: Wastewater category 3 pollution incidents	Reward and penalty	13.11	3.28	**16.39**	Wastewater Network
S-D5: Satisfactory sludge disposal	Penalty only	-	-	-	Bioresources
Totals		**42.69**	**6.15**	**48.84**	

Impact of the reconciliation mechanisms

Wholesale assumptions and method

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 ODI also adjusts for elements of the original programme scope that are not delivered.

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[8]. 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[9] and subsequent correspondence with Ofwat[10].
- 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 £2.83m 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 £3.44m and to water resources as an uplift to revenue of £0.61m (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 £48.84m (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.

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

[9] 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).

[10] 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".

Impact of the reconciliation mechanisms

- 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.
- 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	RCV adjustment
Water resources	0.698	-
Water network plus	(3.938)	-
Bioresources	-	-
Wastewater network plus	-	55.872
Residential retail	(5.173)	n/a

Impact of the reconciliation mechanisms

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	17/18 reward/ (penalty) total	18/19 reward/ (penalty) total	Variance
Service incentive mechanism (SIM)	Reward and penalty	12.690	16.485	3.795
Customer experience programme	Penalty only	(4.738)	(5.697)	(0.959)
Customers saying that we offer value for money	Reputational	-	-	-
Per household consumption	Reputational	-	-	-
Retail household reward / (penalty)		**7.951**	**10.788**	**2.837**

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 four 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***.

Impact of the reconciliation mechanisms

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

		AMP7 revenue adjustment	RCV adjustment
Retail household	ODI in-period adjustment	-	n/a
	ODI end of period adjustment	(5.697)	n/a

2.2 Service Incentive Mechanism (SIM)

Background

We are committed to delivering the best possible service for customers. Increasing customer engagement and boosting customer satisfaction 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. Across the AMP we have achieved above average sector performance on SIM overall and end the AMP amongst the best performing WaSCs. Using a reward/deadband/penalty calculation methodology consistent with that used at PR14, we estimate that current performance yields a reward of £16.485m to UUW (nominal prices). This represents a significant improvement on company performance in the previous AMP.

In March 2019, we ended the last quarter of FY2019 as a leading company in our peer group for customer satisfaction as measured by SIM, which gave us our highest ever year end score of 4.53, placing us at 5th out of 18 companies. Over the past four years, we have made a significant improvement in performance and moved from below industry average, to one of the leading performers.

The improvements in SIM performance is also reflected in the number of complaints. Our performance over the past four years shows an improving trend with 32% fewer complaints in 2018/19 than in 2015/16. Consumer Council for Water performance report for 17/18 placed UU 4th of the WaSCs for complaints per 10,000.

In August 2018 we were awarded the Institute of Customer Service (UKCSI) ServiceMark accreditation with distinction. The ServiceMark is a national standard recognising our achievement in customer service, and our commitment to upholding those standards. There are over 100 companies in the country who have achieved the accreditation, however we are one of only 13 companies who have achieved ServiceMark with distinction.

Impact of the reconciliation mechanisms

Assumptions and method

In the United Utilities Draft Determination document, Ofwat states that:

"We will publish the reconciliation for all companies alongside draft determinations for slow-track and significant scrutiny companies in July."

Ofwat also states it is publishing models for each of the PR14 reconciliations, and for the overall RCV and revenue adjustments on their website. Whilst Ofwat has not at this stage provided a model for calculating the SIM reconciliation, we note that SIM is a continuation of the incentive first introduced in AMP5 and therefore the methodology for reconciling AMP6 Service Incentive Mechanism performance should be clear.

At PR14 a methodology for reconciling SIM rewards and penalties was established and subsequent to this Ofwat has published a number of changes to the method of calculating individual company SIM scores. However, no changes to calculation of final SIM rewards/penalties has been published and therefore no change in policy on calculating SIM reward/penalties since PR14 has been signalled.

We have been using the methodology established at PR14 over the last four years to help understand the scale of SIM reward and penalty. The incentives under SIM has been one of the key factors in driving management focus on improving customer service in AMP6 and a review of other water companies' September business plan submissions shows that other water companies have applied a near identical understanding of the reward/penalty methodology.

At PR14 the SIM reconciliation approach used for a company with a SIM score which is above industry average, but less than one full standard deviation above average is:

$$SIM\ reward = \frac{\left(\bar{x}_{Company} - \bar{x}_{Ind}\right)}{\sigma_{Ind}} \cdot Household\ retail\ revenue \cdot 6\%$$

Where:

$\bar{x}_{Company}$ = annual average combined SIM score for the company

$\bar{x}_{Ind}$ = annual average combined SIM score for the industry

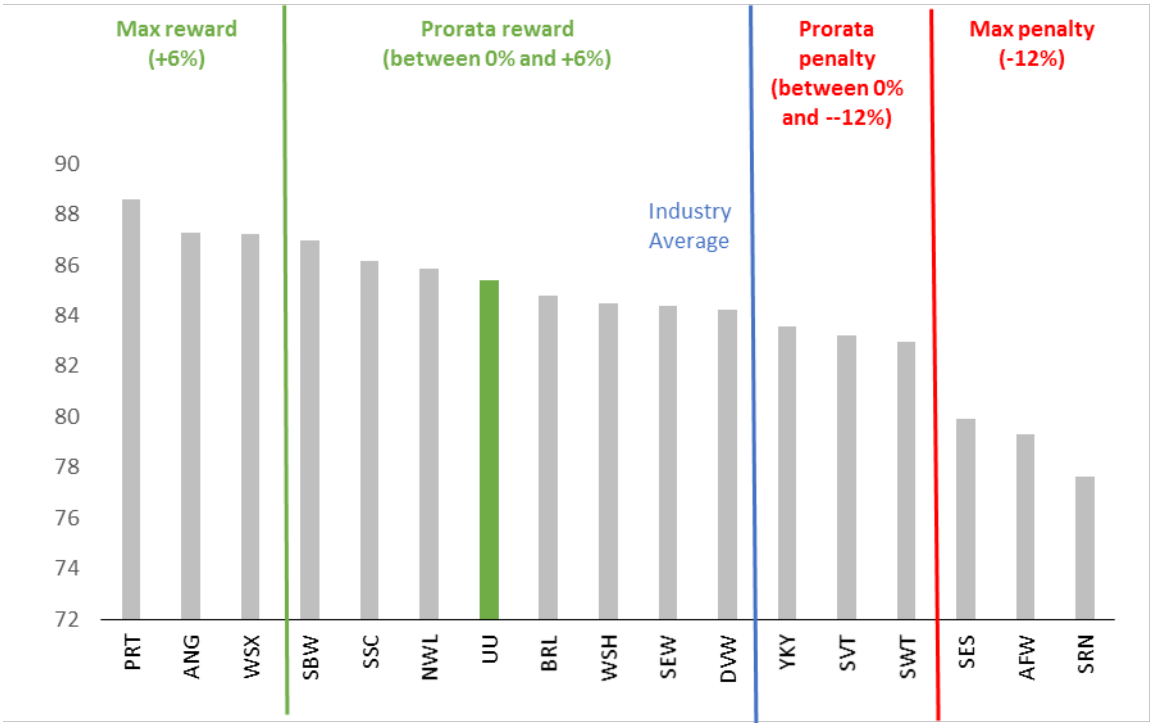
σ_{Ind} = standard deviation associated with $\bar{x}_{Ind}$

Household retail revenue = revised household retail allowed revenues for 2019/20 * 5

We have used this methodology to forecast UU reward/penalty reconciliation values.

Impact of the reconciliation mechanisms

Figure 4 Estimated four year average SIM performance by company and associated reward/penalty categories



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 reward on our understanding of the established SIM methodology, first used as part of PR14 SIM reconciliations. 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.
- Utilised 3 years of actual information as reported in APR table 3D of the Annual Performance Report for other companies' actual performance.
- Estimated 2018/19 performance for other companies based on published quarterly qualitative survey results and past qualitative performance trends.
- Maintained Bournemouth Water as a separate entity for the purposes of calculating industry average SIM performance.
- 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 UU'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
- Scaled rewards and penalties for companies that lie between the average and cap/collar on a pro rata basis.
- Used a maximum reward rate of 6% and a maximum penalty rate 12% of Residential Retail revenues.
- Used forecast UU Residential Retail revenues for 2019/20 to scale rewards.

UUW's four year average SIM score is 85.37, and we estimate that the industry average will be 83.83, with a standard deviation of 3.35. This generates a £16.485m reward (nominal prices) for United Utilities.

Impact of the reconciliation mechanisms

Performance and value of adjustments

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 7th overall and 4th amongst Water and Sewerage companies.

The combination of the improvements in (relative) performance with the assumptions listed above result in a reward of £16.485m (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	5th	n/a	**16.485**

UUW performance on SIM

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

Qualitative performance has increased through the period with scores for 2018/19 being the highest we have achieved. Quantitative Performance has also improved with substantial reductions in complaint numbers and particularly significant reductions in escalated complaints.

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 2012/13 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 2012/13 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".

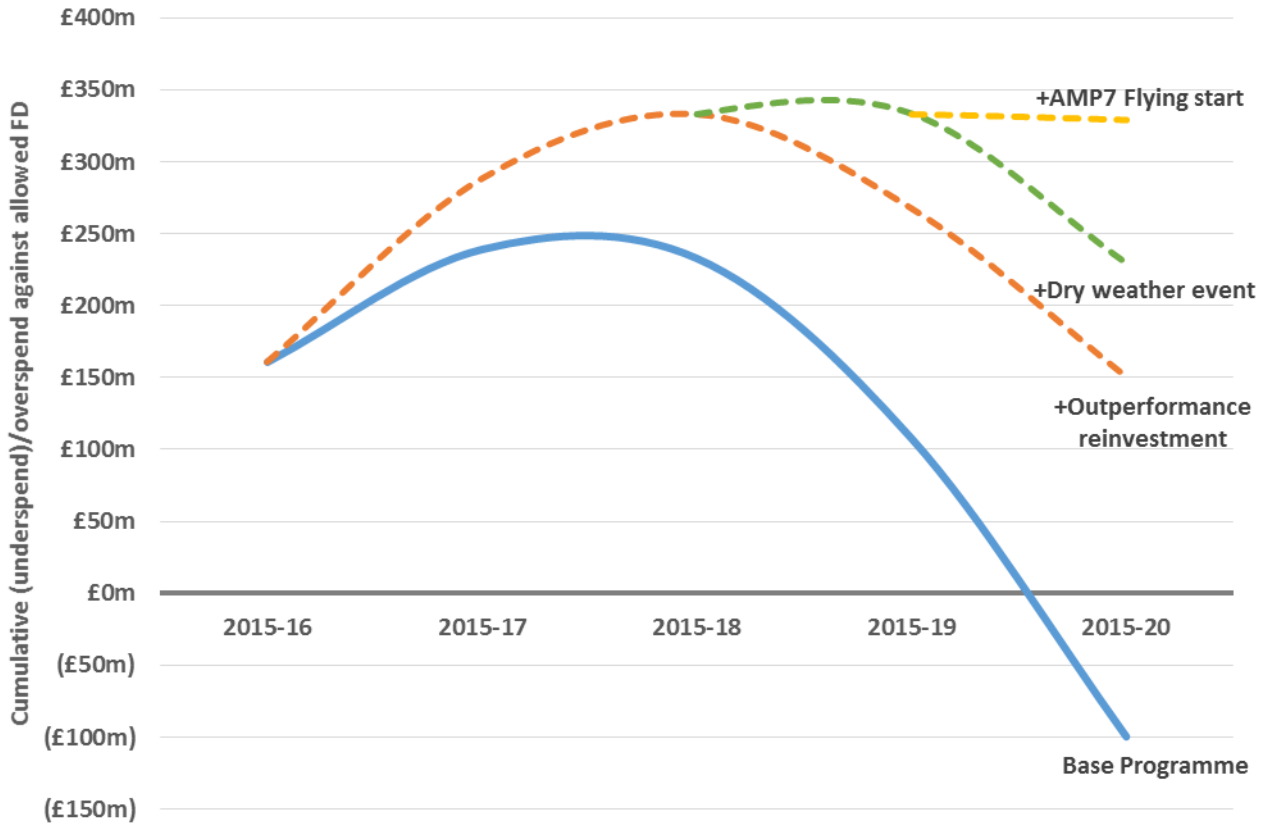
Further details on our totex expenditure and how this compares to the assumptions made in PR14 are set out in our Annual Performance Report.

AMP6 Performance

Total expenditure levels in the first four years of the AMP6 period has been higher than what 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 improve performance against our performance commitments. The acceleration of expenditure, combined with our approach to Systems Thinking, has enabled us to target to exceed the stretching efficiency targets resulting from the PR14 determinations. At an aggregate level, we expect to overspend the PR14 allowed baseline by £334m but, as illustrated by Figure 5, this is driven by additional reinvestment to improve service for customers and atypical one-off events.

Figure 5 Cumulative Wholesale totex AMP6 performance against the allowed menu (nominal prices)



We continue to target that, on a like for like basis (i.e. expenditure incurred against planned scope), we will outperform the 'base programme' allowed wholesale totex by £100m. This causes the base programme to reduce by £25m from reported expenditure last year, reflecting lower than previously expected inflation. Also unchanged is our previous commitment to reinvesting an additional £250m to deliver projects that were not part of our original PR14 determination 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.

Since last year, two notable additions to the programme have occurred resulting in actual expenditure increasing by c£180m. Firstly, in response to the Dry Weather Event during the summer of 2018, an additional £80m was committed ensuring that customers continued to receive a reliable service without the need for any temporary use restrictions. Secondly, an advantage of being 'fast tracked' more than a year ahead of the start of AMP7 is that we can refine our plans to achieve a flying start to the AMP. We have seen the benefit of early investment in AMP6 and so we have decided to reinvest a further £100m of our AMP6 outperformance in areas where we have opportunity to deliver improved performance earlier in AMP7 in line with the draft determination. The main priorities for this investment are three of our toughest performance targets for AMP7: leakage, supply interruptions and sewer flooding.

Impact of the reconciliation mechanisms

This investment is in addition to the £250m we have already committed to deliver enhanced resilience, bringing the total additional investment for AMP6 to £430m.

The main changes from the Wholesale expenditure reported last year are summarised in ***Table 32*** below.

Table 32 Summary of changes to Wholesale expenditure

	APR18	APR19	*Change*
Actual Totex - base programme	**£6,030m**	**£6,056m**	***£26m***
- Third party services (opex)	*£9m*	*£10m*	*£1m*
- Pension deficit recovery costs	*£151m*	*£202m*	*£51m*
- Disallowables	*£34m*	*£32m*	*(£1m)*
- Transition expenditure	*£28m*	*£28m*	*£0m*
Actual menu totex - base programme	**£5,864m**	**£5,839m**	***(£25m)***
Outperformance reinvestment spend	**£250m**	**£250m**	***£0m***
+ Flying start	**£0m**	**£100m**	***£100m***
+ Dry Weather Event	**£0m**	**£79m**	***£79m***
+ GMP pension equalisation	**£0m**	**£5m**	***£5m***
Actual menu totex - total	**£6,114m**	**£6,273m**	***£159m***

A further noteworthy change from the AMP6 expenditure reported last year is the change that we have made to our position pension deficit recovery costs. Over recent years, pension scheme funding has become a bigger issue for regulators. Ofwat will require companies to consider pensions before making dividend payments, and recognising the limitations of IFRS and funding deficit calculations, The Pensions Regulator expects all pension schemes to calculate their deficit / surplus on a self-sufficiency basis and have a long term plan to achieve self-sufficiency. This means getting to a position where the pension scheme is invested in low risk assets and funded such that it has minimal reliance upon the company in order to meet all of its liabilities.

In April 2019 we pre-paid at a discount all of the deficit repair contributions originally planned up to 2021 for our larger scheme (UUPS) and up to 2024 for our smaller scheme (ESPS). As a consequence, the only future payments we expect to make will be our ongoing service contributions. Since our deficit repair plan was our final step to self-sufficiency, we now have no deficit on a funding basis and no deficit on a self-sufficiency 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 four financial years to 2019 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.
- 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.

Impact of the reconciliation mechanisms

- 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.

Value of the resultant adjustments

Following the population of the totex menu reconciliation model on the above basis, we calculate that the adjustments shown in ***Table 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 22*** and ***Table 23***.

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

	Revenue Adjustment	RCV adjustment
Wholesale Water	43.373	94.213
Wholesale Wastewater	9.780	36.735
Wholesale total	**53.152**	**130.948**

Wholesale Water

As described in our Annual Performance Report we have accelerated the pace of delivery of the AMP6 programme whilst we will also invest delivered over £250m of additional investment to build additional resilience and a further £100m to give a flying start to AMP7. As a result of this additional investment, we are forecasting to overspend the Water assumed totex prior to accounting for financing adjustments by £259.8m 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	actual	*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	556.0	523.5	**2607.6**
Out / (under) performance	**(30.6)**	**(61.4)**	**(47.7)**	**(56.3)**	**(63.8)**	**(259.8)**

The anticipated overspend against the assumed totex generates a menu performance of 111.19 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%[11], results in a menu penalty of 5.59% of the Water baseline which equates to £131.01m[12]. 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 £129.61m (£139.17m 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 £276.8m 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 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)	(139.2)	n/a	(139.2)
Totex adjustment	182.6	94.2	276.8
Total	**43.4**	**94.2**	**137.6**

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 £50.8m 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*	*actual*	*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	585.2	481.1	**2990.6**
Out / (under) performance	**(121.3)**	**(56.0)**	**8.0**	**51.5**	**67.0**	**(50.8)**

The anticipated overspend against the assumed totex generates a menu performance of 103.32 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 1.66% of the Wastewater baseline which equates to £47.9m. 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 £24.8m (£26.6m 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 £73.2m which is

[11] "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

[12] Excluding financing cost adjustments

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)	(26.6)	n/a	(26.6)
Totex adjustment	36.4	36.7	73.2
Total	**9.8**	**36.7**	**46.5**

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 reduce volatility on customer bills arising from revenue forecasting deviations by:

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

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[13] rather than using the values provided in the PR09 legacy blind year feeder model.
- Used actual revenues recovered for the first four years of the AMP and expected revenues based on our charging structure for 2019/20.
- Used actual 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 required AMP7 adjustment.
- Accelerated the return of over-recovered 2018/19 revenues to reduce the amount of revenue recovered in 2019/20.

Performance and value of adjustments

The WRFIM model provided by Ofwat allows (per item 16 of the WRFIM model change log) for companies to accelerate the return of over-recovered 2018/19 revenue after one year, i.e. in 2019/20. We have utilised this facility of the model to amend our adjusted allowed revenue and revenue forecast for 2019/20 by our anticipated (at the time of setting 2019/20 charges) over-recovery of revenue in 2018/19 of £6.1m and £2.1m for water and wastewater respectively.

However there is an inconsistency in the WRFIM model since it does not take into account this accelerated return of revenue in 2019/20 when calculating the end of AMP adjustment. We have therefore corrected the formula in cell P67 in the "WRFIM - Water" and "WRFIM - Waste" worksheets so that it takes into account the revenue that we will have already returned back to customers in 2019/20 as a result of our use of the accelerated return of over-recovered revenue facility in the model.

[13] https://www.ofwat.gov.uk/final-reconciliation-models/

Impact of the reconciliation mechanisms

For Water, of the total £12.253m adjustment calculated by the model for 2018/19 outperformance, we have calculated that **the correct adjustment to carry forward to AMP7 is £6.116m** since we have already returned £6.137m back to customers in 2019/20 charges.

For Wastewater, at the time of setting charges for 2019/20 we estimated that we would outperform for 2018/19 by £2.1m, whereas at year end we actually under-performed against our allowed revenue. Therefore of the total £5.829m reward calculated by the model for 2018/19 under-performance, we have calculated that **the correct reward to carry forward to AMP7 is £7.928m**, since we have already returned £2.099m of anticipated outperformance (and hence penalty) back to customers in 2019/20 charges.

We do not expect a variance against adjusted allowed revenues for 2019/20. Therefore we are not forecasting an end of AMP correction that relates to 2019/20 performance.

The following tables summarise our performance against the Water and (over the page) the Wastewater price controls for AMP6.

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

	2015/16	2016/17	2017/18	2018/19	2019/20	AMP7
Allowed Revenue from FD	703.4	721.7	744.7	779.5	810.3	
WRFIM Adjustment from year t-2			(10.1)	(1.9)	(3.2)	(6.116)
AMP5 RCM blind year adjustment			(3.2)	(3.5)	(3.7)	
Accelerated return of 2018/19 revenue					(6.137)	
Adjusted Allowed Revenue (AR)	703.4	721.7	731.4	774.1	797.2	
Revenue Recovered (RR)	712.6	723.4	734.1	785.6	797.2	
Over / (Under) recovery versus adjusted allowed revenue	9.1	1.7	2.8	11.5	-	
Forecast error	1.3%	0.2%	0.4%	1.5%	-%	
Is a penalty required?	No	No	No	No	No	
AMP6 Penalty	0.0	0.0	0.0	0.0	0.0	

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

	2015/16	2016/17	2017/18	2018/19	2019/20	AMP7
Allowed Revenue from FD	834.4	856.8	885.3	927.3	959.4	
WRFIM Adjustment from year t-2			0.2	(2.3)	2.3	7.928
AMP5 RCM blind year adjustment			(0.7)	(0.8)	(0.8)	
Accelerated return of 2018/19 revenue					(2.099)	
Adjusted Allowed Revenue (AR)	834.4	856.8	884.8	924.3	958.8	
Revenue Recovered (RR)	834.2	858.8	882.8	918.8	958.8	
Over / (Under) recovery versus adjusted allowed revenue	(0.1)	2.0	(2.0)	(5.5)	-	
Forecast error	(0.0%)	0.2%	(0.2%)	(0.6%)	-%	
Is a penalty required?	No	No	No	No	No	
AMP6 Penalty	0.0	0.0	0.0	0.0	0.0	

2.5 Household retail mechanism

Background

The household retail price control is an average 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. 2019/20 uses 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).

Impact of the reconciliation mechanisms

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	0.02	**0.02**
Unmetered wastewater-only customer	(0.07)	(0.04)	0.07	0.03	0.01	**(0.01)**
Unmetered water and wastewater customer	0.99	0.00	0.46	0.58	0.25	**2.28**
Metered water-only customer	(0.00)	0.04	0.01	0.00	(0.01)	**0.04**
Metered wastewater-only customer	0.04	1.01	0.24	(0.01)	(0.02)	**1.26**
Metered water and wastewater customer	(0.84)	0.18	(0.49)	0.06	0.36	**(0.73)**
Total	**0.10**	**1.16**	**0.31**	**0.67**	**0.61**	**2.86**

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	0.17	0.16	**1.18**
Unmetered wastewater-only customer	0.36	0.31	0.18	0.19	0.18	**1.22**
Unmetered water and wastewater customer	(5.43)	(2.76)	(3.68)	(5.36)	(5.94)	**(23.15)**
Metered water-only customer	0.39	0.35	0.38	0.37	0.41	**1.89**
Metered wastewater-only customer	0.18	(0.13)	0.80	1.00	1.05	**2.89**
Metered water and wastewater customer	4.17	4.01	4.37	2.74	3.29	**18.58**
Total	**(0.02)**	**2.12**	**2.25**	**(0.90)**	**(0.86)**	**2.59**

Impact of the reconciliation mechanisms

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	0.19	0.17	**1.220**
Unmetered wastewater-only customer	0.29	0.27	0.25	0.22	0.19	**1.21**
Unmetered water and wastewater customer	(4.44)	(2.75)	(3.22)	(4.78)	(5.69)	**(20.89)**
Metered water-only customer	0.39	0.39	0.39	0.37	0.39	**1.92**
Metered wastewater-only customer	0.22	0.88	1.04	0.98	1.04	**4.16**
Metered water and wastewater customer	3.32	4.20	3.87	2.80	3.66	**17.85**
Total	**0.08**	**3.28**	**2.56**	**-0.23**	**0.24**	**5.45**

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 adjustments to revenue and regulatory capital value*.

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.[14]

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 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 Cumulo rates	57.4	57.4	57.4	57.4	57.4	**287.1**
Actual Cumulo rates	58.3	58.0	57.1	57.1	56.9	**287.4**
Variance	**0.8**	**0.6**	**-0.3**	**-0.3**	**-0.5**	**0.3**

[14] 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 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'15 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 and CPIH 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 that the adjustments set out in the table over page 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.

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

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	2.602	1.972	**13.988**
Impact of 50% of proceeds	0.243	1.065	1.426	1.039	1.301	0.986	**6.060**
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 %	2.52%	2.52%	2.52%	2.52%	2.52%	2.52%	
Discount rate (nominal)	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	
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	**0.291**	**1.200**	**1.514**	**1.039**	**1.226**	**0.875**	**(6.144)**

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	0.353	0.290	**1.048**
Impact of 50% of proceeds	0.006	0.025	0.096	0.054	0.177	0.145	**0.502**
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 %	2.52%	2.52%	2.52%	2.52%	2.52%	2.52%	
Discount rate (nominal)	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	
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	**0.007**	**0.028**	**0.102**	**0.054**	**0.166**	**0.129**	**(0.486)**

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.
- 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)	(11.610)
Wastewater Service	(10.356)	(11.846)

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	36.415
Wastewater Service	45.924	52.533

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 the following section.

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 opening 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[16] 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)	(79.751)
Wastewater Service	(118.073)	(135.065)

[16] https://www.ofwat.gov.uk/wp-content/uploads/2017/12/Updated-2010-2015-reconciliation.pdf

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 F – IAP queries and responses

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 four years of the period, together with our view of likely performance levels for the remaining year of the AMP6 period and highlights risks and opportunities that could affect future performance levels.

A.1 Water Service performance commitments

2018/19 Annual performance summary

Performance against our water service outcomes in 2018/19 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 of our Annual Performance Report.

Water Service Operational Performance Summary (2018/19)

Performance Commitment	Actual				Performance Commitments		Financial incentives	
	2015/16	2016/17	2017/18	2018/19	2018/19	Pass/ Fail	2018/19 Annual (£m)	2018/19 Cumulative (£m)
A1: Drinking Water Safety Plan risk score	4.3	4.3	4.3	4.8	≤ 4.3	Fail	N/A	N/A
A2: Water quality events DWI category 3 or above	35	22	27	6	≤ 9	Pass	0	-1.788
A3: Water Quality Service Index	120.465	116.923	98.645	101.182	≥ 145.9	Fail	-3.619	-10.630
B1: Average minutes supply lost per property (a year)	16:42	13:33	13:09	09:10	≤ 12:00	Pass	11.258	5.296
B2: Reliable water service index	16.45	77.84	70.83	98.46	≤ 100	Fail	0	-23.922
B3: Security of supply index (SoSI)	100.00	100.00	100.00	100.00	= 100.00	Pass	0	0
B4: Total leakage at or below target	10.8	23.4	9.1	6.7	≥ 0	Pass	0	9.148
B5: Resilience of impounding reservoirs	161.61	164.25	165.42	165.72	≥ 164.87	Pass	0	0
B6: Thirlmere transfer into West Cumbria	2	5	25	57	≥ 53	Pass	0	0
C1: Contribution to rivers improved - water programme	36.85	82.55	80.56	50.48	≥ 6.6	Pass	0.185	0.610
D1: Delivering our commitments to developers, local and highway authorities	95.2%	97.5%	93.8%	89.0%	≥ 94.0%	Fail	N/A	N/A
E1: Number of free water meters installed	27,197	32,447	36,615	32,069	≥ 47,421	Fail	N/A	N/A
Water Service (net underperformance payment) £m							**7.8**	**-21.3**

1 These measures are reputational only

Forecast future performance

Actual performance against our water service outcome delivery incentives in the first four years of the AMP6 period, together with forecast performance for the remaining year 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 in the detailed commentary provided in the following pages.

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 the performance projections set out for many of the outcome delivery incentives in the table below will be subject to a number of factors, not all of which are in 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.

Performance Commitment	Incentive Type	Actual					Forecast	Projected AMP6 performance
		2015/16	2016/17	2017/18	2018/19	To date	2019/20	
A2: Water quality events DWI category 3 or above	Underperformance only	-0.4	-0.6	-0.7	0	-1.8	-1.2	-3.0
A3: Water Quality Service Index	Outperformance and underperformance	0.2	-3.6	-3.6	-3.6	-10.6	-3.6	-14.2
B1: Average minutes supply lost per property (a year)	Outperformance and underperformance	0	0	-6.0	11.3	5.3	1.7	7.0
B2: Reliable water service index	Outperformance and underperformance	-8.0	-8.0	-8.0	0	-23.9	0	-23.9
B3: Security of supply index (SoSI)	Underperformance only	0	0	0	0	0	0	0
B4: Total leakage at or below target	Outperformance and underperformance	0	9.1	0	0	9.1	0	9.1
B5: Resilience of impounding reservoirs	Underperformance only	0	0	0	0	0	0	0
B6: Thirlmere transfer into West Cumbria	Outperformance and underperformance	0	0	0	0	0	21.6	21.6
C1: Contribution to rivers improved - water	Outperformance and underperformance	0.1	0.2	0.2	0.2	0.6	0	0.6
Water Service net: 2015/16 to 2018/19 financial incentive						**-21.3**	AMP 6	**-2.8**

Notes

1 The numbers in the table above have been rounded to one decimal place therefore the annual underperformance and outperformance payments may not appear to add up to the amounts reported in the current financial position and projected AMP6 performance columns.

2 Reputational only performance commitments are not included in the table.

Line 1 A1 Drinking Water Safety Plan risk score

Performance Summary

Although we have reported that we failed to meet our performance commitment for this measure in 2018/19, this was because we have revised our assessment to meet changes to the DWI reporting requirements. This change has led to us assessing a greater number of risks and changing the way we assess water quality risks in catchment. Both of which have resulted in a higher risk score. We anticipate that the current level of performance will be maintained next year.

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.

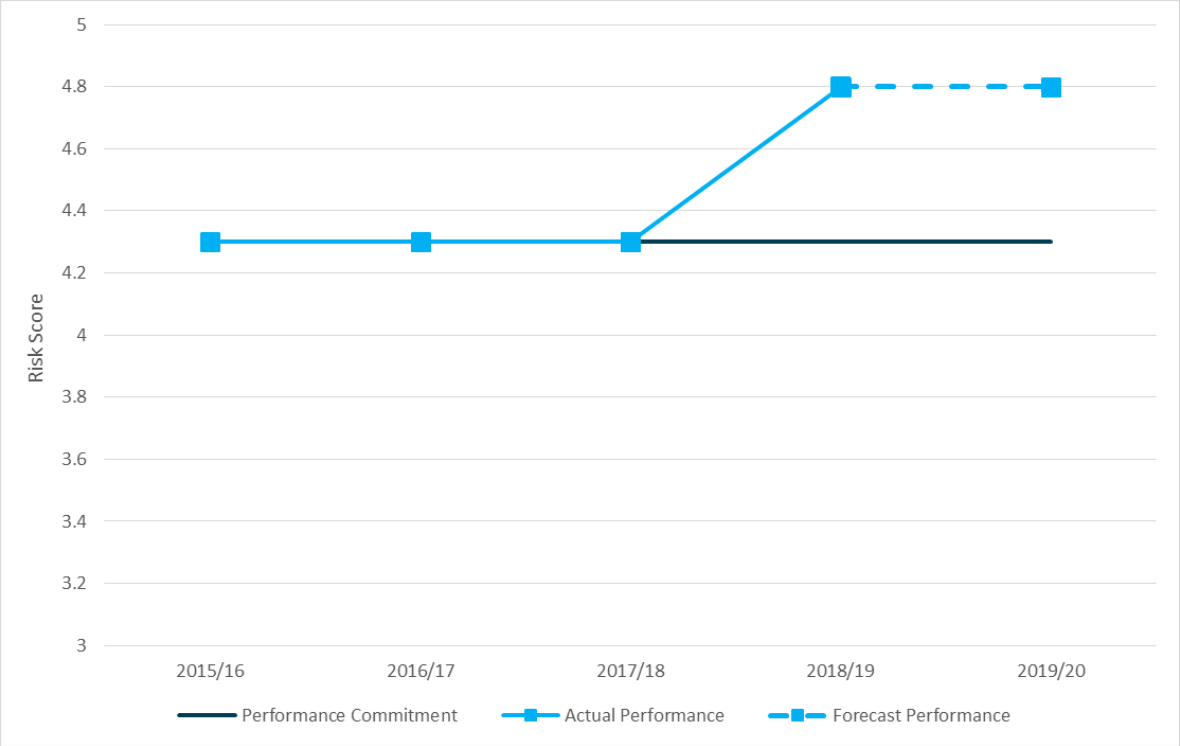
Following publication of the FD, there was a change in DWI reporting requirements as set out in DWI Information Letters 02/2014 and 01/2015. This meant that risk reporting has moved away from hazardous events to hazards. One hazardous event may have several hazards associated with it and this has resulted 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 changed to 4.3.

This year the risk score has increased again as a result of a change in our methodology to meet new reporting requirements. The scope of the risk assessment has been extended to include all hazards within the Water Supply (Water Quality) Regulations at each stage within the supply system as required by information letter 02/2018. The information letter also requires risk scores for individual hazards to be carried forward through the supply system. These changes have increased the number of hazards assessed and in some instances the score resulting in an increase in the overall risk score.

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	**4.8**	4.8
Pass/Fail	Pass	Pass	Pass	**Fail**	Fail
Outperformance/ Underperformance	Reputational	Reputational	Reputational	**Reputational**	Reputational

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



Overview of performance to date

The score has been consistent at 4.3 from 2015 until 2018. Although there has been an increase in 2018/19 to 4.8. This is due to changes in methodology. 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 30th 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. The score had been consistent at 4.3 from 2015 until 2018. The recent increase to 4.8 can be attributed to:

- An alignment of consequence scores for individual hazards to those used by DWI
- The inclusion of all hazards within the Water Supply (Water Quality) Regulations at each stage within the supply system as required by DWI information letter 02/2018
- The requirement to carry forward risk scores for individual hazards through the supply system as required by DWI information letter 02/2018

The above changes and requirements have resulted in an increase in the number of hazards assessed and an overall increase in risk score based around new consequence scores.

Underperformance or Outperformance 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.

Anticipated Performance Year 5

Performance throughout the remainder of the AMP is expected to remain at the risk level of 4.8.

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

1. Further changes the European Drinking Water Directive could increase the number of parameters that we have to monitor for, and therefore assess as part of the Drinking Water Safety Plan risk assessments and potentially result in a change to the risk score.
2. We are considering seeking accreditation of our DWSP process to ensure it is in line with British Standard (BSEN) for risk management. This may mean that 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 2018/19 performance continued to improve against this measure and we outperformed the target. We expect to see continued improvement in water quality however due to changes in the way events are classified by the DWI we are forecasting an increase in the number of events classified as category 3 and above. Underperformance in the first three years and the final year means that over the five years we expect to incur a total underperformance of around £3m.

Measure description

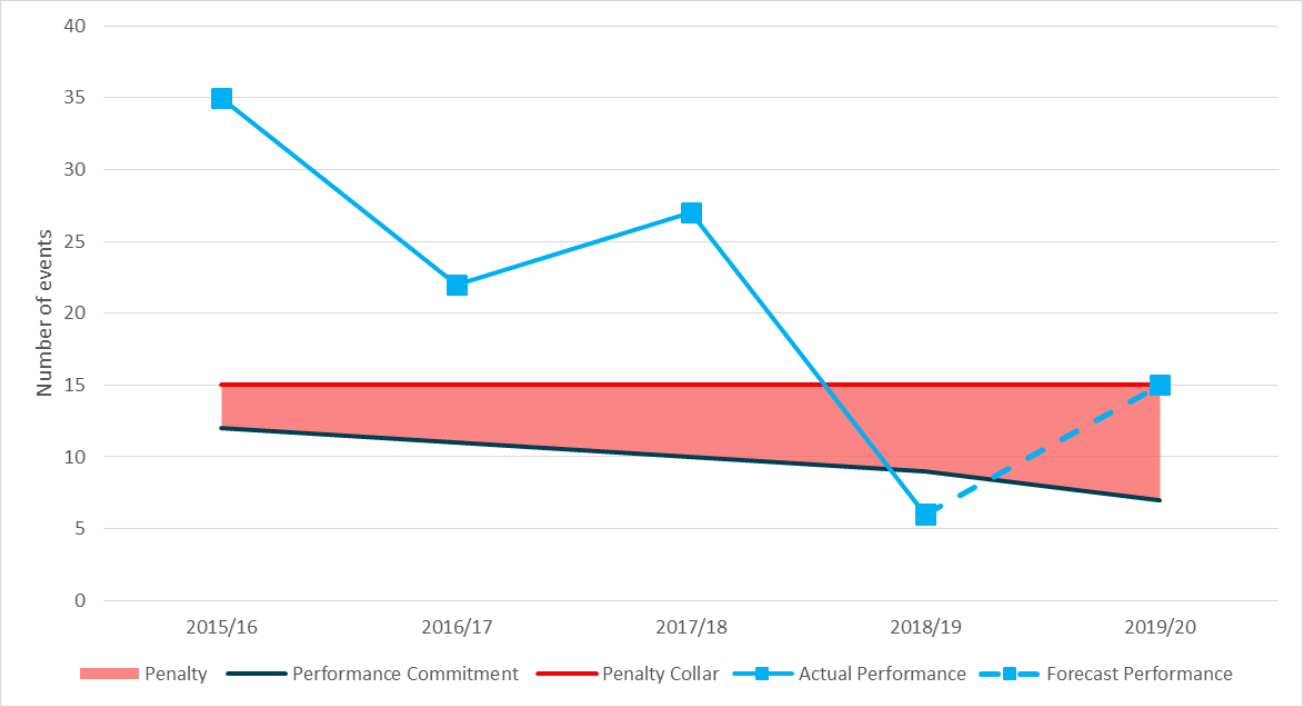
This performance commitment records the number of events with a categorisation of three or above (as defined by the Drinking Water Inspectorate (DWI)). The categories are as follows: category 3 (significant), category 4 (major) and category 5 (serious).

This measure is penalty only.

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	**6**	15
Pass/Fail	Fail	Fail	Fail	**Pass**	Fail
Outperformance payment/ Penalty	£(0.447)m	£(0.596)m	£(0.745)m	**£0m**	£(1.192)m

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



Appendix A Detailed review of our ODIs

Overview of Performance

The performance commitment target for 2018/19 has been outperformed. There are two reasons for the improvement in performance.

Firstly, the DWI has made some changes to the way that it classifies events. The most significant changes are that some of the previous Category 3 type events (e.g. precautionary "boil water advice/"do not drink", which serve a small number of properties) have been assessed as Category 2. We have changed our approach to resolving single (or multiple) property "do not drink" events where the issue is found to be on the customer's own pipework, resulting in a lower classifications by the DWI.

Secondly, the implementation of a new process for starting up water treatment works (WTWs) has reduced the number of WTW related events, therefore resulting in a decrease in the number of Category 3 and above events.

Underperformance or Outperformance payments

The performance commitment has been met for 2018/19 as this is a penalty only measure there is no outperformance payment.

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:

- Revision of the planned works risk assessment document in order to improve the Company's assessment of risk including improved contingency planning and requirements for modelling. Delivery of an eLearning package for risk assessments.
- Programme of work completed to assess critical control points on all WTWs and SRs and installation of additional instrumentation and assessment of control philosophies.
- The Company has recruited Remote Monitoring Co-ordinators and 21 Remote Monitoring Operators within the Integrated Control Centre. They complete virtual site tours 24/7 and escalate any identified issues to the RMC Team.
- 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. This has included trials of algae monitors. These compounds produce an earthy/musty taste which can be detected by customers.
- Proactive catchment management and stakeholder interaction to manage the increase of algae in the catchment.

- Portable PAC (powdered activated carbon) dosing rigs are available for deployment around the region as necessary.
- Trialling UV LED for taste and odour treatment.

Anticipated Performance Year 5

Last year we forecast that an underperformance payment would be incurred for 2018/19 and for 2019/20. However we now expect to maintain performance above historic performance levels as a result of our water transformation programme.

We are however, forecasting that we will miss the 2019/20 target because the way the DWI classifies events has changed. In the future the DWI is more likely to classify complex Category 3 events as the higher classification Category 4. Those that would have been a Category 4 previously will now be a Category 5. The changes will lead to some events previously reported as Category 3 being classified as a lower Category 2.

We expect water quality will continue to improve as a result of our water transformation programme. However we anticipate as a result of the changes to the way the DWI classifies events there will be an increase in the number of Category 3 and above events in 2019/20 compared with this year.

In order to calculate any underperformance the ODI performance is compared against the target performance. If the performance falls within the underperformance zone then we multiply the resulting difference by the underperformance rate of £0.149 million per event. We incurred the maximum penalty payment for the first three years and it is possible that we will do so again in 2019/20, meaning that over the 2015-2020 period we expect to incur a total penalty payment of £2.98m.

The risks and opportunities identified in the section below could impact upon reported numbers for 2019/20.

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

1. Water Transformation Programme

    - We continue to work 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 2018/19, incurring the maximum underperformance payment. Although we anticipate an improvement in our performance for the remaining year of the AMP, we are unlikely to meet the target and we expect we will remain within the underperformance 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 outperformance payment and an underperformance penalty: the other five water quality sub-measures carry an underperformance only incentive.

Mean zonal compliance (MZC) 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 underperformance incentive for this sub-measure, which generates a standalone underperformance payment and acts as a "gateway check" for the overall index.

This means that even if the Water Quality Service index score is above the outperformance deadband then an out- performance payment would only be warranted if performance for the MZC sub-measure is also above the MZC underperformance deadband (100%).

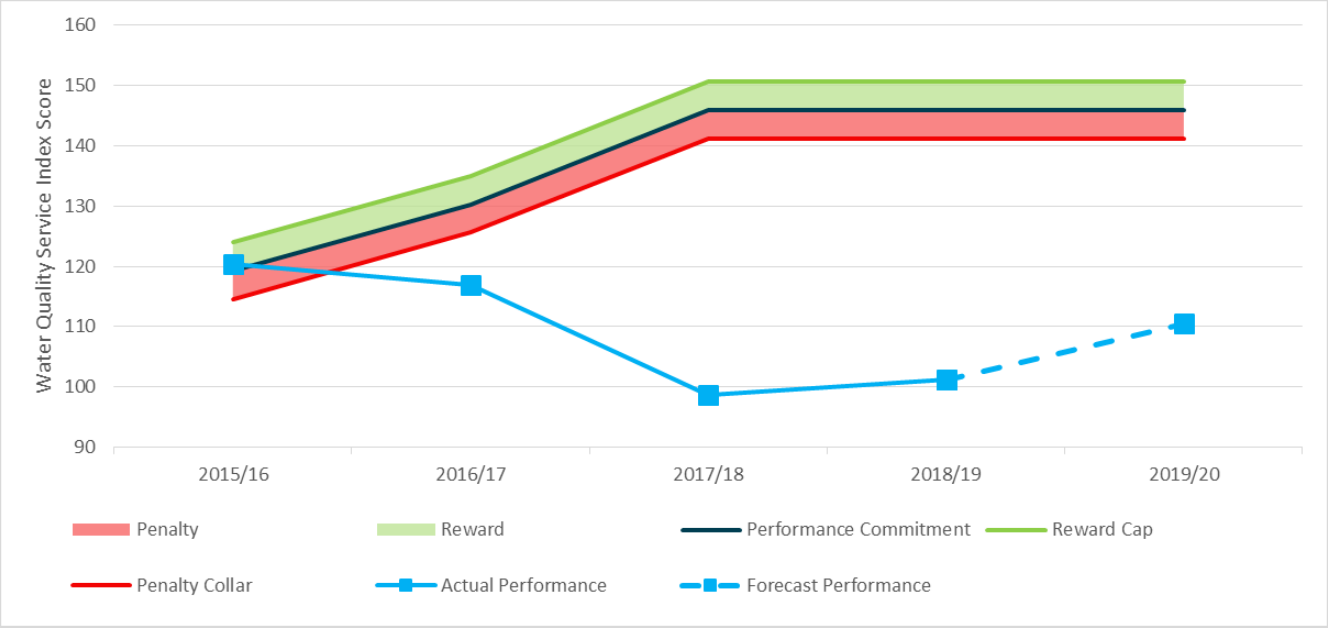
Actual and forecast performance for the 'Water Quality Service Index score' performance commitment

	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	**101.182**	110.503
Pass/Fail	Pass	Fail	Fail	**Fail**	Fail
Outperformance payment/Penalty	£0.227m	£(3.619)m	£(3.619)m	**£(3.619)m**	£(3.619)m

2018/19 Actual performance and targets for the Water Quality Service Index submeasures

Sub measure	Performance 2015/16	Performance 2016/17	Performance 2017/18	Performance 2018/19	Indicative Target 2018/19	2018/19 Target Pass/Fail
WTW coliform non-compliance	0.06	0.01	0.01	0.01	0.04	Pass
SR integrity index	99.98	99.98	99.97	99.98	99.96	Pass
Index WTW turbidity fails	1	2	1	0	3	Pass
Index Mean zonal compliance	99.96	99.96	99.97	99.93	100.00	Fail
Distribution maintenance index	99.89	99.85	99.89	99.86	99.88	Fail
Contacts for water quality	9,171	9,605	11,652	10,923	6,904	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 outperformance payment of £0.227m. However, the performance commitment was failed in the subsequent three years, including 2018/19, resulting in the maximum underperformance of £3.619m per annum. Cumulatively this gives an underperformance payment over the four years of £10.630m.

WQSI performance has improved this year as a result of an improvement in the Service Reservoir integrity index , a reduction in the number of turbidity failures and a reduction in the number of customer contacts associated with water quality. We are disappointed that despite the reduction in the number of water quality customer contacts received we missed the target along with the targets for two other sub-measures; mean zonal compliance and distribution index.

Although there has been a slight improvement in the number of water quality contacts received we have still received a high number of contacts associated with discolouration on the network. 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 all three of the -measures we have failed.

Mains cleaning and large diameter mains cleaning projects were underway to reduce the risk of discolouration, turbidity, iron and manganese infringements. To further reduce the risk we committed to undertake mains cleaning in an additional 70 water supply zones. However this work was suspended over the extended period of dry weather to maximize available supply. We expect to see an improvement in performance as this programme of work is completed.

Mean zonal compliance measures performance against 39 water quality standards. Performance this year at 99.93% fell short of the performance commitment of 100% compliance which is challenging, not least due to the influence of customer internal plumbing on several water quality parameters. In 2018, we have seen a significant increase in the number of lead exceedances in comparison to 2017. This can, in part, be attributed to higher water temperatures this summer which increases lead solubility. To maintain supplies during the period of extended dry weather in the summer a number of operational actions were undertaken at our WTWs, SRs and on our water mains network which resulted in a potential increase in mobilisation of deposits within the network. This impacted mean zonal compliance and distribution index performance.

In addition to our calm network approach we have established a network response team in the internal control centre to monitor pressure and flow information with a view to responding and remediating issues before there is a detrimental impact on the service provided to customers reducing the risk of potential infringements and discolouration in network.

Underperformance or outperformance payments

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

Lessons Learnt and Action Plan

We recognise the challenges faced with this measure and have a number of activities in place in order to seek to bring longer term performance back on track.

We continue to have challenges with iron and manganese in the network and whilst we are taking significant steps to resolve this (including mains cleaning, operating calm networks, and the development and implementation of a revised discolouration risk assessment that takes into account water chemistry, treatment processes, network hydraulics, water quality performance and customer contact data), occasional samples will fail. Other parameters (for example lead) can be transient in nature and are directly impacted by customer plumbing which is outside of our direct control. We will however continue to make improvements to reduce the risk associated with lead.

The majority of the water we supply is soft water from surface water sources which has a higher risk of containing naturally occurring compounds (from algae). We have seen an increased prevalence of these compounds associated with changing weather patterns. The presence of these compounds during the water treatment process can result in a musty/peaty taste and odour. The largest proportion of taste and odour customer contacts that we receive are associated with this musty/peaty issue. We will use improved technology to optimise our treatment works and operation of our networks to minimise taste and odour contacts.

We are working in partnership to develop innovative solutions, trialing a LED UV treatment unit at one of our treatment works. We are also working with a number of instrument suppliers and universities to develop real-time detection systems to detect and treat algal taste and odour compounds however it will take to develop and implement any innovative solutions to algae. Some of the additional activities that we have put in place are summarised below:

- We continue to deliver and update the DWI on the Company's Transformation Programme.
- 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. The Company has in place Regulation 28 notices for discolouration covering 53 WSZs (UUT3625 – UUT3677). The notices require cleaning to be undertaken to reduce the risk of discolouration, turbidity, iron and manganese infringements 8 WSZs have been completed; 11 WSZs have been completed and are still being monitored; 3 WSZs are undergoing minor mains improvement schemes and the further 29 WSZs have been renegotiated to be completed by 31 December 2019.
- Continued deployment of turbidity monitors during network operations will improve control of the network and reduce the risk of iron, manganese and turbidity infringements.
- Continued development of algae management plans at all high risk water treatment works to reduce the potential for algae to develop. Algae degradation produces compounds which produce an earthy/musty taste and odour which can be detected by customers. Algae management plans are now embedded as business as usual with regionally deployable powdered activated carbon dosing rigs available for the removal of algae compounds if this is detected as part of the enhanced monitoring programme. This is supported by proactive catchment management and stakeholder interaction to manage the increase of algae in the catchment. We are also leading on innovation in this area and have successfully completed a programme of work to trial the first prototype UV LED treatment unit for advanced oxidation of algae compounds.
- We are seeing benefits of our 3Rs approach – respond, restore, and repair. We have extended our Alternative Supply Vehicle (ASVs) Fleet to enable quicker response and ensure that following a burst we can respond quickly to restore supplies to customers, ensuring that the network remains charged wherever possible resulting in reduce risk of providing discoloured water and the associated potential for infringements of the turbidity, iron and manganese standards.
- Further use of GoPro proactive communication and engagement with customers.
- We have committed to invest an extra £44m to deliver further water performances improvements earlier to give us a flying start towards meeting future performance challenges for the 2020 to 2025 period. We plan to invest some of this expenditure on a water quality monitoring project to identify the root cause for localised discolouration issues.
- We are developing a chlorine decay network model to optimise network configuration and maintain stable chlorine levels in at risk areas.

Anticipated performance Year 5

Last year we forecast we would underperform against the 2019/20 performance commitment and incur the maximum underperformance payment.

The current forecast for the WQSI is that the actions outlined in the action plan section above will continue to improve our performance. However the target is challenging and the measures that we have put in place may take time to deliver their full benefits, we therefore still expect to miss the target for 2019/20 and to incur the maximum underperformance penalty for the measure. Indicative performance levels against each sub-measure are set out in the table below.

Forecast performance and indicative targets for the Water Quality Service Index sub measures

Sub measure	Indicative Target 2019/20	Forecast Performance 2019/20	Forecast Pass/Fail
WTW coliform non- compliance	0.04	0.01	Pass
SR integrity index	99.96	99.97	Pass
Index WTW turbidity fails	3	1	Pass
Index Mean zonal compliance	100.00	99.97	Fail
Distribution maintenance index	99.88	99.85	Fail
Contacts for water quality	6,904	10,377	Fail

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. Climate change could impact on the amount of algal growth.

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

Performance Summary

We have outperformed our performance commitment against this measure for 2018/19 resulting in an outperformance payment of £11.3m. Over recent years we have been focusing on the way we respond to interruptions to supply which is now beginning to show real benefits. The additional temporary measures we put in place to minimise the impact of the extended dry period also contributed to the good performance this year.

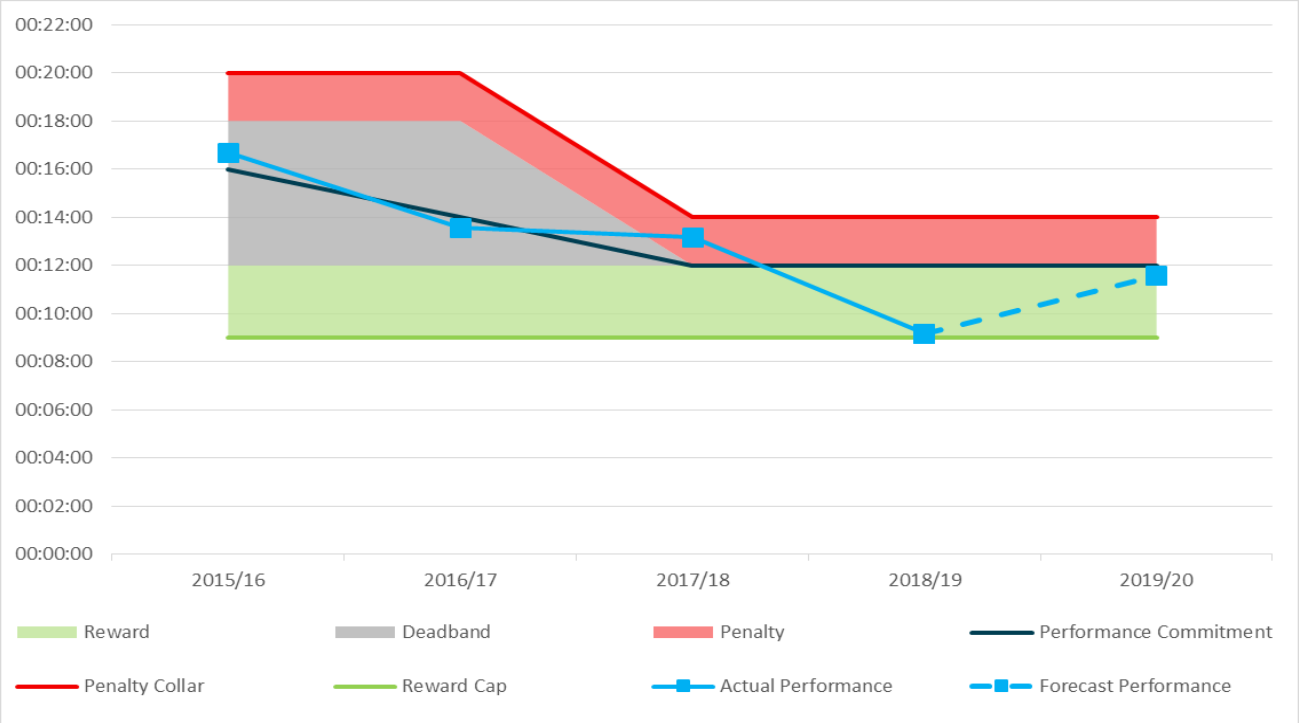
Measure description

This measure records (in minutes) the loss of supply to our customers which continues for greater than three hours averaged across the number of properties in the region. All supply interruptions are included 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	**09:10**	11:35
Pass/Fail	Fail	Pass	Fail	**Pass**	Pass
Outperformance payment/ Penalty	£0m	£0m	£(5.962)m	**£11.258m**	£1.658m

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

Our approach to improve response times and focus on the restoration of supplies has contributed to the outperformance of this measure in 2018/19. The step change in performance can be attributed predominantly to the implementation of a ICC triage system using additional key team members to support and plan the response to an event, particularly planning the restoration of supplies using network modelling, re-zones and the use of the alternative supply team. The alternative supply team has matured in numbers and has been structured to better support network events during this financial year. Any planned activity that required a supply interruption over 3 hours is now challenged by a senior manager and where possible mitigation such as the installation of additional valves or ASV is included to minimise the impact on customers. It has also been a relatively mild winter in 2018/19 unlike the previous winter when we experienced the extreme freeze/thaw.

We have also seen an improvement in performance as a result of activities we undertook during the extended period of dry weather in summer 2018, to maintain supplies. Planned interruptions associated with mains cleaning were postponed to maximise water available to meet the high household demand we experienced as result of the warm, dry summer. We also increased resources in our Integrated Control Centre to help identify and respond to availability issues quickly. Additional pressure management and leakage detection and repair activity was undertaken to reduce the stress on water supplies across our region. These activity has significantly reduced the average minutes lost associated with water supply interruptions.

Underperformance or Outperformance payments

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

Performance against this measure was showing an improving performance trend in the first two years of the AMP. However performance fell within the deadbands and therefore no outperformance payments or underperformance was earned. Last year performance deteriorated slightly resulting in a underperformance payment. In 2018/19 we outperformed the target earning an outperformance payment of £11.3m. Over the 2015 and 2020 period we have earned a cumulative outperformance payment of £5.3m.

Lessons learnt and action plan

In the last 18 month period we have been making changes to our people, processes and technology and are currently in the embedment phase of the rollout. Although we are starting to see the benefit of these changes we expect further performance improvements as we further embed these changes.

- The new Respond, Restore, Repair approach we have adopted uses information to identify problems before they impact customers, ensuring we have the capability to respond and restore supplies rapidly before we focus on repairing the fault.
- We have created a new Network Technician role whose principle job is to monitor and operate the water network system, identifying asset health issues before they result in service failure. This role was introduced in March 2018 and provides 24 hour field coverage and support by the central team in the ICC. A new process of event triage and coordinated response ensures the most efficient deployment of staff and emergency supplies as the team have the greatest situational awareness of the developing event. The centralization of network technology into one system enables visualisation of real time data and identifies if the system is operating outside normal ranges allowing the rapid identification of faults.
- Recognising that response capability is key to maintaining service we have continued to increase our fleet of alternative supply vehicles including the number of overland support vehicles enabling us to reach less accessible areas. These vehicles restore supplies to customers whilst we work to fix the problem.

- 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.
- During AMP6, as a result of our "lessons learnt" approach to preventing service failure, we worked with a third party organisation specialising in assessing asset resilience vulnerabilities. Across the region we highlighted the top resilience risks which have been developed into our AMP7 investment programme.

Anticipated performance Year 5

Current forecasted performance is to outperform the target of 12:00 with performance at 11:35 for 2019/20 due to our Respond, Restore and Repair approach to supply interruptions. Performance in 2018/19 benefitted from a mild winter so when forecasting at this early stage in the year, we need to account for the potential of a more severe winter in 2019/20. It is difficult to forecast performance in this measure. There is significant variation in performance year on year across the industry as a whole. Single large events can significantly impact performance and are difficult to predict.

We anticipate that we will not outperform the target to the same extent as our 2018/19 performance. To safeguard continuity of supplies and protect our water resources, we spent an additional £66 million in 2018/19. The activities taken to safeguard continuity of supply during the summer contributed to us outperforming average minutes lost therefore we expect performance to deteriorate slightly in 2019/20 because we won't be undertaking this scale of activity next year.

We have committed to invest an extra £44m to deliver further water performance improvements earlier in the 2020 to 2025 period. We plan to invest some of this expenditure to support projects to address additional resilience, poor condition mains and innovation projects t although it is not expected that we will see the full benefit of these until AMP7.

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

1. The Failure of a strategic main that cannot be supported by alternative supplies/ re-zone could lead to long loss of supply due to the difficulty in access/ repair.
2. Freeze-thaw event could lead to significant volumes of additional leaks/bursts that challenge resource levels/repair times.
3. Long-term changing climate and increase in severe weather events could also have an impact on this measure.

Line 5 B2: Reliable water service index (RWSI)

Performance Summary

Our performance was slightly below target for 2018/19 although there was an improvement in performance compared with 2017/18. The improvement was hampered by exceptional weather at the end of 2017/18 and during the summer of 2018. We haven't incurred an under performance underperformance this year because performance fell within the underperformance deadband. We anticipate we will continue to see performance improvements and expect to meet the target for 2019/20.

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 underperformance associated with the reliable water service index (RWSI) is determined by the under- performance of all four sub-measures. The size of any outperformance payments is based upon the outperformance 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 outperformance payments.

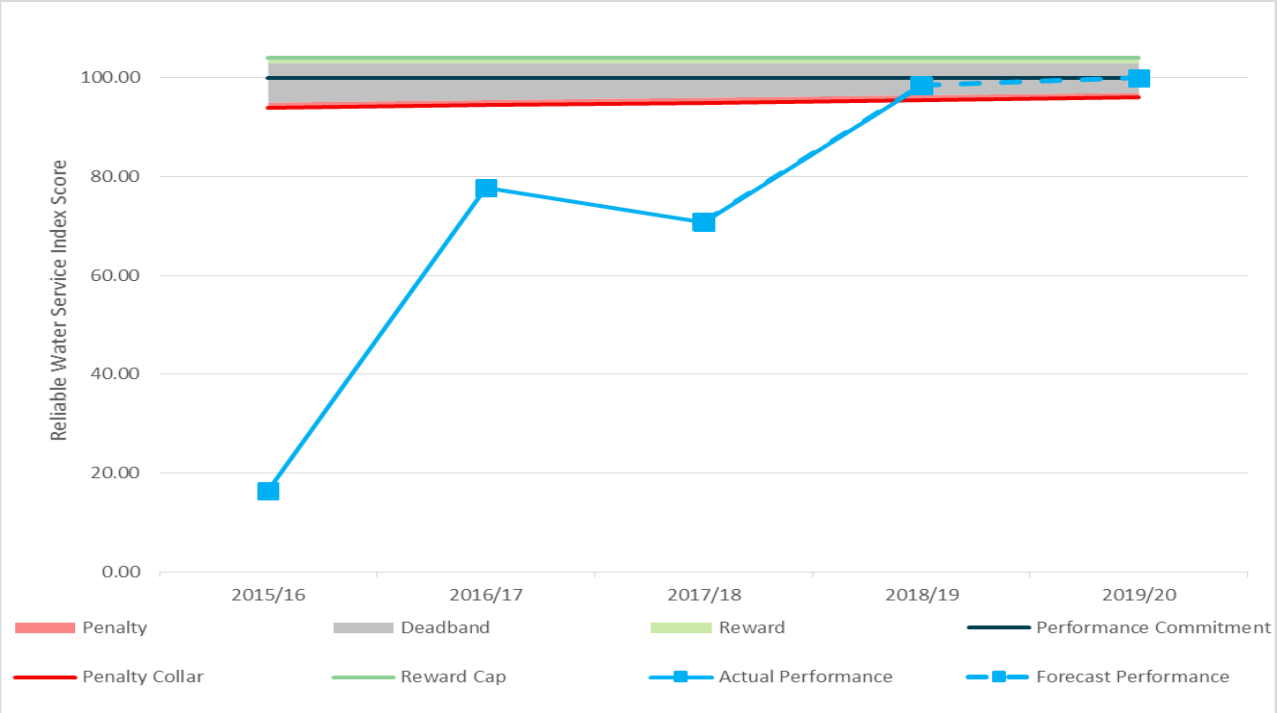
Actual and forecast performance for the 'Reliable Water Service Index' performance commitment

	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	**98.457**	100.000
Pass/Fail	Fail	Fail	Fail	**Fail**	Pass
Outperformance payment/ Penalty	£(7.974)m	£(7.974)m	£(7.974)m	**£0m**	£0m

2018/19 Actual performance and targets for the Reliable Water Service Index sub measures

Sub measure	Performance 2015/16	Performance 2016/17	Performance 2017/18	Performance 2018/19	Indicative Target 2018/19	2018/19 Target Pass/Fail
Total bursts	4785	4590	4484	5212	5080	Fail
Interruptions > 12 hours	11431	3759	4631	849	730	Fail
Properties below reference level at end of year (DG2)	262	345	278	262	272	Pass
Unwanted customer contacts for water availability	47,011	43,740	46,487	49,278	48,000	Fail

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 have seen a significant improvement in performance during 2018/19 principally due to the reduction in the number of interruptions greater than 12 hours. Despite the improvement we missed our target for the overall RWSI due to missing sub-measure targets for mains bursts, interruptions to supply greater than 12 hours sub-measure and customer availability contacts targets. The three sub-measures targets we missed were all impacted by the extreme weather. At the beginning of 2018/19 there was an increase in the number of mains bursts caused by the deep freeze and rapid freeze thaw known as the "Beast from the East". The severe weather was followed by an exceptionally dry summer causing more ground movement and associated mains bursts. We increased our leakage detection and repair activity during the summer to help meet the increased demand experienced and secure customer supplies but increased the number of mains burst detected and repaired.

The sub-measure water availability customer contacts covers contacts about low water pressure and no water contacts. Between June and August 2018 the number of contacts we received from customers about intermittent low pressure due to unseasonable demand for water were 26% higher than the 3 year average. The number of customers contacting us because they had no water was 16% higher than the three year average. These are a direct response to the supply demand problems caused by the dry weather. Subsequent actions taken by the company to reduce demand and increase supplies enabled the system to recover and contacts to reduce.

We outperformed our target for the number of properties on the low pressure register.

Underperformance or Outperformance payments

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

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 underperformance payment of £7.974m was incurred in each year.

For 2018/19 we narrowly missed the RWSI target but performance fell within the deadband therefore no underperformance payment is applied. The cumulative position at the end of 2018/19 is a underperformance payment of £23.93m.

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:

- The new Respond, Restore, Repair approach we have adopted uses information to identify problems before they impact customers, ensuring we have the capability to respond and restore supplies rapidly before we focus on repairing the fault.
- We have created a new Network Technician role whose principle job is to monitor and operate the water network system, identifying asset health issues before the result in service failure. The role introduced in March 2018 provides 24 hour field coverage and support by the central team in the ICC. A new process of event triage and coordinated response ensures the most efficient deployment of staff and emergency supplies as the team have the greatest situational awareness of the developing event. The centralization of network technology into one system enables visualisation of real time data and identifies if the system is operating outside normal ranges allowing the rapid identification of faults.
- Recognising that response capability is key to maintaining service we have continued to increase our fleet of alternative supply vehicles including the number of overland support vehicles enabling us to reach less accessible areas. These vehicles restore supplies to customers whilst we work to fix the problem.
- 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.

We expect the above actions will reduce the number of interruptions greater than 12 hours and the number of customer contacts associated with water availability.

- We will continue to evaluate all properties on the DG2 tracker that remain on the low pressure register, to identify any viable solutions and prioritise accordingly, to ensure we can remove as many properties as viable from the low pressure register.
- We will continue to proactive monitor and respond to low pressure to actively prevent properties being added to the register where possible.

Anticipated performance Year 5

Whilst performance has improved in 2018/19 we missed the target partly as a result of the extreme weather experienced during the year. We expect to meet the RWSI target in 2019/20 although it is difficult to forecast performance in this measure because a single large interruption greater than 12 hours can prevent us from achieving our target.

We expect the actions outlined above will reduce the risk of an interruption greater than 12 hours and will reduce the number of water availability customer contacts. We are already seeing improvements and expect we will be able to hit target for mains bursts, interruptions greater than 12 hours and the number of water availability customer contacts although we don't expect to experience the full impact of the actions until AMP7 when all the changes are fully embedded.

In terms of the number of properties on the poor pressure register it is becoming increasingly difficult to significantly improve performance. Out of the 268 on the poor pressure register, 59 are properties which receive low pressure but according to Section 65 of the Water Industry Act we are not required to provide a higher pressure supply and doing so would be cost prohibitive. We will continue to evaluate all properties on the poor pressure register, to identify any viable solutions and prioritise accordingly. However we do not expect to outperform this sub measure target in 2019/20.

Forecast performance and indicative targets for the Reliable Water Service Index sub measures

Sub measure	Indicative Target 2019/20	Forecast Performance 2019/20	Forecast Pass/Fail
Total bursts	5080	5080	Pass
Interruptions >12 hours	730	730	Pass
Properties below reference level at end of year (DG2)	272	272	Pass
Unwanted customer contacts for water availability	48000	48000	Pass

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

1. Failure of a strategic main - this could lead to a long loss of supply due to the difficulties experienced in access or repair.
2. Freeze-thaw events – additional leaks/ bursts as a specific result of freeze-thaw events could be challenging to resolve.
3. There is a risk of identifying additional properties that need to be added to the poor pressure 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 2019/20 and anticipate that we will continue to do so for the remainder of the AMP6 period.

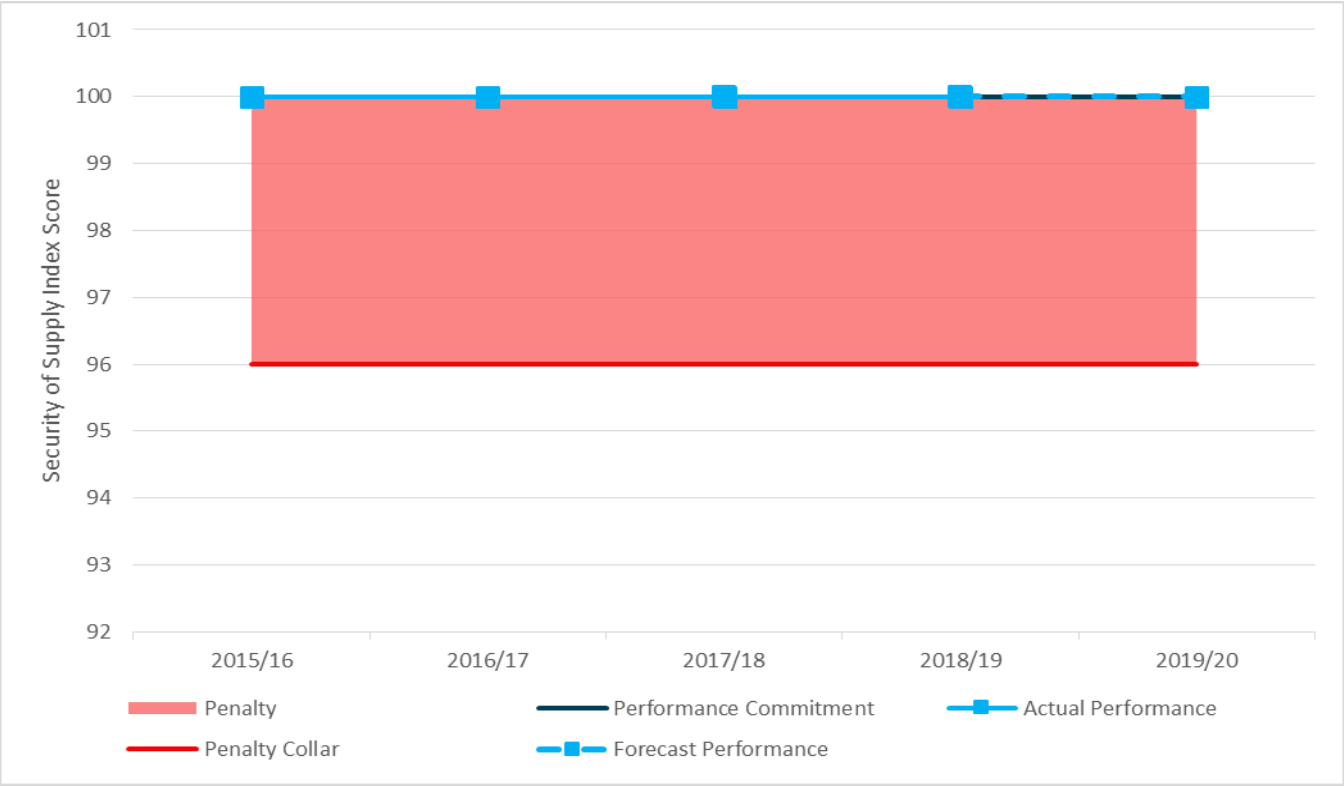
Measure description

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
Outperformance payment/ Penalty	£0m	£0m	£0m	**£0m**	£0m

Actual and forecast performance for the 'Security of Supply index'



Appendix A Detailed review of our ODIs

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 has been met again this year however there is still a need to monitor this measure closely and take action due to the reducing critical period surplus in Carlisle and West Cumbria resource zones.

Penalty or Outperformance payments

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

As our performance target has been met for 2018/19, we have not received an underperformance payment.

Lessons learnt and action plan

To minimise the risk to the SOSI score in future reporting years it is critical that we continue to manage demand in Carlisle and West Cumbria so that no deterioration from current levels is observed, and that work continues to bring demand in line with WRMP targets.

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

- We continue to prioritise demand management and leakage control activities particularly in the company's Cumbrian resource zones.
- We are continuing to monitor the use of the South Egremont Boreholes and the potential to alter operation should the balance of the water quality and water resources change.
- Timely delivery of capital investment projects that influence asset capability and hence zonal Water Available For Use.

Anticipated performance Year 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 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, although there is a risk of failure due to the fine supply-demand balance in the Cumbrian zones until the Thirlmere pipeline scheme is delivered in 2021 unless demand is reduced in line with expectations. We are continuing to focus on demand management and are seeing improvements in leakage performance through AMP6 to date.

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

1. Outages and asset capability are continually under review and there is the potential that this could have an impact on SOSI in future years.

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Line 7 B4: Total leakage at or below target

Performance Summary

We have outperformed our performance commitment in 2018/19 and expect we will continue to do so for the remainder or the AMP.

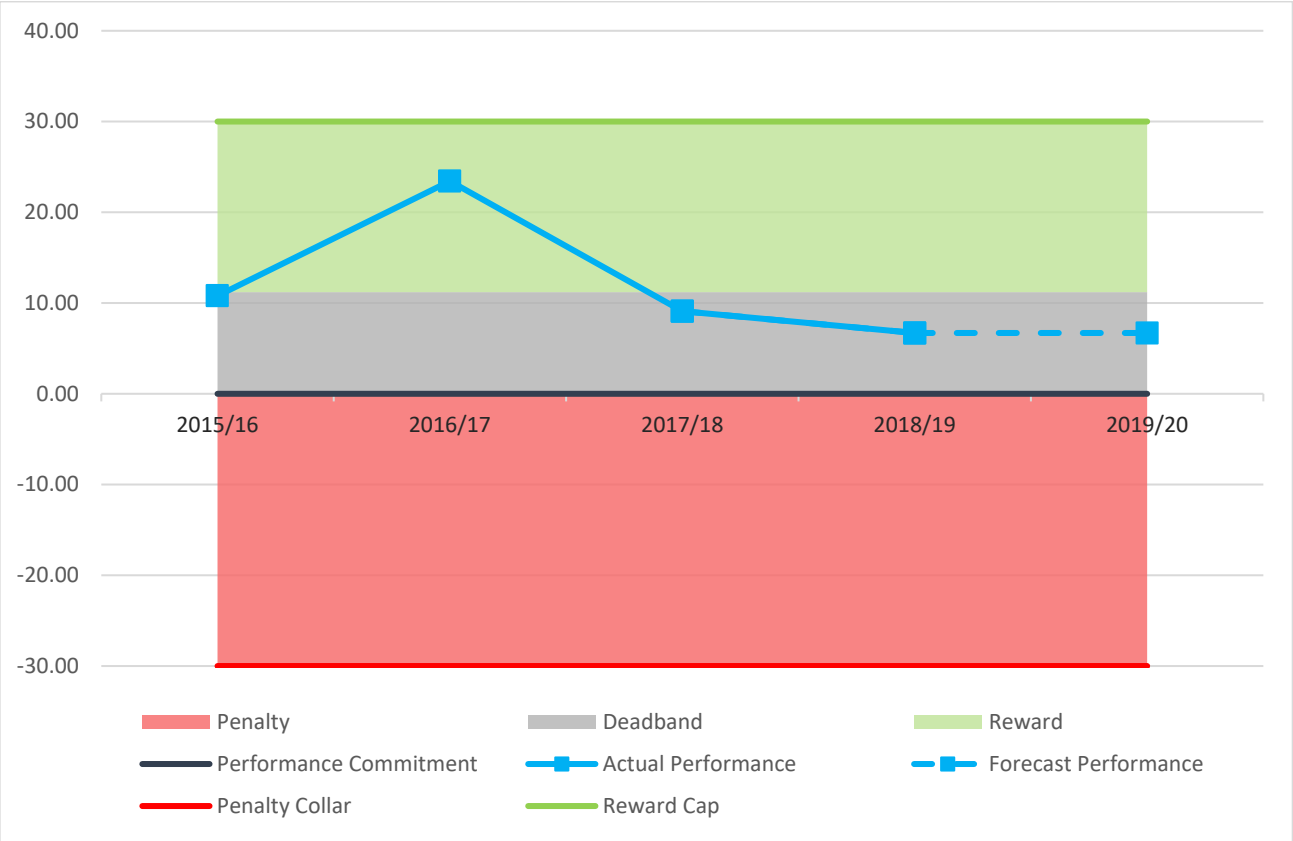
Measure description

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 outperformance 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	**6.7**	6.7
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance payment/ Penalty	£0m	£9.148m	£0m	**£0m**	£0m

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



Appendix A Detailed review of our ODIs

Overview of performance to date

We have met our leakage target for the last 13 consecutive years. Operationally 2018/19 was a challenging year, starting with the aftermath of the freeze/thaw known as the "Beast from the East" which significantly increased the number of mains bursts. We actively monitor leakage levels and highlighted the potential risks to performance early in the year. This allowed an early action plan to be developed and implemented, with performance against this plan being monitored and the plan adapted throughout the year. To support this plan, we built on existing baseline leakage control activities with:

- Additional internal and contract detection resources, working overtime (including weekend working);
- An increased number of repair gangs (at times, we were operating with double our 'normal' level);
- Targeted trunk main leakage surveys, including the use of leakage sniffer dogs and satellite imagery;
- The installation of an increased number of mobile acoustic loggers, as well as multiple fixed loggers, in our network to detect leaks that wouldn't be found using traditional manual techniques.

This cold weather was quickly followed by an extended period of hot and dry weather. The effects of this weather resulted in significant reductions in reservoir levels, exceptional increases in water demand and ground movement resulting in a significant increase in mains bursts. To ensure we did not need to impose water restrictions, we invested an additional £70m during the year including additional leakage detection and repair activity.

Underperformance or Outperformance payments

In order to calculate any underperformance or outperformance payments the actual performance level is compared against the target performance level. If the performance falls within the outperformance payments or underperformance-zone then we multiply the resulting difference by the incentive rate. For leakage, the incentive underperformance rate is £1.458 million per Ml/ day variance and the outperformance payments is £0.748 million per Ml/day variance.

In 2018/19 we outperformed our target however performance fell within the outperformance deadband so there is no outperformance payment. The cumulative outperformance payment for 2015/16 to 2018/19 is £9.1m.

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 and other stakeholders place on reducing leakage and are therefore continuing to strive for improvements. Reducing leakage, increases available water improving resilience and our ability to cope with unplanned asset failures, and increasing the potential for longer term trade opportunities with companies or regions facing water supply deficts.

We achieved our best ever leakage performance in 2016/17. The severe weather and freeze thaw experienced in February 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 albeit not by enough to earn an outperformance payment. We need to continue to manage all activities that drive the leakage calculation in order to continue to beat targets in this area in future.

We have committed to invest an extra £44m to deliver further water performances improvements earlier and to help us meet future performance challenges. In addition to this we are delivering investment to ensure we are fully compliant with the new reporting methodology and in preparation for the step change in performance we plan to deliver in AMP7.

- Installation of more acoustic loggers. A large proportion of our leak detection still relies on technicians listening for leaks on our mains. Loggers provide constant monitoring and can identify smaller changes in the network and the identification of leaks that may not have be previously identified. They require a significant amount of investment so we will deploy them in areas requiring the most resources to maintain leakage ;

- We have been using dogs trained to detect chlorine in potable water which enables us to identify leaks on mains in rural areas where suitable fittings may not be readily available for conventional leak detection techniques.
- We are currently trailing satellite imagery for leak detection overlaid onto our GIS system to generate points of interest which can be investigated by our leakage teams.

Anticipated performance Years 5

Our prediction for leakage performance is that we will continue to beat our 2019/20 leakage target of 462.65 Ml/d and that we will end the period within the performance deadband.

Our leakage work is directly scheduled from our integrated control centre, with our contractors using our systems. Recognising the importance of evolving our leakage detection methods and technology we have insourced our detection activity in order to train and retain this skillset.

This control will be enhanced further when we roll out our new contractual arrangements and supporting IT systems. These new arrangements will provide greater visibility of work progress at all stages through common use of linked data capture tools by the new contractors.

We expect the action plan above combined with the new contractual arrangements and IT systems will drive further improvements which will be realised in AMP7.

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 could lead to significant volumes of additional leaks/ bursts that challenge resource levels/repair times.

Line 8 B5: Resilience of impounding reservoirs

Performance summary

We have outperformed our target on this measure in 2018/19. We anticipate that we will marginally outperform the target for 2019/20.

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.

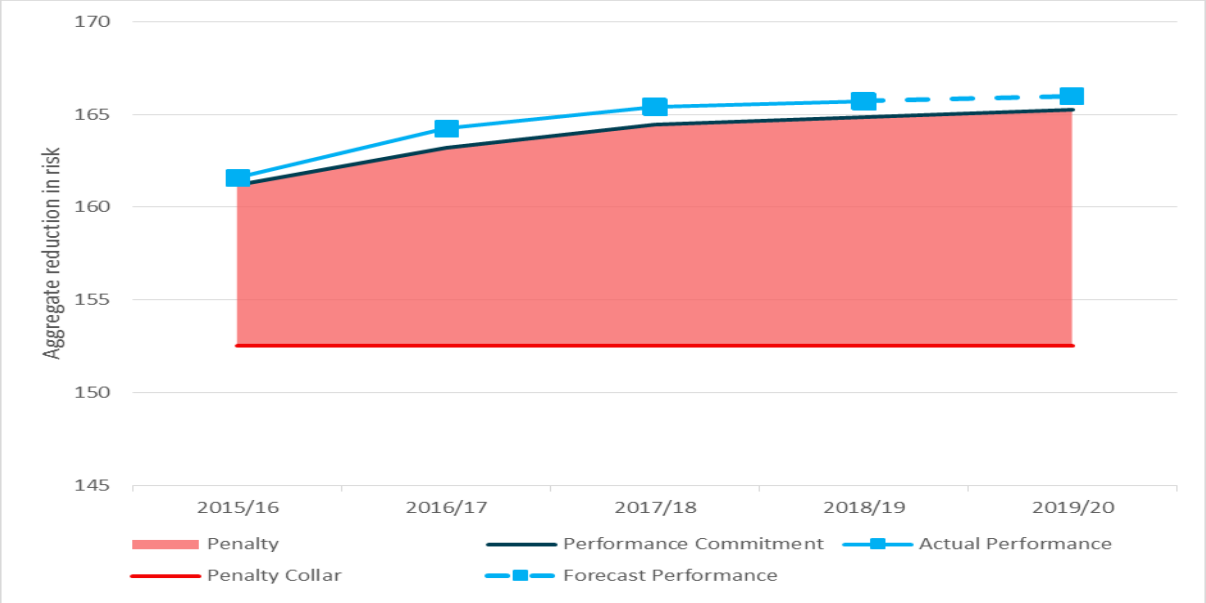
The measure is based upon a starting performance score of 151.86, with work undertaken to reduce risk levels increasing the performance score. The higher the performance score the greater the reduction in risk and therefore the better the performance. So the target is to be at or above the performance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

This measure has an underperformance only financial incentive 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.

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

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	161.20	163.21	164.44	**164.87**	165.27
Actual/Forecast	161.61	164.25	165.42	**165.72**	165.87
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance 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 across the AMP, and therefore outperformance in one year can benefit the subsequent year. As such, the outperformance in 2015/16 has enabled continued outperformance.

The slight outperformance of the target in 2015/16 was 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. Our performance to date has been as a result of the delivery of the schemes set out in the table below.

The table sets out the planned project delivery date, the risk reduction resulting from delivery of the scheme and actual or forecast project delivery dates. The table demonstrates the level of change to the programme and that the overall outcome each year has delivered or is expected to deliver.

Full details of these schemes are available in Appendix C to this document..

Underperformance or Outperformance payments

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

We outperformed against our performance commitment in 2018/19 therefore no outperformance 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.

Outperformance is forecast for 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 outperformance against the target, this will help to offset any future slippage in projects if challenges arise.

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 Year 5

A slight outperformance against the performance commitment target is forecast for future years. Outperformance early in the AMP benefits future years as this is a cumulative performance commitment and therefore outperformance 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 target.

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

1. The 2019/20 cumulative risk reduction performance commitment has been delivered a year early therefore there is no risk to future performance.

Line 9 B6: Thirlmere transfer into West Cumbria

Performance summary

We have made very good progress on the delivery of this scheme and are 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 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.

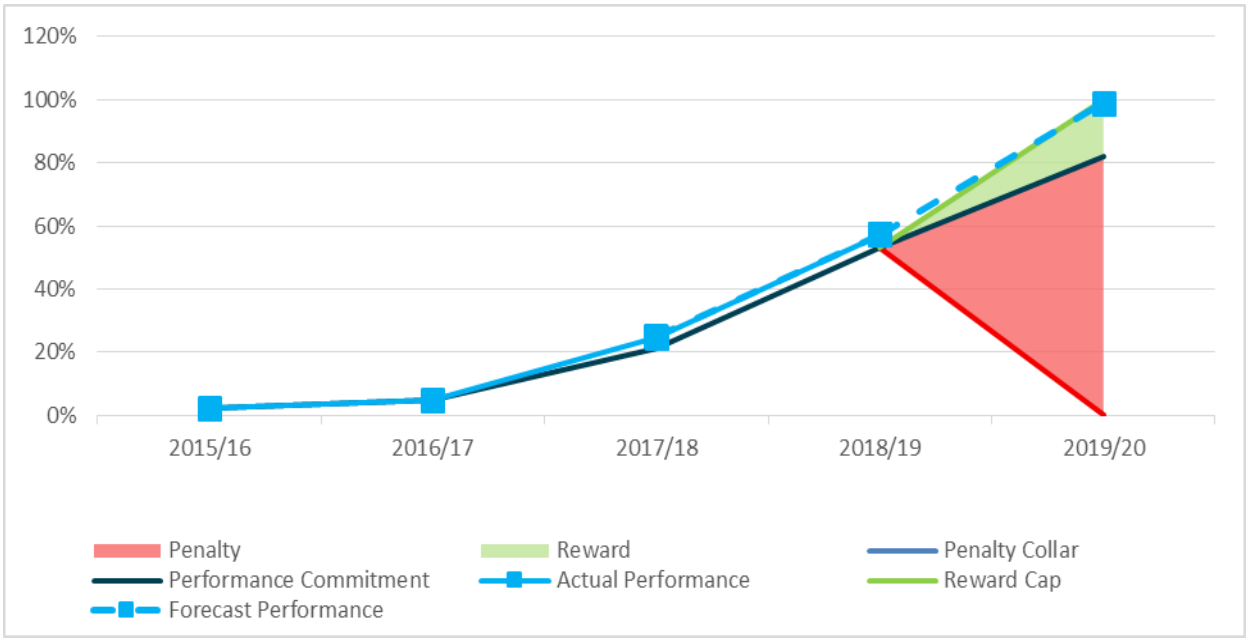
Underperformance and outperformance incentives for this measure are applied based upon the position at the end of FY20 to reflect any slippage out of or acceleration into the AMP6 period and therefore ensure that customers are protected from any delay or that UUW is appropriately recompensed for the additional costs in the period that would be associated with acceleration of the project.

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
Outperformance / Underperformance	-	-	-	**-**	£21.60m

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



Overview of performance to date

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.

Completed milestones	Planned delivery year	Actual delivery year	Earned Value (%)	Early/ Late
Tender documents (scope book) submitted to bidders	FY16	FY16	1.0	On time
Planning application submitted	FY16	FY16	1.0	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
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
Total earned value of the project delivered to date			**56.68**	

- 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%.
- In 2018/2019 we delivered the three milestones scheduled in the year, with the substructure of the Water Treatment Works (WTW) and service reservoirs completed and the next 29.64% of mains being laid. We have completed the superstructure of the WTW earlier than originally planned. This took the total earned value up to 56.68%.

Underperformance or Outperformance payments

Underperformance and outperformance payments incentives for this measure are only applicable in 2019/20 and not before.

In order to calculate if any outperformance payments has been incurred the actual performance is compared against the target performance level. If the performance falls within the outperformance payments-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.

We expect to earn an outperformance payment of £21.6m. The incentive mechanism aims to protect customers if we fail to deliver this major project or to compensate the company for acceleration costs of delivering early.

Lessons learnt and action plan

The project is on track to significantly outperform the targets as outlined in the performance commitment for the Thirlmere Transfer. Although there is a risk that adverse weather could impact remaining work we are significantly ahead of target therefore the risk of missing the target for 2019/20 has been reduced and it is unlikely that we will miss the target.

Anticipated performance Years 5

We are planning to deliver this project as soon as possible. The delivery date included in our 2015 Water Resources Management Plan and PR14 submission was 31st March 2022. We now expect to be able to lay the remainder of the transfer main during 2019/20, which was originally due for completion in 2021/22, with the milestone for next 27.27% of main in the ground completed in July 2019. 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 2019/20 up to 99%, 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 thus the project towards the end of 2020/21.

Milestones to be completed	Planned delivery year	Forecast delivery year	Earned Value (%)	Early/ Late
Next 27.27% of main in the ground	FY20	FY20	25.32	On time
Superstructure of WTW complete	FY21	FY20	2.18	Early
Next 12.54% of main in the ground	FY21	FY20	7.82	Early
SRs complete	FY22	FY21	0.65	On time

WTWs complete	FY22	FY21	0.65	On time
Final 7.43% of main in the ground	FY22	FY20	6.70	**Early**
Total earned value of the project yet to be delivered			**43.32**	

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 2018/19 through the early delivery of NEP schemes. Although we have outperformed the abstraction incentive mechanism for the last three years the extended period of dry weather meant we narrowly missed the target for the AIM element of this measure. We anticipate that we will outperform our target in 2019/20.

Measure description

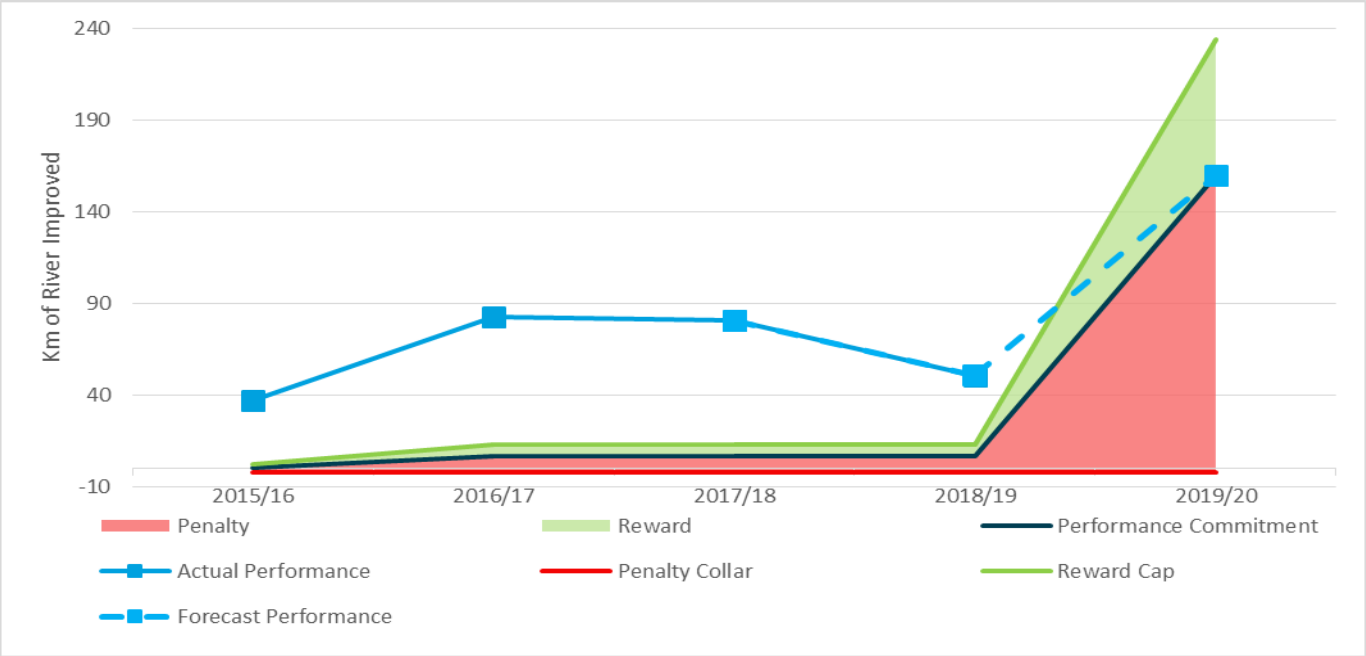
The contribution to rivers improved (water) measure of success is delivered through two main programmes:

- 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	**50.5**	159.5
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance payment /Penalty	£0.056m	£0.185m	£0.185m	**£0.185m**	£0m

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



Contribution to rivers improved sub-measures

Sub measure	Performance 2018/19	Target 2018/19
Cumulative length of river improved by NEP (km)	**51.62**	
Length of river improved by AIM (km)	-1.14	
Total cumulative length of river improved (km)	50.48	6.6

Overview of performance to date

We have outperformed the performance commitments for 2018/19 through the early delivery of NEP schemes. The rivers improved (water) programme initially had two projects due for delivery in 2016/17, with the remainder of the programme due for delivery in 2019/20.

This outperformance has been achieved as set out below.

- In **2015/16** we delivered the Heltondale fish migration investigation (6UUWR0045) one year earlier than proposed in the NEP, securing 0.01 km of river improved.
- We also secured 36.84 km from the AIM element of the measure as river flows at the four AIM sites did not drop below the AIM threshold flows.
- In **2016/17** we delivered the remaining FY17 scheme (Swindale 6UUWR0031). We also accelerated delivery of seven sediment management schemes which were due for delivery in FY20 (representing 9 NEP entries: 6UUWR0009, 6UUWR0010, 6UUWR0013, 6UUWR0015, 6UUWR0016, 6UUWR0017, 6UUWR0020, 6UUWR0022 and 6UUWR0026) – we decided to undertake these ourselves which 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 studies earlier than we anticipated. We also completed an investigation of our Thirlmere tributary abstractions (6UUWR0042), again ahead of it's FY20 NEP date. Together these secured a total of 45.70 km of river improved through delivery of NEP schemes in 2016/17.
- We also secured 36.84 km from the AIM element of the measure as river flows at the four AIM sites did not drop below the AIM threshold flows.
- In **2017/18** we delivered a further investigation in to our Haweswater tributary abstractions (representing 3 NEP entries: 6UUWR0036, 6UUWR0038 and 6UUWR0040) which was originally due in FY20 securing 0.02 km river improved.
- The AIM flow threshold was reached at Ennerdale during 2017/18 resulting in 34.83 km river improved secured from the AIM element of the measure.
- In **2018/19** we delivered the River Calder scheme (6UUWR0034 and 6UUF022), an eel trap and truck investigation (representing 8 NEP entries: 6UUF002, 6UUF003, 6UUF004, 6UUF005, 6UUF006, 6UUF011, 6UUF013 and 6UUF015) and a River Lune eel investigation (6UUF010a), securing a total of 5.89 km of river improved through delivery of NEP schemes in 2018/19.
- Due to the dry summer of 2018 we hit the AIM flow triggers at three of the four AIM sites resulting in a slightly negative AIM performance of -1.14 km river improved in 2018/19.

As NEP km river improved is a cumulative measure the total 2018/19 performance was 51.62 km comprising 5.89km from 2018/1, 0.02 km from 2017/18 , 45.70 km from 2016/17 and 0.01 km from 2015/16.

In 2018/19 we slightly underperformed with -1.14km for AIM. The summer of 2018 was very dry, resulting in river flows at three AIM sites (River Calder, Aughertree Spring and Ennerdale) reaching it's respective AIM trigger. The negative performance was because we abstracted more than the historic average from the River Calder and Aughertree Spring although across all three sites we abstracted significantly less than historic average.

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 50.48km, outperforming the target of 6.6km.

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

NOTE:

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.

Underperformance or Out-performance payments

In order to calculate any underperformance or outperformance payments the actual performance level is compared against the target performance level. If the performance falls within the outperformance payments or underperformance zone then we multiply the resulting difference by the incentive rate. For contribution to rivers improved, the incentive underperformance rate is £0.111 million per km/year variance and the outperformance payment is £0.028 million per km/year variance. In 2018/19 we outperformed our target and received an outperformance payment of £0.1848m.

Lessons learnt and action plan

The project is on track to meet the target as outlined in the performance commitment for contribution to rivers improved ensuring we avoided financial penalties for underperformance.

If we experience periods of dry weather resulting in low river flows we may perform poorly against the AIM targets. This is partly mitigated by a underperformance 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. UU's Production Planning team closely monitors river flow conditions and plan to reduce abstraction at this site if river flows approach the low AIM threshold flow.

Anticipated performance Year 5

The ODI targets in our 2015-2020 business plan 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)

Over the AMP6 period our performance for AIM has exceeded the target in three years but marginally failed the target in one year, with performance in 2019/20 also being to some degree dependent upon the weather. For 2019/20 our forecast position reflects the estimated additional 2 km as a result of reducing our abstraction at Ennerdale as a result of the new South Egremont boreholes. We have also assumed a relatively small additional benefit, of 1.68km, which produces a total forecast benefit of 3.68 km river improved under AIM and takes the predicted value for the combined measure to the performance commitment target of 159.5 km. In practice the value under AIM could exceed this value as it has done in the first three years of the period, or be lower than this value as it was in 2018/19.

To ensure delivery of this forecast position on AIM we are proactively managing abstraction at our AIM sites during periods of low river flow – however there are limited alternative supplies of water to utilise.

Due to delivery of the River Calder NEP scheme in 2018/19 (6UUWR0034), this site will not form part of AIM for 2019/20 as the sustainability issue has been addressed by the NEP scheme.

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

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

Performance summary

We have underperformed our performance commitment for this measure in 2018/19. This was mainly due to organisational change within the department, with measures now in place to make improvements. We are seeing an improvement in performance and expect to get performance back on track to meet the 2019/20 target.

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%	**89%**	95%
Pass/Fail	Pass	Pass	Pass	**Fail**	Pass
Outperformance payment/ Penalty	Reputational	Reputational	Reputational	**Reputational**	Reputational

Overview of performance to date

We have underperformed our performance commitment in 2018/19 with an overall percentage compliance of 89.03%. Implementation of IT systems and new working procedures saw an overall improvement in service in 2016/17. Unfortunately performance in 2017/18 was impacted by operational resource issues which has meant responses in some areas were delayed. This has been further impacted in 2018/19 by temporary resources issues following a reorganisation of the Developer Services Department. The department is now under new management and a continuous improvement plan is currently being implemented which has improved performance over the latter part of the year.

Water UK publishes a Developer Services levels of service report for the industry on a quarterly basis. Although this measure is subtly different to our measure it does show that our performance has been improving and has continued to be above industry average.

Underperformance or Outperformance 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.

We host a 'Developer Day' each year, providing an opportunity for us to engage directly with Developers/SLOs to share details of our charging schemes and processes and obtain feedback. The developer days have been well received and feedback has helped to shape our charges scheme and process, for example;

- We changed our approach to income offset/asset payment from a percentage allowance to a per plot allowance for development consisting only household premises.
- We simplified our approach to water and wastewater infrastructure discounts.
- We have developed our new charges to enable stakeholder to reasonably estimate charges due without having to wait for a quote.

Anticipated Performance Year 5

We have an improvement plan in place and expect to meet the target in 2019/20.

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 fourth year and expect to miss the target for the final year 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	32,247	36,615	**32,069**	32,883
Pass/Fail	Fail	Fail	Fail	**Fail**	Fail
Outperformance payment/ Penalty	Reputational	Reputational	Reputational	**Reputational**	Reputational

Overview of performance to date

This year we have fitted 32,069 free meters into homes against an original target of 47,421, which was based on an econometric model which we now believe overestimated the likely take-up levels from among our customer base.

To seek to recover this position, we 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 and have recently run a campaign featuring consumer champion Gloria Hunniford, whose video is on our website (view video) and dispels common myths on meters and shows how customers could save with a meter.

Despite this work uptake levels remain lower than our original target. The primary reason the number for 2018/19 is lower than the previous year is because we sent our annual unmeasured bills out earlier in the year. In 2018 the first bills were sent on earlier than in 2017 and this along with deployment of additional resource to manage peak demand, meant we fitted a significant number of meters in 2017/18 which were effectively brought forward from 2018/19. Last year we received a total of 47,868 applications in compared to 44,629 this year.

Underperformance or Outperformance payments

This is a reputational measure with no financial incentive.

Lessons Learnt and Action Plan

Metering levels in the current investment period are significantly increased on previous levels of metering.

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 will continue to focus on increasing uptake levels by promoting meters to customers we believe would benefit from a meter, which has been 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.

To improve take up, 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, the launch of 31 pop-up shops in shopping centres across key locations across the North West promoting the benefits of switching to a meter and building 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.

Anticipated Performance Year 5

We have undertaken a number of research projects to better understand attitudes towards water efficiency and metering, understand barriers and motivations to desired behaviours and willingness to act to achieve greater water efficiency. This has helped us to form a joined up communication strategy for water efficiency and metering. We expect to maintain higher levels of meter replacement than we have historically delivered, but do not expect to meet the targets for the remaining year of the AMP.

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 year.

A.2 Wastewater Service performance commitments

2018/19 Annual performance summary

Performance against our water service outcomes in 2018/19 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 of our Annual Report.

Wastewater Service Operational Performance Summary (2018/19)

Performance commitment	Actual performance levels				Performance commitments		Financial incentives	
	2015/16	2016/17	2017/18	2018/19	2018/19	Pass / Fail	2018/19 Annual (£m)	2018/19 Cumulative (£m)
S-A1: Private sewers service index	91.69	91.90	85.00	**89.27**	≤ 100.0	Pass	£7.38m	£29.49m
S-A2: Wastewater network performance index	90.95	89.47	86.17	**90.75**	≤ 95.60	Pass	-	-
S-B1: Future flood risk [1]	16,472	16,418	16,395	**16,379**	≤ 16, 247	Fail	-	-
S-B2: Sewer flooding index	100.80	94.40	69.99	**61.66**	≤ 70.30	Pass	£0.57m	-£0.91m
S-C1: Contribution to bathing waters improved	0.47	0.66	1.49	**4.21**	≥ 3.78	Pass	-	-
S-D1: Protecting rivers from deterioration	48.00	48.00	210.50	**322.90**	≤ 316.70	Pass	-	-
S-D2: Maintaining our wastewater treatment works	91.48	58.71	30.47	**39.17**	≤ 54.32	Pass	-	-
S-D3: Contribution to rivers improved	0.75	46.98	120.73	**178.93**	≥ 173.38	Pass	£0.23m	£1.02m
S-D4a: Wastewater category 1 and 2 pollution incidents	4	2	0	**1**	≤ 3	Pass	-	-
S-D4b: Wastewater category 3 pollution incidents	136	150	129	**143**	≤ 195	Pass	£3.28m	£13.12m
S-D5 Satisfactory sludge disposal	100	100	100	**100**	= 100	Pass	-	-
Wastewater Service (net outperformance) £m							**£11.46m**	**£42.72m**

1 This measure is reputational only

Forecast future performance

Actual performance against our wastewater service outcome delivery incentives in the four years of the AMP6 period, together with forecast performance for the remaining year 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 in the detailed commentary provided in the following pages.

It must be recognised that the performance projections set out for 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

Performance commitment	Incentive type	Actual						Projected AMP6 total
		2015/16	2016/17	2017/18	2018/19	To date	2019/20	
Private sewers service index	Outperformance & underperformance	7.4	7.4	7.4	**7.4**	**29.5**	7.4	36.9
Wastewater network performance index	Underperformance only	-	-	-	**-**	**-**	-	-
Future flood risk	Reputational	-	-	-	**-**	**-**	-	-
Sewer flooding index	Outperformance & underperformance	0.0	-1.5	0.0	**0.6**	**-0.9**	0.0	-0.9
Contribution to bathing waters improved	Underperformance only	-	-	-	**-**	**-**	-	-
Protecting rivers from deterioration	Underperformance only	-	-	-	**-**	**-**	-	-
Maintaining our wastewater treatment works	Underperformance only	0.0	0.0	0.0	**0.0**	**0.0**	-4.4	-4.4
Contribution to rivers improved (Ww) (NEP5)	Outperformance & underperformance	0.0	0.4	0.4	**0.2**	**1.0**	-0.1	0.9
Wastewater (category 1&2) pollution incidents	Underperformance only	-	-	-	**-**	**-**	-	-
Wastewater category 3 pollution incidents	Outperformance & underperformance	3.3	3.3	3.3	**3.3**	**13.1**	3.3	16.4
Satisfactory sludge disposal	Underperformance only	-	-	-	**-**	**-**	-	-
Wastewater services net :2015/16-2018/19 financial incentive						**£42.7m**	AMP	**£48.8m**

Notes

1 The numbers in the table above have been rounded to one decimal place therefore the annual underperformance and outperformance payments may not appear to add up to the amounts reported in the current financial position and projected AMP6 performance columns.

2 Reputational only performance commitments are not included in the table.

Line 13 S-A1: Private sewers service index

Performance summary

In 2018 / 19 we continued to outperform our performance commitment achieving an index score of 89.27 against a target of 100. This has earned a financial outperformance payment of £7.38 million. We expect to continue this level of outperformance 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 outperformance payments to encourage the company to improve performance and minimise customer impacts.

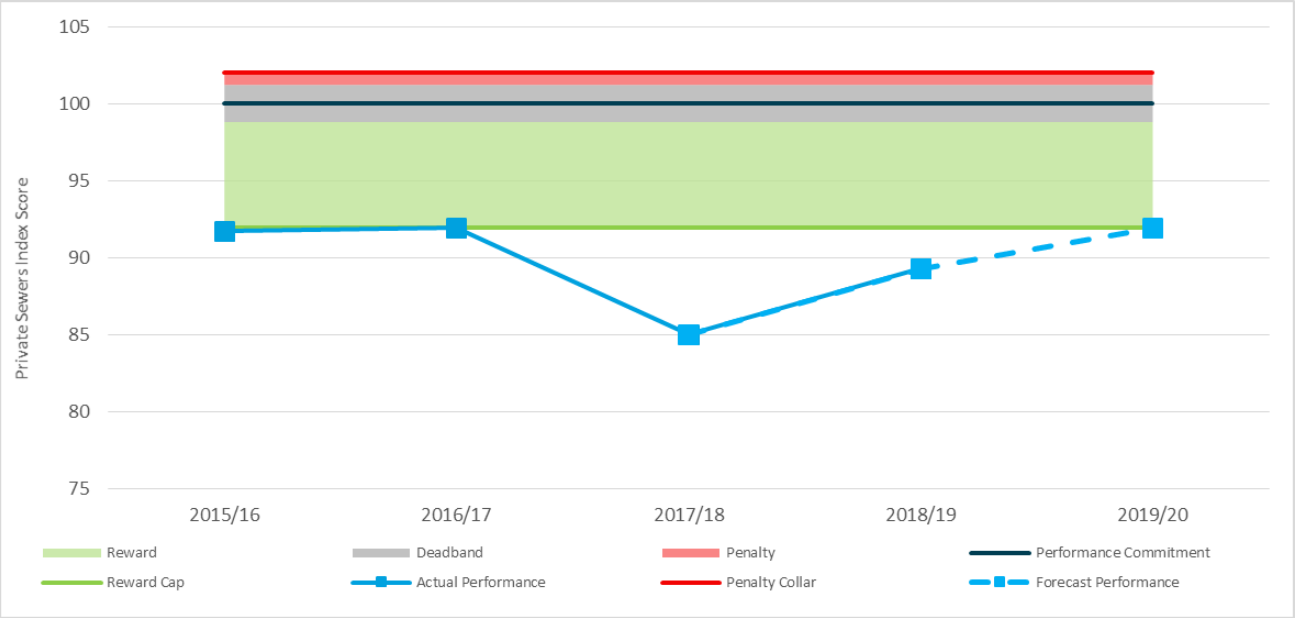
Actual and forecast performance for the private sewers index performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	100	100	100	**100**	100
Actual/Forecast	91.7	91.9	85.0	**89.3**	91.9
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance Payment/Penalty	£7.376m	£7.350m	£7.376m	**£7.376m**	£7.376m

Actual and forecast performance for the private sewers index performance commitment

Sub measure	Performance 2015/16	Performance 2016/17	Performance 2017/18	Performance 2018/19	Indicative Target 2018/19
Internal Hydraulic Flooding Incidents	2	1	1	0	<=8
Internal Flooding other causes incidents	416	414	275	308	<=393
External Hydraulic Flooding Incidents	10	5	5	4	<=38
External Flooding other causes incidents	4,595	4,594	3,896	3,945	<=4,782
Collapse	361	391	302	316	<=467
Blockage	13,906	14,031	13,089	14,589	<=15,518
Pollution	5	1	4	2	<=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 four years from 2015/16 to 2018/19 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 and has helped to improve customer satisfaction. Our network teams work in geographical areas which has helped to develop an in-depth understanding of the network from a property to the WwTW. Teams understand the problems that impact the network and the potential solutions available for resolution.

Underperformance or Outperformance payment

We have achieved an outperformance payment of £7.4m in 2018/19.

The measure is an index that comprises 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 under or outperformance zones then the incentive is calculated by multiplying the difference by an underperformance rate of £4.204 million per index point or an outperformance rate of £1.069 million per point. Details of the calculation of this index measure as set out in Appendix 2 of the APR.

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

Anticipated performance Year 5

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

Forecast performance and indicative targets for the private sewers Index sub-measures

Sub measure	Indicative Target 2018/19	Forecast Performance 2019/20	Forecast Pass/Fail
Internal Hydraulic Flooding Incidents	<=8	1	Pass
Internal Flooding other causes incidents	<=393	378	Pass
External Hydraulic Flooding Incidents	<=38	5	Pass
External Flooding other causes incidents	<=4,782	4479	Pass
Collapse	<=467	361	Pass
Blockage	<=15,518	14295	Pass
Pollution	<=4	3	Pass

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 in underway and where we have sufficient evidence they will be excluded.

Line 14 S-A2: Wastewater Network Performance Index

Performance summary

We have outperformed in this measure in 2018/19. 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.

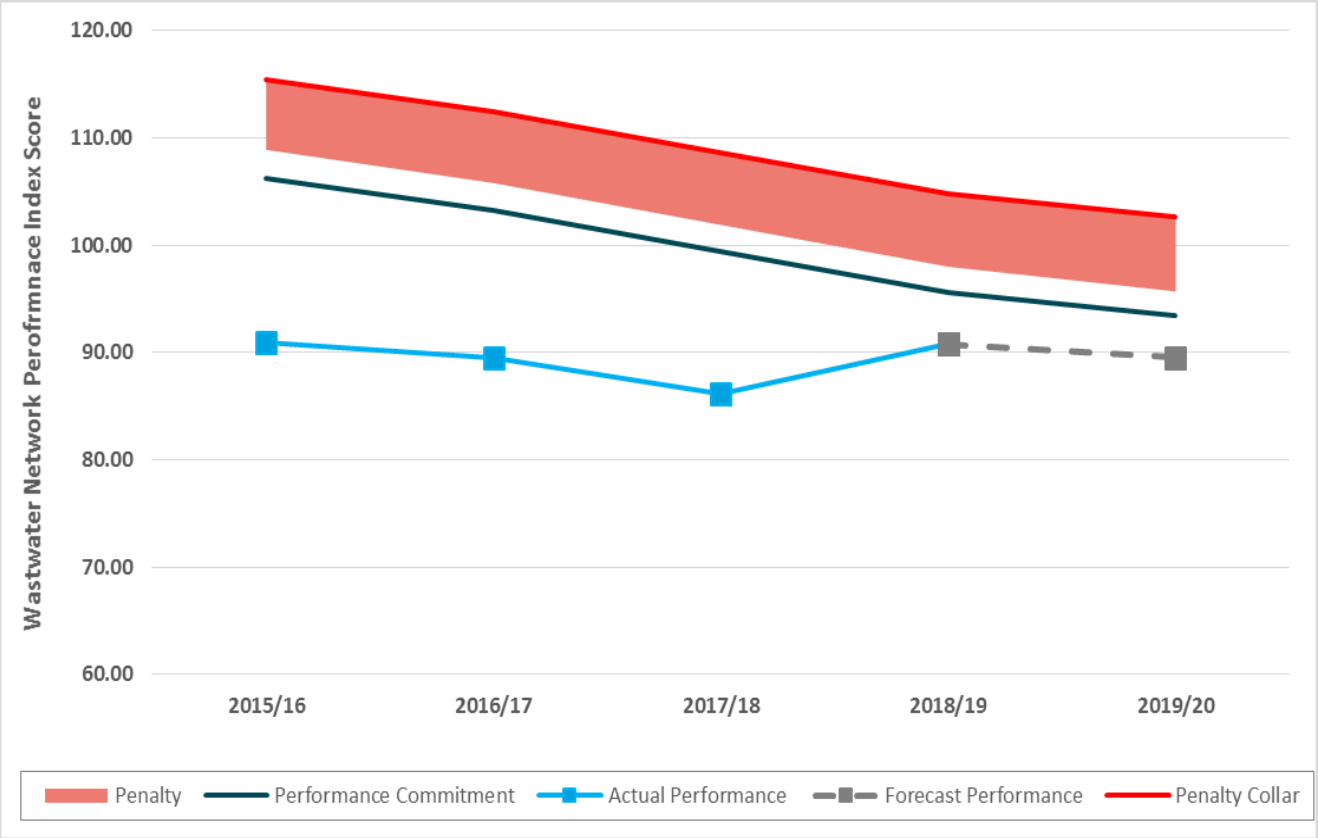
Actual and forecast performance for the wastewater network index performance index performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	106.2	103.2	99.4	**95.6**	93.4
Actual/Forecast	90.95	89.47	86.17	**90.75**	89.50
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance / Underperformance	£0m	£0m	£0m	**£0m**	£0m

Actual and forecast performance for the wastewater network index performance index performance commitment sub-measures

Sub measure	Actual performance 2015/16	Actual performance 2016/17	Actual performance 2017/18	Actual performance 2018/19	Indicative target performance 2018/19
Rising Main Failures	51	46	47	53	<=40
Collapses	261	268	232	239	<=444
Blockages	7,473	7,469	7,047	7,276	<=7,604
Equipment Failures	2,704	2,322	3,088	3,613	<=2,333

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 each year of the AMP to date. 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.

Our programme of work carrying out extensive field CCTV surveys has identified collapses and other structural defects. This provides a wealth of information about the condition of our network and 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 also deliver benefits in terms of flooding and pollution risk reduction. We are also implementing a proactive programme using our resolution units, which is seeking to reduce the numbers of repeat incidents. This is having a positive impact on all aspects of our sewer network performance..

Underperformance or Outperformance 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 then compare the overall index performance against the target performance. If the

performance falls within the underperformance zone then we multiply the resulting difference by the incentive rate of £2.298 million per index point for underperformance. Details of the calculation of this index measure as set out in Appendix 2

The measure is incentivised by underperformance only so no outperformance payment has been achieved through this significant and continued 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.
- Continuing to target potential repeats incidents.
- 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 Year 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 an underperformance payment on this measure for the rest of the AMP.

Forecast performance and indicative targets for the wastewater network performance index sub-measures

Sub measure	Indicative Target 2019/20	Forecast Performance 2019/20	Forecast Pass/Fail
Rising Main Failures	<=40	48	Fail
Collapses	<=444	255	Pass
Blockages	<=7,358	7391	Fail
Equipment Failures	<=2,318	2707	Fail

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 as assessed as vulnerable to future flood risk. However, we have not meet our targets for this measure for the past two years. We anticipate that we will also underperform on this measure in the final year of the AMP.

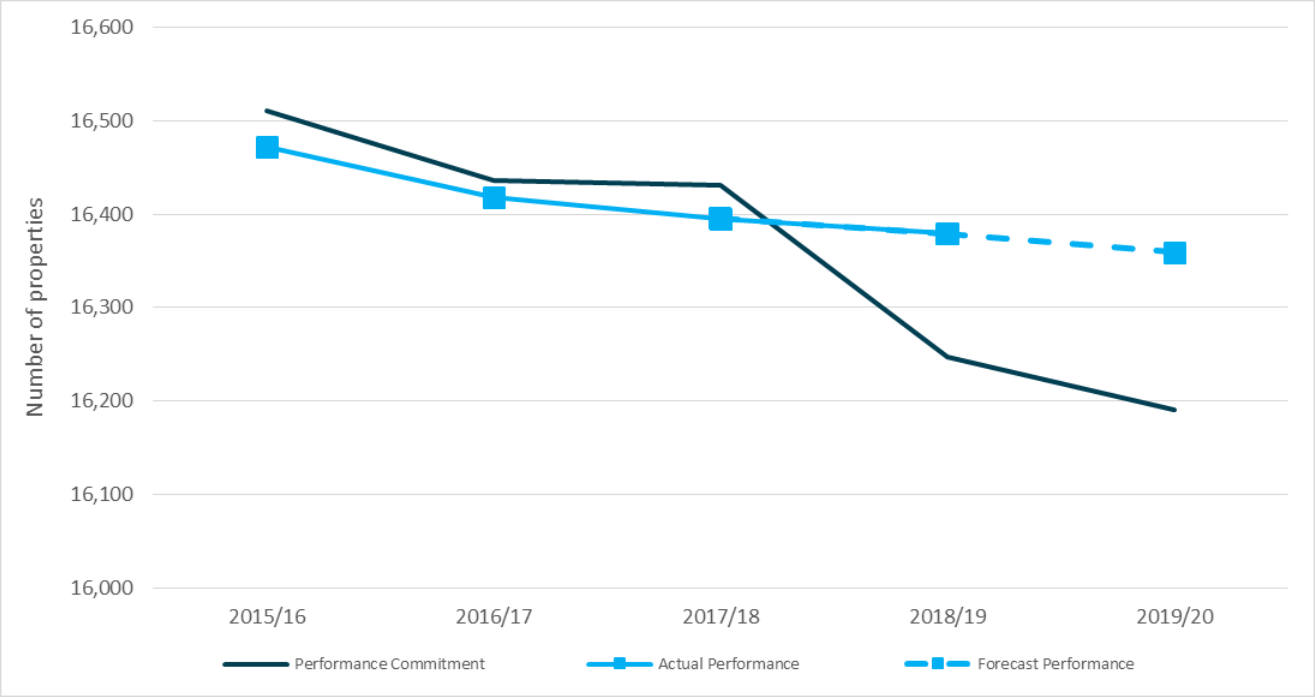
Measure description

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.

Actual and forecast performance for the future flood risk performance commitment

	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	16,379	16,359
Pass/Fail	Pass	Pass	Fail	**Fail**	Fail
Outperformance 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 FY16 and FY17 have been outperformed. For FY18 and 19 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 outperformance 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 focused 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 focusing on blockage clearance and collapse repair. We continue to install mitigation to prevent any reoccurrence of flooding where appropriate to do so.

Anticipated performance Year 5

Despite outperforming the target in years 1 and 2, we have failed our target in years 3 and 4, and our current forecast for this measure is to underperform the performance commitment for the final year of the AMP too. 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 separately through regulatory reporting.

Line 16 S-B2: Sewer flooding index

Performance summary

Our underlying sewer flooding performance has been steadily improving across the AMP. Whilst we received a underperformance payment in 2016/17 we have met our target on this measure in 2018/19 and achieved a small financial outperformance payment. In the final year of AMP6 we anticipate that our performance will continue and that we will meet our flooding performance commitment.

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.

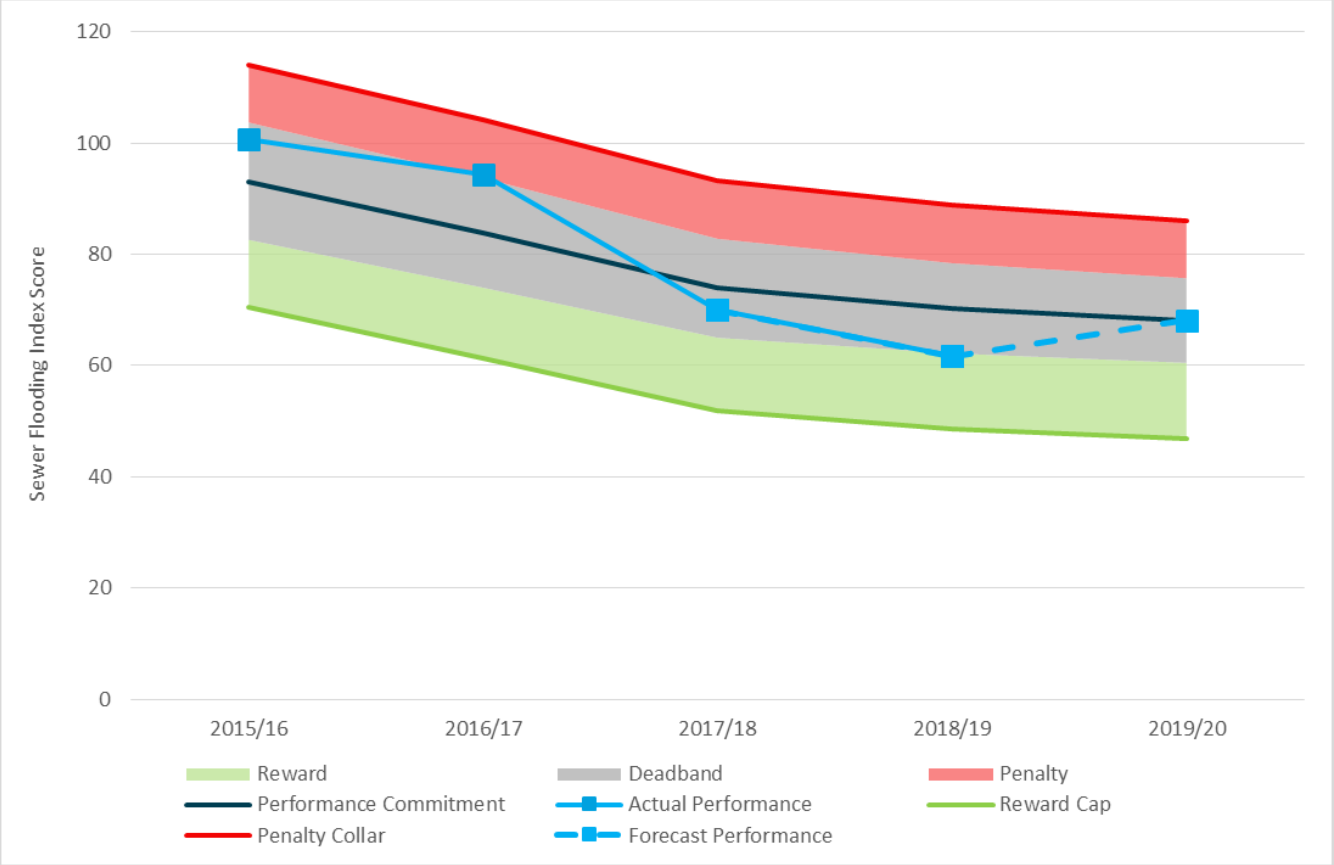
Actual and forecast performance for the sewer flooding index performance commitment

	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	**61.66**	68.05
Pass/Fail	Pass	Fail	Pass	**Pass**	Pass
Outperformance payment/ Penalty	£0m	£(1.484)m	£0m	**£0.570m**	£0m

Actual and forecast performance for the sewer flooding index performance commitment

Sub Measures	Actual performance 2015/16	Actual performance 2016/17	Actual performance 2017/18	Actual performance 2018/19	Indicative target performance 2018/19
Repeat Flooding	377	362	206	124	<=267
Internal hydraulic incidents	147	147	91	15	<=55
Internal FOC incidents	839	794	559	551	<=375
External hydraulic incidents	455	215	212	145	<=499
External FOC incidents	3,991	3,274	2,863	2,849	<=3,309

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 dead band. In 2016/17 we underperformed against this performance commitment resulting in an underperformance penalty of £1.484m. In 2017/18 performance improved enabling us to achieve our target. This year we have met our target and achieved a small outperformance payment of £0.57m.

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 have suffered from fewer extreme weather events this year, which is reflected in the results that we are reporting.

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. We have also embedded a programme of work which seeks to identify and resolve repeat incidents before they have a detrimental impact on our customers. By analysing recent and historic performance data we are better able to predict the risks of reoccurrence which is steadily reducing the number of repeat incidents on our network and helping to inform future targeted programmes of work.

Underperformance or Outperformance payment

This measure has both reward 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 reward. Details of the calculation of this index measure as set out in Appendix 2 of our Annual Performance Report.

For 2018/19 our index score fell ahead of target and for the first time this AMP achieved a small reward.

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 structural defects and collapses through the use of extensive field CCTV surveys.
- Proactive strategy of identifying potential repeat incidents and analysing the risks of reoccurrence has allowed us to develop a work bank that is targeted towards taking action to prevent reoccurrence.

Anticipated performance Year 5

Our performance this AMP has been better than we initially anticipated despite the stretching targets and severe weather events. We expect to continue to see the benefits of the work we have undertaken to manage flooding other causes and repeat flooding events. However, as can be seen from the table above our performance against the hydraulic incidents is very susceptible to the weather and as such there are a wide range of potential outcomes for this measure in 2019/20. However, in the round we believe we have met the challenge set by the original performance commitment and would expect to finish the five year period at or around the performance commitment.

Actual and forecast performance for the sewer flooding index performance commitment

Sub Measures	Indicative target performance 2018/19	Forecast Performance 2019/20	Forecast Pass/Fail
Repeat Flooding	<=280	120	Pass
Internal hydraulic incidents	<=98	84	Pass
Internal FOC incidents	<=677	561	Pass
External hydraulic incidents	<=280	207	Pass
External FOC incidents	<=2,921	3082	Fail

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 2018/19 we achieved our performance commitment target. We anticipate that we will achieve our target in the last year of the AMP too.

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.

Actual and forecast performance for the bathing waters performance commitment

	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	**4.21**	6.56
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance payment /Penalty	£0m	£0m	£0m	**£0m**	£0m

Overview of performance to date

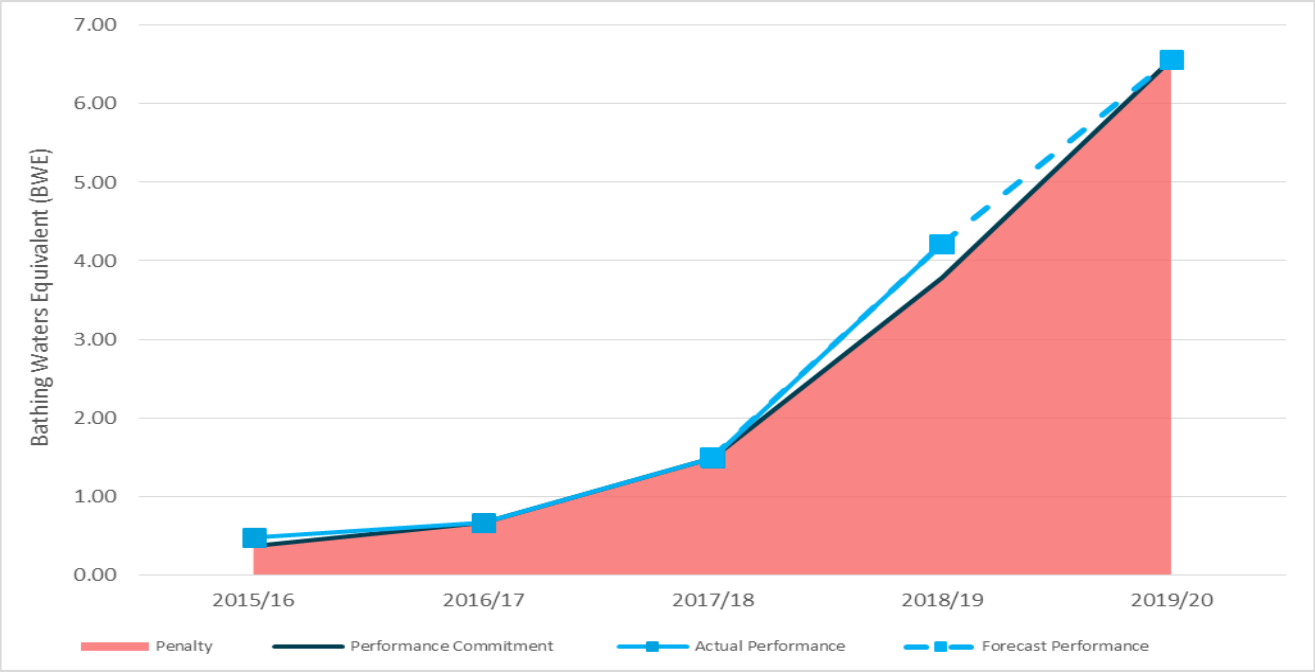
The performance commitment allows us flexibility in the way that we deliver the programme, which has allowed us to accelerate projects when other projects face unforeseen problems which cause delays in delivery. This has enabled us to outperform the target in 2015/16 and again in 2018/19. In 2018/19 although we were unable to deliver the planned schemes at Dragley Beck and Ulverston, we were able to accelerate the delivery of the scheme at Anchorsholme and as a result outperformed the target for the year. The table below provides a breakdown of the projects delivered to date and the anticipated delivery dates for those projects to be delivered in the last year of AMP6.

The detailed list of projects that support this measure are set out in Appendix C of this document.

Underperformance or Outperformance payment

Each project in this programme has been an assigned a specific impact on 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 underperformance only, with a rate of £10.0 million per bathing water equivalent. This rate increases to £20 million in the final year of the AMP.

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



Lessons learnt and action plan

As this performance commitment is incentivised by an underperformance only it is in our best interest to achieve the target performance commitment. There is no outperformance payment for early delivery of schemes.

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

Anticipated performance Year 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 underperformance payment. The remaining schemes are as set out in the table above.

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

1. Risk of late delivery. Although, we have been actively working with third parties and interested stakeholders to deliver projects. There is the risk that projects could be delivered late and incur an underperformance payment if unforeseen circumstances impact on the delivery schedule however, we are currently on track to deliver the planned performance commitment by the end of the AMP.

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

Performance summary

We have again outperformed our target for this performance commitment, and anticipate that we will outperform against this measure again next year.

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.

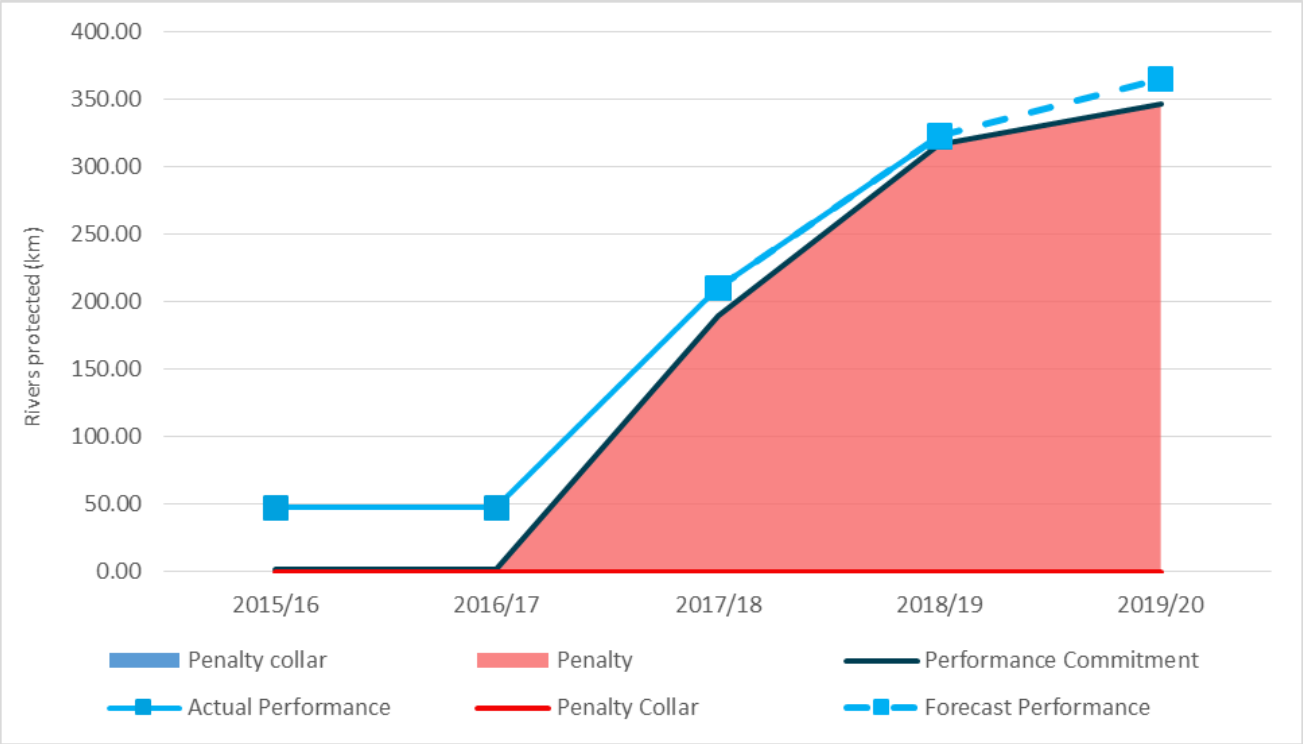
It is based upon the delivery of a programme of improvements at our wastewater treatment works, which will be delivered across AMP6.

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. An underperformance penalty incentivises performance against this measure.

Actual and forecast performance for the protecting rivers from deterioration due to population growth performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	=>1.8	=>1.8	=>190.1	**=>316.7**	=>346.6
Actual/Forecast	48.0	48.0	210.5	**322.9**	365.5
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance / underperformance	£0m	£0m	£0m	**£0m**	£0m

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. Throughout this AMP we have reprioritized the programme when required to ensure that we were able to respond to development requirements around the region. The projects delivered to date are as shown in the table below, along with an anticipated programme for 2019/20.

The full list of projects that support this performance commitment are set out in Appendix C to this document, with the list of projects delivered to date shown in the table below.

Projects delivered that support the protecting rivers from deteriorations due to population growth performance commitment

Project	Date delivered	Km of river protected	Cumulative benefit
Moston West	31/03/16	48.0	48.0
Chorley WwTW	28/04/17	18.9	66.9
Wetheral and Great Corby	29/03/18	1.0	67.9
Davyhulme WwTW	31/03/18	125.5	193.4
Cockermouth WwTW	23/03/18	15.2	208.6
Brigham WwTW	23/03/18	1.3	209.9
Papcastle WwTW	23/03/18	0.6	210.5
Dearham WwTW	23/03/18	10.0	220.5
Silloth WwTW	31/03/19	7.7	228.2

Winsford WwTW	31/03/19	14.6	242.8
Endmoor WwTW	31/03/19	11.0	253.8
Bootle WwTW	31/03/19	29.8	283.6
Barton WwTW	31/03/19	25.8	309.4
Sandbach WwTW	31/03/19	8.6	318.0
Cuddington	31/03/19	4.3	322.3
Oakmere	31/03/19	0.6	322.9
Projects to be delivered	Date expected to be delivered	Km of river protected	Cumulative benefit
Crewe	31/03/20	42.6	365.5

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.

Underperformance or Outperformance payment

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

Lessons learnt and action plan

We have developed a dynamic programme so that over 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.

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 reprioritisation of investment and ensures we can meet the growing needs of our region.

Anticipated performance Year 5

We have predominately delivered the reprioritised programme of work for AMP6 with only one project left to deliver at Crewe. This is a significant project which will enable us to outperform our target in the final year

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 – the detail can be provided if necessary. This may result in a risk to the performance commitment.

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 – the detail can be provided if necessary. This may result in a risk to the performance commitment.

Line 19 S-D2: Maintaining our wastewater treatment works

Performance summary

Although we did not meet the target for this measure in the first year of the AMP, performance was within dead band so we did not incur a underperformance payment. From 2016/17 to date we have successfully outperformed this measure.

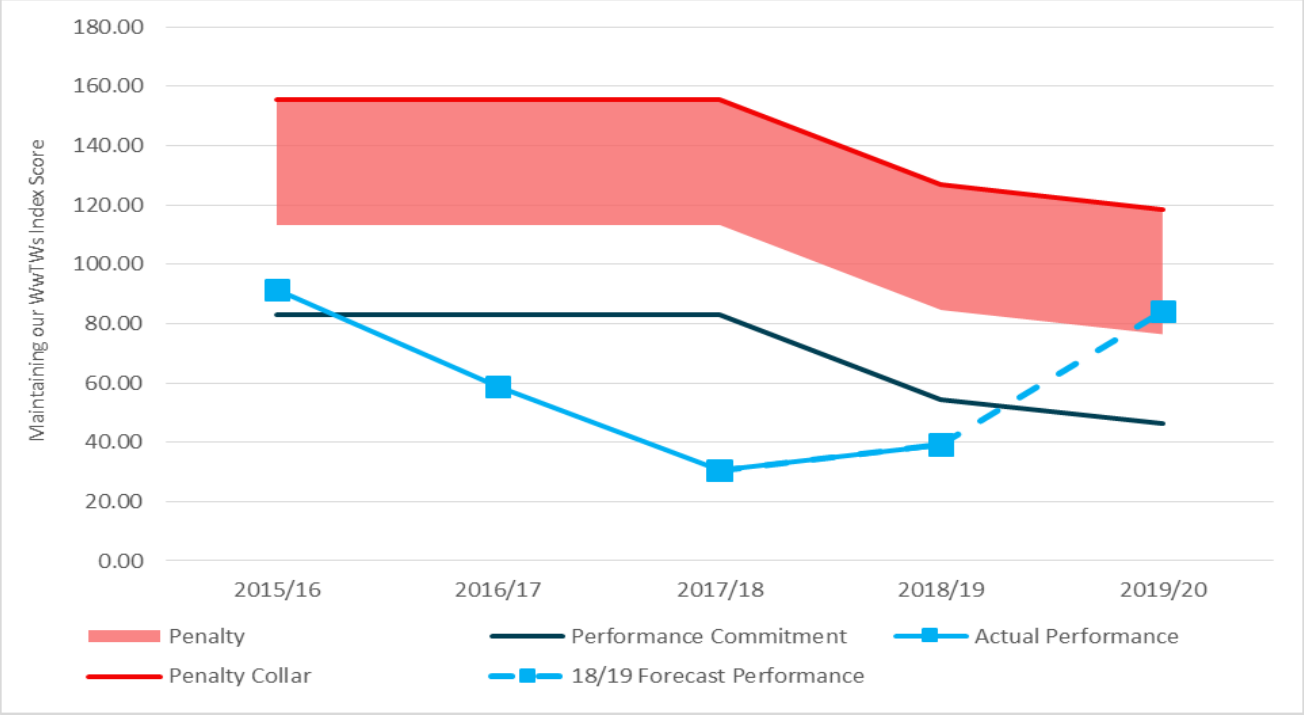
Measure description

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

Actual and forecast performance for the maintaining our WwTW performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	83.00	83.00	83.00	**54.32**	46.13
Actual/Forecast	91.48	58.71	30.47	**39.17**	84.10
Pass/Fail	Fail	Pass	Pass	**Pass**	Fail
Outperformance / Underperformance	£0m	£0m	£0m	**£0m**	£(4.4m)

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 to 2018/19 which is an improvement on 2015/16 performance where the performance commitment was not achieved, although the underperformance dead band 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.

In year 4 one size band 1-4 works failed, Partington and two size band 6a works failed, Urmston and Northwich. Although, fewer works failed than in the previous year due to the size of those works the risk score is slightly higher at 36.8701.

Underperformance or Outperformance payment

This is an underperformance only measure. The size of any payment is calculated by comparing our actual index performance against the target index performance. If the performance falls within the underperformance performance-zone then we multiply the resulting difference by the rate of £0.572 million per index point.

Lessons learnt and action plan

The continued embedment of our environmental compliance programme will continue to help reduce compliance risk. This programme focusses on all aspects of our operations; 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. We have developed new tools which help our operational teams analyse the root cause for noncompliance, monitor trends in performance and share best operational practice. Development of new templates for post incident reviews, modification of existing escalations processes and introduction of intensive care plans for high risk sites have helped us to manage risk and prevent facilities becoming failing works.

Anticipated performance Year 5

Despite our good performance in years 2, 3 and 4 we recognise that meeting these levels of compliance is a challenge and the performance commitment becomes increasingly challenging for the final year of the AMP. We would hope to be able to continue to manage and mitigate the risks associated with this measure through targeted capital investment and by operating our works to the highest standard and continue to beat our target. However, the measure is very sensitive to the impact of a failure of one of our larger works and if we were to have a failure the measure could quickly move into significant penalty. As such this measure has a wide range of potential outcomes and for the purpose of populating the table we have assumed a relatively modest penalty.

The assumed build-up of this score is set out in the table below.

Forecast performance and indicative targets for the maintaining our WwTW index performance commitment sub-measures

Sub Measures	Indicative target performance 2018/19	Forecast Performance 2019/20	Forecast Pass/Fail
Number of WwTW failing to meet permit conditions (size band 1-4)	0	1	Fail
Number of WwTW failing to meet permit conditions (size band 5)	0	1	Fail
Number of WwTW failing to meet permit conditions (size band 6a)	2	1	Pass
Number of WwTW failing to meet permit conditions (size band 6b)	0	1	Fail
Number of wastewater treatment works at high risk of failing to meet permit conditions (size band 1 - 4)	0.98	0.34	Pass
Number of wastewater treatment works at high risk of failing to meet permit conditions (size band 5)	0.16	0.12	Pass
Number of wastewater treatment works at high risk of failing to meet permit conditions (size band 6)	3.28	0.60	Pass
Number of wastewater treatment works at medium risk of failing to meet permit conditions (Size band 1 - 4)	1.8	0.31	Pass
Number of wastewater treatment works at medium risk of failing to meet permit conditions (Size band 5)	0.5	0.11	Pass
Number of wastewater treatment works at medium risk of failing to meet permit conditions (Size band 6)	6.56	0.68	Pass

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

This measure is particularly sensitive to failure at our largest WwTW. Any failures at one of these works in the final year of this AMP would mean that we would fail this measure.

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

Additional information with respect to this measure

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 (NEP) 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 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 Appendix C of this document.

Performance summary

We are slightly ahead of our performance commitment for this measure at the end of March 2019, which results in a small financial outperformance payment.

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 underperformance and outperformance payments.

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

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

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

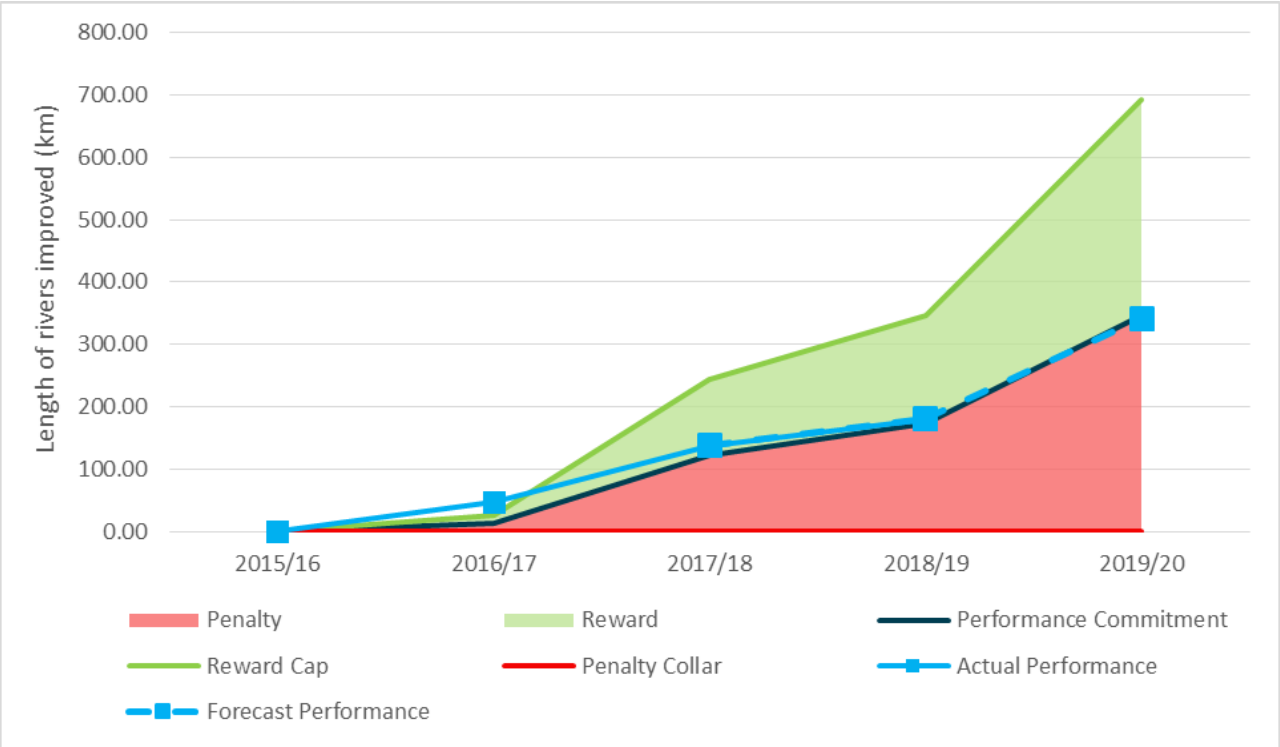
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river improved	0.75	14.12	121.83	173.38	345.97

Actual and forecast performance for the river improved (wastewater programme) performance commitment

	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	**178.93**	341.92
Pass/Fail	Pass	Pass	Pass	**Pass**	On track
Outperformance payment/ Penalty	£0m	£0.39m	£0.39m	**£0.23m**	£(0.12)m

Note – the cumulative outperformance payment up to 2018/19 is £1.02m. As the cumulative value reported in 2017/18 was £0.823m, we have entered a value of £0.198m into table 3A. The variance in prior years values is because they are based upon assumed delivery dates for project that have not been completed in the year – with the actual delivery dates for these projects used to generate the table above.

Actual and forecast performance contribution to rivers improved' (wastewater programme) NEP5 programme - AMP6 actual and forecast performance



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 outperformance payment. As this is a cumulative measure, the benefit of this was also reflected in the incentive position at the end of year 3.

The outperformance 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 year 3 we have delivered the projects set out within NEP5. There have been some delays to the AMP5 carry over project at Oldham WwTW but the works is nevertheless, 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 underperformance payment associated with this delay in our reported value.

In year 4 we have again delivered the projects within NEP5. The low phosphorous trials, 7 additional EDMs and Ambleside and Oakmere were all delivered early. The project at Oldham has not yet been fully delivered due to issues in commissioning the final settlement tanks. Overall this delivery performance has resulted in a small outperformance-payment of £0.23m.

A full list of all projects within the programme can be found below in Appendix C of this document.

Underperformance or Outperformance payment

This measure has both underperformance and outperformance payments. 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 assesses how late or early this was. The underperformance or outperformance payment is then calculated by multiplying the rivers improved length by the how late or early the project was delivered by the underperformance rate (£0.111m per index point) or outperformance 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 Year 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.

The following changes have been made to the programme for year 5;

- Whalley WwTW, where the EA have confirmed that the scheme is no longer required.
- CHR0012 (WFD) and CHR0021 (WFD), where improvements to unsatisfactory intermittent discharges have been delayed due to difficulties in construction solutions. We are discussing replacing these two schemes with equivalent schemes at Motherby and Barrow Nook with the EA.

- Manchester Ship Canal (F1a) which involves installing aeration in the canal, which has encountered access and technical feasibility issues. We are working closely with the Environment Agency to identify an alternative strategy for the Ship Canal in light of the technical issues.

The removals or revisions from the programme, reduce the length of river improved, which means that we are expecting to incur a small underperformance payment in year five put ned the five year period with an outperformance 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 this measure throughout the first four years of AMP6. We expect we will sustain our performance and continue to achieve the challenging target in year 5 of the AMP.

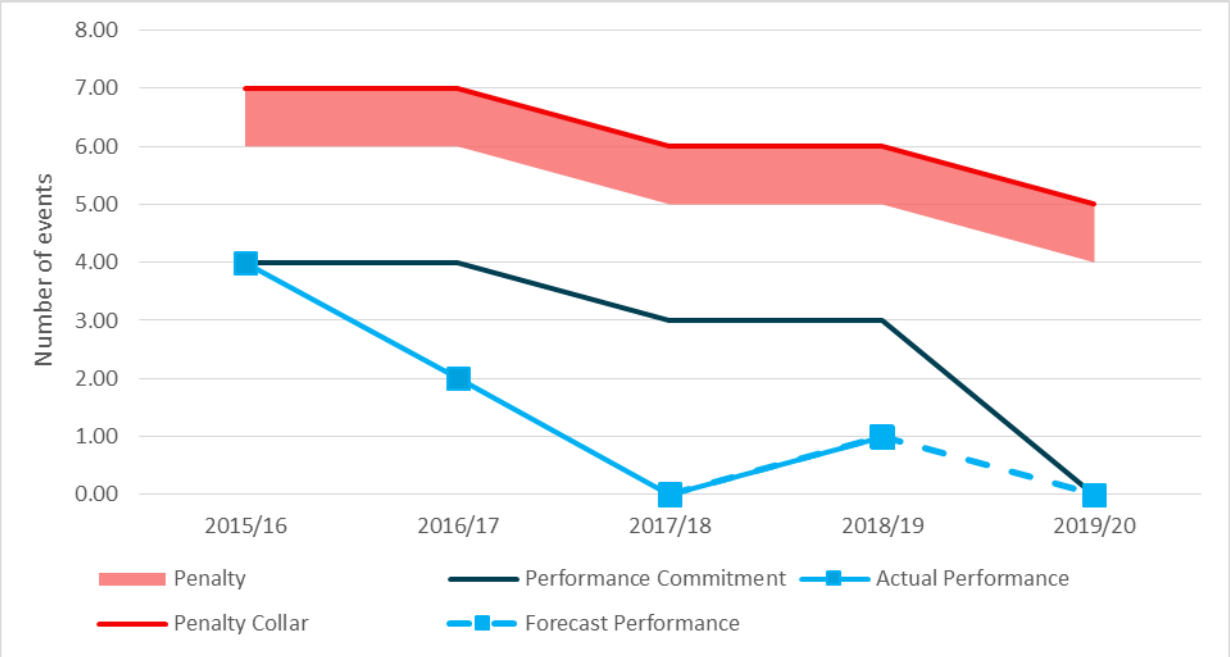
Measure description

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 underperformance only measure.

Actual and forecast performance for the wastewater serious (category 1 and 2) pollution incidents performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	4	4	3	**3**	0
Actual/Forecast	4	2	0	**1**	0
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance 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 steadily reduced.

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 improving as a result of implementing a number of process, data and training initiatives to minimise pollution incidents, including our environmental compliance green tick campaign. The revised wastewater operating model, which seeks to address operational problems and identify the root cause of problems. We have raised awareness of the 16/02 process (the Environment Agency's Guide to its operational staff) on categorisation and self-reported incidents. Through analysis of 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. Analysis EDM performance is helping to develop a more in-depth understanding of asset performance and predict potential failures.

Underperformance or Outperformance payment

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

Each year we have outperformed our performance commitment. However as this is underperformance only measure we did not earn any financial outperformance payment.

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 Year 5

The current plan is to achieve the performance commitment for year 5. Whilst we typically only have a low number of incidents meeting the year 5 target of 0 incidents will be very 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.

Line 22 S-D4b: Wastewater category 3 pollution incidents

Performance summary

We have outperformed our target for this measure in the first four years of the AMP6 period and we anticipate that we will continue to outperform in the final year.

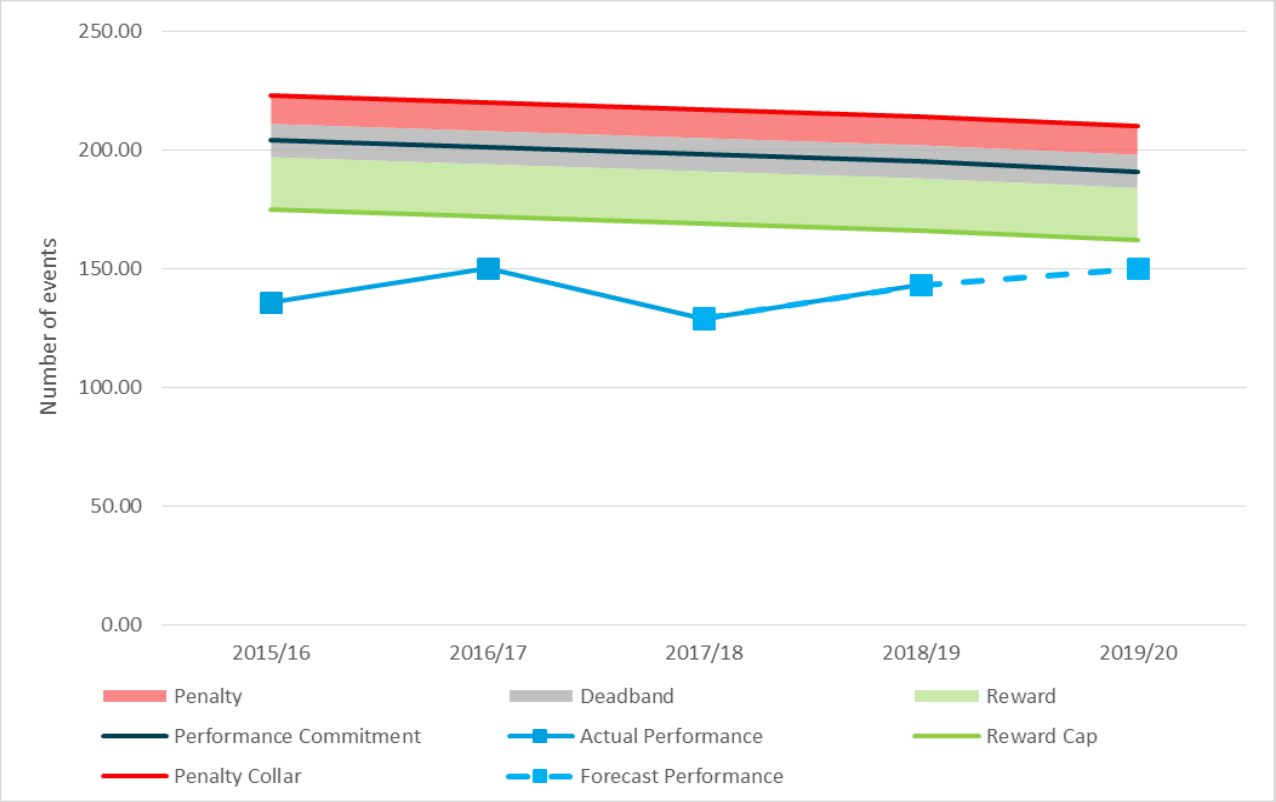
Measure description

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 out and underperformance payments.

Actual and forecast performance for the category 3 pollution incidents performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	204	201	198	**195**	191
Actual/Forecast	136	150	129	**143**	150
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance 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



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 improving as a result of implementing a number of process, data and training initiatives to minimize pollution incidents, including our environmental compliance green tick campaign. The revised wastewater operating model, which seeks to address operational problems and identify the root cause of problems. We have raised awareness of the 16/02 process (the Environment Agency's Guide to its operational staff) on categorisation and self-reported incidents. Through analysis of 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. Analysis EDM performance is helping to develop a more in-depth understanding of asset performance and predict potential failures.

Underperformance or Outperformance payment

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

We have significantly outperformed our performance commitment in each of the four years of AMP6, resulting in the maximum annual payment.

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 Year 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 outperformance 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.
    - 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 in our definition documents.

Line 23 S-D5: Satisfactory sludge disposal

Performance summary

We have meet our target for satisfactory sludge disposal in each year of the MAP to date and expect to do so in year 5 too.

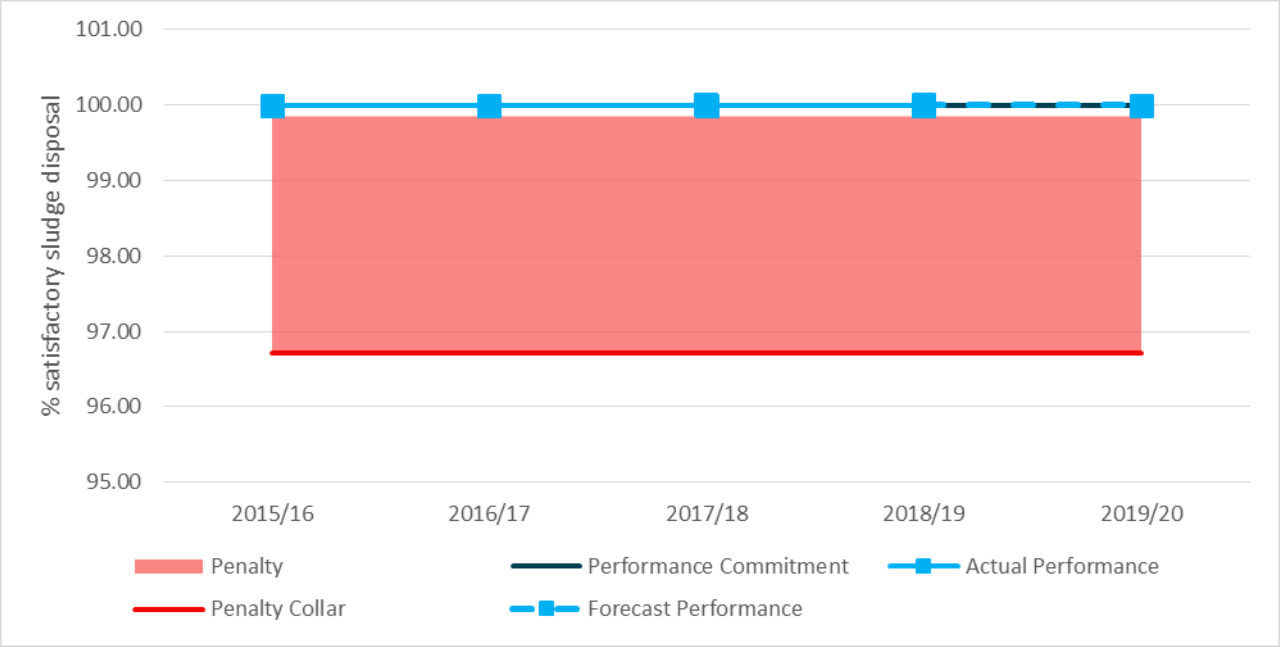
Measure description

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 an underperformance only measure.

Actual and forecast performance for the satisfactory sludge disposal performance commitment

	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 incentive



Overview of performance to date

Performance for 2015/16 to 2018/19 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.

Underperformance or Outperformance payment

This is an underperformance only measure, with the size of any underperformance calculated by comparing our actual percentage compliance against the target of 100% compliance. If the performance falls within the underperformance-zone then we multiply the resulting difference by the underperformance 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 Year 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

2018/19 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 (2018/19)

Performance Commitment	Actual performance levels				Performance Commitment		Financial incentives	
	2015/16	2016/17	2017/18	2018/19	2018/19	Pass/ Fail	2018/19 Annual (£m)	2018/19 Cumulative (£m)
A-1: Service incentive mechanism (SIM) [1]	82	85	87	88	UQ WASC	TBC	TBD	TBD
R-A2: Customer Experience Programme [2]	0.001	0.363	2.576	5.685	≥ 10.860	Implemented on time at lower cost	N/A	N/A
B1: Customers saying that we offer value for money	50	52	52	58	≥ 52	Pass	N/A	N/A
B2: Per household consumption	303	305	311	314	≤ 286	Fail	N/AA	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. 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.

Forecast future performance

Two of our retail performance commitments have financial incentives attached to them, SIM and the Customer Experience Programme.

SIM is only measured up to 2018/19 and so future performance against the measure will not impact upon the financial incentive. We expect to have ended the first four years in an upper quartile position amongst the eleven Water and Sewerage companies. As we set out in detail in our PR14 reconciliation publication, based upon the incentive regime Ofwat used in the PR14 determination, this level of performance would earn a reward of approximately £16m.

Customer Experience, we have now fully implemented the Customer Experience programme for a lower cost than anticipated at the last price review. As a consequence of which we are proposing to return £5m to customers through the PR19 process.

The remaining two measures do not have financial incentives. As we have been making steady progress against the **customers saying that we offer value for money** measure, we anticipate that we will meet our target in 2019/20. However, as we have been unable to reduce **per household consumption** in line with our target, there is a risk that we will also fail to meet the target in 2019/20.

Further details on the performance to date and the anticipated future performance against these measures are set out on the following pages.

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

Performance summary

Our combined SIM score for 2018/19 was 88 representing an improvement on 2017/18 performance. Our target for the AMP6 period is to achieve an upper quartile performance level. However, until other water companies report annual 2018/19 SIM combined performance, we are unable to finalise our relative position for 2018/19 or to confirm whether we have achieved upper quartile performance.

Measure description

SIM is assessed based upon two main aspects of our customer service:

- The number of contacts and complaints that we receive (Quantitative performance) and
- The way we respond to these contacts (Qualitative performance).

Actual and forecast performance for the SIM performance commitment

2.	2015/16	2016/17	2017/18	2018/19	2019/20
Target	UQWASC[1]	UQWASC[1]	UQWASC[1]	UQWASC[2]	N/A
Actual/Forecast	82	85	87	88	N/a
Pass/Fail	Fail	Fail	Pass	**TBC**	Pass

1 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	2018/19 performance
SIM quantitative	95	77	71	70
SIM qualitative	4.27	4.42	4.49	4.53
SIM Combined	82	85	87	88

Overview of Performance to date

Quantitative Performance

Complaints: In 2018/19 we received a total of 7,007 complaints which is a marginal increase on complaints received in 2017/18. The increase is mainly due to the extended dry weather period in 2018.

- Wastewater has seen a 19% improvement in complaint volumes. This is mainly due to our strong focus on ownership, telephone escalations and visiting customers to discuss their issues, coupled with a dry year leading to the reductions.
- Complaints about billing and metering have seen an in year reduction of 3% and 19% over two years due to a variety of initiatives delivered.

- The year on year increase in water service complaints can largely be attributed to company action to address dry weather in the summer of 2018. After adjusting for the impact of this event underlying customer complaints across UU have decreased year on year.

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 2018/19 there was a decrease of around 2,000 calls compared to 2017/18.

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 2018/19 we received 184 Stage 2 complaints, a small improvement on the 186 received in 2017/18 and a 20% improvement from 2016/17 levels. Stage 2 complaints are running at 2.6% of company complaint volumes, compared to 2.8% in 2017/18.

CCW investigations: SIM also takes account of the number of CCWater investigations.

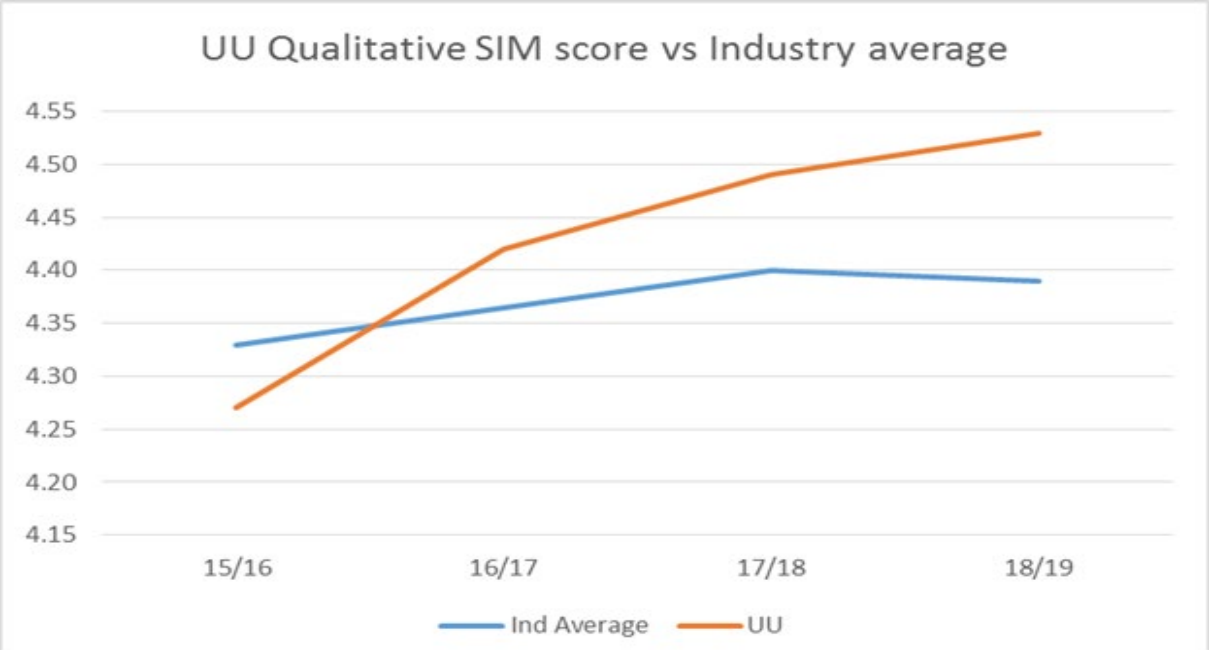
- For the third consecutive year we had no investigations during 2018/19.

Qualitative Performance

2018/19 has seen our best ever SIM qualitative performance, with a score of 4.53 our highest ever (4.49 in 17/18, 4.42 in 16/17 and 4.27 in 2015/16).

We finished the year in fourth of the 11 WASCs and fifth 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 chart below our scores for the last survey of the year were well above industry average.

UU Qualitative SIM score relative to water industry average



Underperformance or outperformance payment

Any penalties or outperformance 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.

Our expectation is that Ofwat will consistently apply the approach that they used at PR14 to calculate SIM reward/ penalty payments. Using this approach, and based upon current industry performance and trends, we would expect to earn an outperformance payment under this mechanism. Further details of the basis of this outperformance payment are set out in Appendix B of this document.

Line 25 R-A2: Customer Experience Programme

Performance summary

During 2018/19 we implemented the final element of the Customer Experience programme, a new debt management system, at a lower cost than had been assumed at the last price review. Earlier in the five year period we made a number of organisational and business process changes that meant that the initially planned customer relationship management system was no longer cost beneficial. As a result of the reduced cost and the change in the programme we will be returning some of the originally allowed costs for the programme to customers.

Measure description

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 optimization

d) Analytic capabilities

e) Billing system upgrades

f) Debt management system

g) Customer Relationship Management system

The measure has two components, both with financial incentives applied to them.

- 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.

Actual and forecast performance for the Customer Experience performance commitment

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	5.685	10.051

Overview of performance to date

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

The cumulative depreciation has been lower than expected in PR14 targets up to 2018/19 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 this element was judged to be no longer cost beneficial. We have, however, made organisational and business process changes, which have enabled 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 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 nearly 80,000 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 625,000 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.

In 2018/19 the final elements of the programme, namely implementation of a new Debt manager system has been delivered. This included:

- Completing the upgrade of our Debt Management system which was successfully delivered in March 2019. We now have approximately 120 agents actively using the system daily to collect outstanding customer debt. The new system is integrated to give analytics capability, has the ability to tailor approaches to collections, has clearly presented 'dashboard'-style screens which are more use friendly and intuitive, and is stable, fully supported and future-proof.

- Further enhancements have been made to our mobile App including the facility for customers to report leaks by location, using the GPS functionality in their phone and send us photos to assist with prioritisation
- We've continued to enhance our self-serve My Account portal with both functional improvements and those based on customer feedback, such as allowing bank account details to be amended on line.

Underperformance or Outperformance payment

The measure is designed to return part of the assumed depreciation to customers based upon two components:

We will 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 customer relationship management system (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 in the PR19 process are set out within Appendix B of this document.

Anticipated performance Year 5

We have fully delivered the programme with all elements delivered now fully operational. 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. At the end of the period we expect cumulative depreciation to be £10.51m, compared to the originally assumed depreciation of £17.769.

Line 26 R-B1: Customers saying that we offer value for money

Performance summary

Our performance against this measure has improved through the period, with 58% of customers saying we provided them with value for money in 2018/19, which is ahead of our target of 52%.

Measure description

This is a reputational measure based upon customers' perception of whether we provide them with value for money and has no associated financial outperformance payments.

Actual and forecast performance for the Customers saying that we offer value for money performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	49%	50%	51%	**52%**	53%
Actual/Forecast	50%	52%	52%	**58%**	58%
Pass/Fail	Pass	Pass	Pass	**Pass**	Pass
Outperformance / Underperformance	Reputational	Reputational	Reputational	Reputational	Reputational

Overview of performance to date

Our performance against this measure has improved through the period, with 58% of customers saying we provided them with value for money in 2018/19, which is ahead of our target of 52%.

Underperformance or Outperformance payment

This is a reputational measure based upon customers' perception of whether we provide them with value for money and has no associated financial outperformance 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 Year 5

We expect to maintain performance against this measure, although it is highly sensitive to wider press coverage and recent articles on ownership, company legitimacy and industry performance could affect sentiment and therefore future performance against this measure.

Line 27 B2: Per household consumption

Performance summary

We have not met the performance commitment for 2018/19 and we have seen an increase in per household consumption this year largely driven by the period of extended warm and dry weather in summer 2018.

Measure description

This measure is the average volume of water used by household properties across our region. The forecast per household consumption was taken from our Water Resources Management Plan17 and was based on assumptions around customer behaviour, weather conditions as well as company water efficiency and metering activity. The forecast was based on our understanding of current and actual customer behaviour by analysing historic trends. This is a reputational measure with no associated underperformance.

Actual and forecast performance for the Per household consumption performance commitment

	2015/16	2016/17	2017/18	2018/19	2019/20
Target	303	304	289	286	284
Actual/Forecast	303	305	311	**314**	308
Pass/Fail	Pass	**Fail**	**Fail**	**Fail**	**Fail**
Outperformance / Underperformance	Reputational	Reputational	Reputational	**Reputational**	Reputational

Overview of performance to date

Per household consumption for the year is 314 litres per property per day. Consumption is very dependent on the weather and modelling undertaken by the Met Office gives a target range of 282 to 313 l/prop/d. According to the output from the Met Office modelling domestic consumption for FY19 year-end reporting period is 6% higher than that for a normal year (WRMP15 Base Year).

Lessons learnt and action plan

We recongnise that reducing consumption is one of the UK Government's strategic prioritises and we are constantly looking for ways to enhance our offering to customers through research and partnership working.

Whilst we can not directly control customer behaviour we can influence it through promoting behavioural changes and providing more information to customer on water efficiency and metering. We have carried out a large behavioural change research project, to gain an understanding of 1,200 customer views on water usage and how we can influence them to use less., with a view to achieving real water savings now and in the future. This research found that 39% of respondent's key motivation for saving water is to save money and the key barrier for becoming water efficienct for the majority of customers is that they do not consciously monitor water usage.

We are using the detailed findings to develop an evidence based strategy to reduce consumption, through changes in customer behaviour. The findings of the research have helped us to form a joined up communication strategy for water efficiency and metering.

We are also working on a number of initiatives, including:

- Extensive water efficiency projects, where we offer free home visits to install water saving devices.
- Engaging with developers in relation to promoting water efficiency in new build properties.

- Developing a year-long trial to provide water use data to approximately 100,000 customers. The aim of this is to give customers greater control of their water use and bills. We will be trailing a number of interventions with customers to help them reduce their water use through behavioural change.
- Continuation of traditional methods of promoting water efficiency, where we believe these are appropriate and effective, for example, providing water saving devices.
- Exploring the role of pressure in managing demand and not just leakage.

Anticipated performance Year 5

Further water efficiency initiatives are ongoing and planned, particularly our project using water data to influence customer behaviour to save water and money. Although a number of additional initiatives and trials are being considered there is a risk we won't meet our targets for the final year of the AMP6 period.

Appendix B: Customer experience programme

This appendix provides details to support our proposed adjustment relating to the customer experience programme outcome delivery incentive. It includes:

- A specific response to Ofwat intervention “UUW.PD.A2a”, related to the indexation of residential retail ODI penalties (provided in sections B.1 and B.6 - Adjusting for inflation for an ODI linked to a residential Retail price control)
- Confirmation of Customer Experience Programme completion, including delivery of a new debt management system
- Consolidates past reports on the Customer Experience Programme into a single complete response

B.1 Overview

As part of the AMP6 Final Determination (FD) Ofwat increased allowed depreciation for the UUW retail household price control[17] 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. The associated ODI protects customers by returning half of any reduction in the depreciation on the allowance made to deliver the scheme. 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 acts to return money if elements of the Customer Experience Programme are not fully delivered by 31 March 2019.

We have successfully delivered six of the seven components of the Customer Experience Programme, realising substantial customer service benefits and future cost efficiencies. Following a review of programme costs and benefits the final component of the programme, a new Customer Relationship Management system has been judged to be not beneficial and so will not be delivered.

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 changes in scope and reduced depreciation we propose that £5.7m (nominal prices) of the initial £17.7m assumed depreciation will be returned through the ODI penalty mechanism. This is £1m more than proposed as part of our original submission in 2018.

DD intervention UUW.PD.A2a

As part of the UU Draft Determination Ofwat applied intervention "UUW.PD.A2a", which acted to increase the proposed penalty applied through "R-A2 Customer Experience Programme ODI". Details on our response to this proposed intervention can be found in our response to our Draft Determination[18], and below in section B.6.

Whilst we agree with Ofwat's approach to assessing the return to customers that should be made via the Customer Experience Programme ODI, we believe that the Revenue Adjustments model is incorrectly applying RPI inflation to the penalty value of retail measures. Therefore, as part of our PR19 Business Plan process, we believe inputs into the AMP7 price setting models for retail ODIs should be deflated from nominal to 2012/13 prices to correct for this.

The purpose of the ODI is to return unused elements of funding for discretionary enhancement investment. The calculation of returns to customers under the ODI should therefore be subject to the same inflationary uplifts as the original depreciation allowance, i.e. zero uplift. However the design of the PR19 Revenue Adjustments model automatically applies RPI inflation to all ODI rewards/penalties. There does not appear to be a mechanism within the model to prevent inflation being applied.

[17] 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

[18] UU Draft Determination response, 9th May 2019, "D005 – Past Delivery & SIM"

	UU view of adjustment (£m)		Ofwat view of adjustment (£m)
ODI adjustment value, original submission 2012/13 prices	-3.709	Approach to inflating Retail ODI penalties explains the difference between UU and Ofwat at DD.	**-4.738**
ODI adjustment value, original submission 2017/18 FYA CPIH prices	-4.274		-5.461
ODI adjustment value, original submission nominal/outturn	**-4.738**		-6.052
Revisions due to revised depreciation profile since original submission	*-0.959*		TBC
ODI adjustment value, revised submission nominal/outturn	**-5.697**		TBC

Left uncorrected the application of RPI inflation to this residential retail ODI will result in excess return to customers. As part of our PR19 Business Plan submission[19] we deflated the forecast Customer Experience Programme penalty from nominal to 2012/13 prices. This was done to resolve the issue of inflationary uplifts embedded in the PR19 Revenue Adjustments and Financial Models. The effect of this was to ensure future revenue returned to customers via the Customer Experience ODI equalled the expected value on a nominal basis.

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. The reviewed performance has then been reported in our Annual Performance Report.

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', the 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.

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.

[19] This adjustment was set out in our 2018 PR14 reconciliation submission within Section 2.1 outcome delivery incentive (ODI) mechanisms, on page 29 Household retail assumptions and method. The calculation showing how we converted the nominal penalty to a 12/13 prices input to App 27 was set out on a worksheet (called 'retail adjustment factors') that we added to our submitted revenue feeder model.

B.2 Full delivery test – delivering in customers' interest

This section presents the customer benefits initially attributed to the delivery of a new CRM system, and details of how they have actually been achieved, in some instances through innovative, lower cost means. In particular it shows how the decision not to deliver the CRM sub-element of the Customer Experience Programme, and the proposed return of revenues to customers via the R-A2 customer experience programme ODI is in customers' interests.

We have fully delivered technology, business process and organisational changes associated with six of the seven Customer Experience Programme component elements.

	Technology	Business Processes	Organisational changes
CRM	×	✓	✓
Multi-channel routing	✓	✓	n/a
Workforce optimisation	✓	✓	✓
Analytic capabilities	✓	✓	✓
Web Content Management System	✓	✓	✓
Billing system upgrades	✓	✓	✓
Debt Management	✓	✓	✓

In AMP6 we have delivered substantial improvements in customer service and large scale cost reductions. Over AMP6 United Utilities' SIM performance has improved materially, we have delivered a 18% real terms reduction in residential retail operating costs (excluding changes in bad debt charges), and have achieved a 34% reduction in customer complaints across the whole of United Utilities.

Delivery of the Customer Experience Programme has been central to this improved performance. New systems and capabilities delivered through the programme has underpinned better customer service and engagement, the roll out of enhanced digital offerings, and advanced our customer data analytics capabilities.

After careful consideration we have chosen not to deliver the CRM element of the Customer Experience Programme. As we progressed through AMP6 we reviewed the costs and benefits of a new CRM system and identified that the expected benefits of the system could be realised through lower cost alternatives. As we implemented new systems and ways of working we identified the opportunity of crossover benefits, meaning we have been able to deliver the capabilities that a new CRM was initially planned to provide without the need to invest in a wholly new system. 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 the intended customer benefit through cross over benefits from other aspects of the Customer Experience Programme, and through process and organisational changes. As such we arrived at the view that a new CRM 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. Under the Customer Experience Programme ODI's 'full delivery' test since one part of the CRM component has not been delivered that 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.

As we will not deliver the CRM element of the programme we will instead return to customers the £3.7m[20] of AMP6 revenue allowances made at PR14 for a new system, in line with the requirements of 'R-A2 customer experience programme ODI'.

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 – i.e.: that a decision not to implement one part of the CEP because it was not appropriate would mean that no reimbursement would be made for any of the other elements of the CEP which had been implemented. We agree with the independent auditors' view that this would not be a desirable interpretation. Indeed, applying such an interpretation would lead to perverse incentives which would act against the customer interest.

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 the YourVoice panel (CCG), who support our interpretation of the ODI test.

We consider that it would be both unreasonable and perverse not to recognise the delivery of all other elements of the Customer Experience Programme when assessing delivery of ODI R-A2. It cannot be right to derecognise the full delivery of most of the programme components and penalise our efforts to avoid non-cost beneficial investment; this would lead to perverse incentives that would drive us to undertake investment in an unneeded CRM 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. Accordingly, such an interpretation would not be consistent with customers' interests, nor the broad operation of incentive based regulation in the sector. Companies should be incentivised to deliver the most cost beneficial approach to providing an outcome, even if this means making changes to an original plan to reflect changing circumstances and knowledge. If incentives do not provide scope for such changes then this will tend to reinforce an output focussed approach to delivery and, in this case, would have meant that the company would have been financially incentivised to spend money in a way which was not the most cost beneficial for customers.

We recognise that by not investing in a CRM system we have delivered a revised programme and as set out below we have made allowance for this within our proposed adjustment for this ODI.

[20] Total proposed adjustment £5.7m (nominal prices). This is made up of the sum of a 'non-delivery' element (£1.8m) and reduced depreciation sharing element (£3.9m). In total £3.7m of these elements are associated with the CRM system.

B.4 Benefit realisation for customers

Subsequent to our accepting the PR14 Final Determination we reviewed the functionality and benefits of the Customer Experience Programme components, including those associated with a new CRM system, and identified that the expected benefits and capabilities of a CRM could be realised through already delivered technology and changes to ways of working. This means that the initially outlined capital investment is not required, and instead we propose to return associated revenue allowances to customers.

These alternative delivery options included:

- Utilisation of new capabilities embedded within other Customer Experience Programme components, including a new web content management system, workforce optimisation tool, advanced analytics systems and new multi-channel routing.
- Changes in ways of working to optimise the way front line agents and other employees utilise the capabilities of existing systems.
- Maximising new capabilities for other new systems delivered in AMP6, including a new mobile app, unified messaging system, compensation to bank account capability and Priority Services Register.
- Small scale integration and enhancement of existing systems, to maximise the utility of those systems.
- Better capture and integration of customer data from Credit Reference Agency, Government, other 3rd parties and internal sources.
- Utilising emerging technologies such as the latest in robotic process automation.

The original business cases for these new systems and ways of working were developed independent of the original CRM planned benefits. However as the Customer Experience Programme matured we identified the opportunity of cross over benefits, delivering the capabilities that a new CRM was initially planned to provide at minimal additional cost.

We therefore made the decision not to deliver the CRM element of the Customer Experience Programme. As set out in the section below on the proposed ODI adjustment, and in our July 2018 'PR14 Reconciliation Early Submission'[21] , we instead propose to return to customers the £3.7m of AMP6 revenue allowances associated with a new CRM via the 'R-A2 customer experience programme ODI'.

Figure 1: Summary of CRM anticipated benefits and alternative routes of benefit realisation

CRM anticipated benefits at the time of PR14 Representations	Ways in which AMP6 Retail changes have delivered comparable benefits at a lower cost to customers
Having a unified CRM system in place improves agent efficiency.	We have made significant improvements to agent efficiency via initiatives to improve ways of working, supported by our new workforce optimisation tool. We have also been able to use small scale system enhancements to deliver improved agent productivity. For example our focus on operational excellence has reduced telephone average handling time by +15% and agent productivity by +24%.
Having a unified CRM system in place boosts our ability to gather meaningful data about customers.	We have implemented other ways of improving data capture through manual and automated processes, in particular we are utilising Credit Reference Agency, Government and other 3rd party data sources to develop a fuller picture of customers' circumstances and service experience. Our PR19 business plan gives fuller details on how we have been capturing, integrating and analysing third party data to boost customer experience and drive down levels of bad debt (UU PR19 Business Plan, supplementary document 'S2001: The affordability and vulnerability challenge – Operational response', section 4.1.1).

[21] UU July 2018 PR14 Reconciliation Early Submission, appendix B, section B.3

CRM anticipated benefits at the time of PR14 Representations	Ways in which AMP6 Retail changes have delivered comparable benefits at a lower cost to customers
Process workflow automation enables the organisation to analyse processing time for non-voice activities effectively.	Through maximising capabilities embedded within a new mobile app, new web content management system and new multi-channel routing system we have continued to drive automation of non-voice activities and utilise data analytics to measure processing times. This has supported an increase in automated channel volumes, and a 31% reduction in back office processing times.
A new CRM system supports frontline customer contact across Retail Billing and Retail Service, facilitating a better, more seamless customer experience.	We have introduced a Unified Messaging Service capability which aligns billing and network information, ensuring the most up to date contact details are used to contact customers during service interruptions. Information on the effectiveness of the UMS system is included in our business plan submission (UU PR19 Business Plan, supplementary document 'S5001: Innovation in action', case study 20). We have enabled both billing and network service teams to access unified Priority Services Register data, ensuring that all areas of the business can reliable identify customers with advanced service needs.
All contact details will be recorded in this system, enabling a single customer view of contact history and helping the agent dealing with the contact to understand the likely context for the call.	We have implemented a range of policy, ways of working, and system changes to enable an integrated customer experience across billing and service contacts. • Unified Messaging Service capability aligns billing and network information, ensuring the most up to date contact details are used • All areas of the business can reliably identify customers with advanced service needs via access to a unified Priority Services Register. • Changes in charging policy and ways of working ensure that, for example customers that are unable to live in their home due to flooding are not charged for the period that the property is void. • Introduced 'compensation to bank account' capabilities across billing and water/wastewater services systems so that data held within billing systems can be used to automatically process service related compensation direct to customers' bank accounts
Having a central source of customer information will also provide the organisation with a rich source of customer data, supporting better prediction of customer behavior.	We are utilising customer data from Credit Reference Agencies, CACI and UU in house data sources to develop targeted, service specific customer segmentation, as set out in our Business Plan submission (UU PR19 Business Plan, Chapter 2: Voice of the customer: our approach to engagement, section 2.6.1). This new in depth data, powered by new advanced analytics systems is enabling us to target new service offerings at those customer most likely to benefit. Examples include targeted campaigns on affordability support, water efficiency promotion, metering promotion, and 'what not to flush' campaigns.
The solution will integrate with core systems in both businesses such as Alto, SAP CRM and Debt Management, and will provide the 'gateway' into those systems for agents.	The introduction of cross business Unified Messaging Service, compensation to bank account capabilities and Priority Services register ensures that customers experience an integrated service where it matters most. Agents continue to access multiple systems, but the introduction of new ways of working initiatives, small scale system integrations and new robotics capabilities has enabled planned for productivity improvements to be realised.

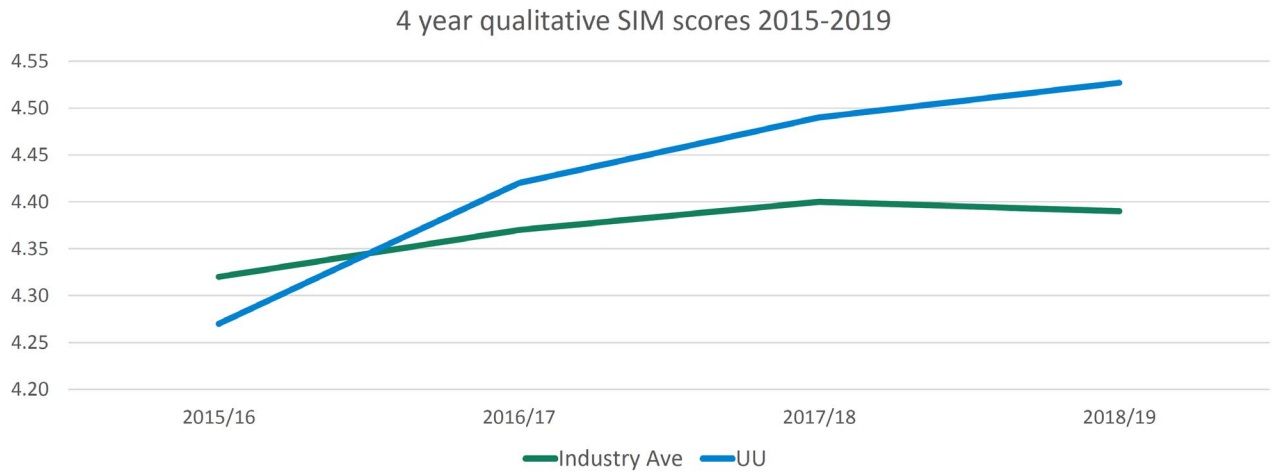
This improvements in capabilities can be seen in our overall customer service performance. As we have implemented elements of the Customer Experience Programme and other transformational changes we have shown continual improvement in customer experience metrics, and our cost to serve efficiencies are 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.

In March 2019, we ended the last quarter of 2018/19 as a leading company in our peer group for customer satisfaction as measured by SIM, which gave us our highest ever year end score of 4.53, placing us at 5th out of 18 companies. Over the past four years we have made a significant improvement in performance, and moved from below industry average to one of the leading performers.

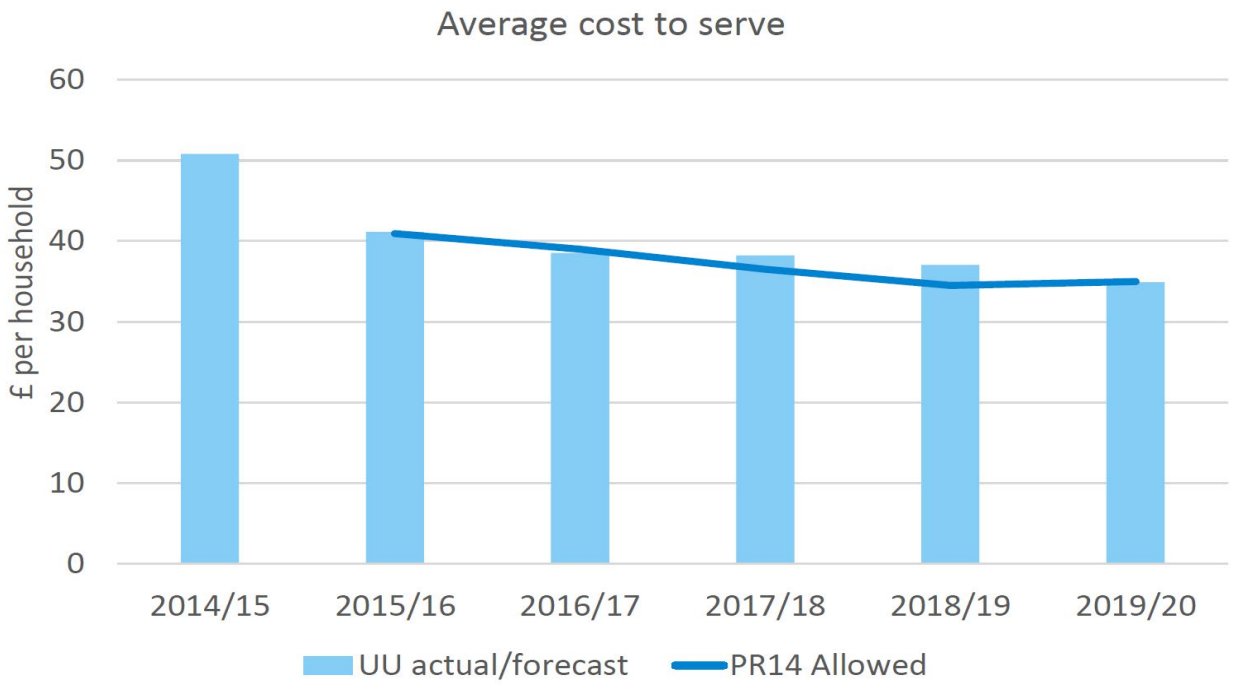
The improvements in SIM performance is also reflected in our number of complaints. Our performance over the past four years shows an improving trend, with 32% fewer complaints than in 2015/16.

Figure 1: UU qualitative performance compared to the industry average



We have achieved reductions in average cost to serve per customer whilst simultaneously reducing levels of complaints and boosting levels of customer satisfaction.

Figure 2: UU average residential retail cost to serve per customer



B.5 Delivery of the Programme

By the end of March 2019, we had successfully delivered six of the seven identified component systems. We have however, revised the strategy with the Customer Relationship Management (CRM) system no longer being required.

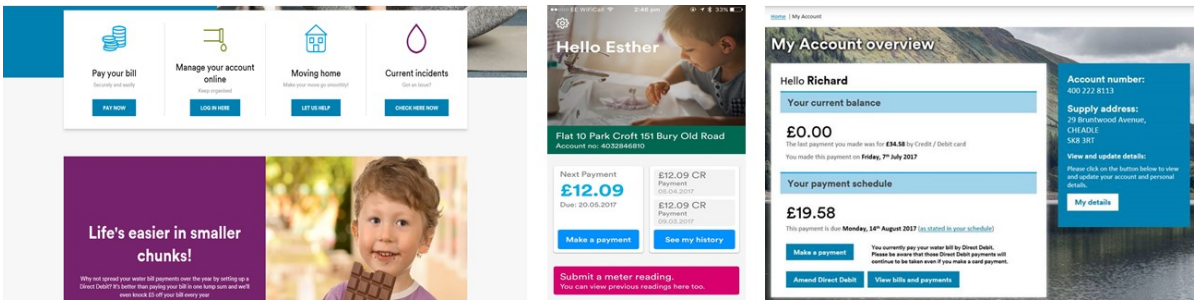
The programme has already delivered substantial improvements, which has had a significant and positive impact on the efficiency of the retail function and customer experience.

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 nearly 80,000 customers registered with functionality to make payments, view payment history and submit meter readings. My Account has over 625,000 active customers registered providing personalised pages with consumption history for metered customers.

Figure 3: 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 for 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.

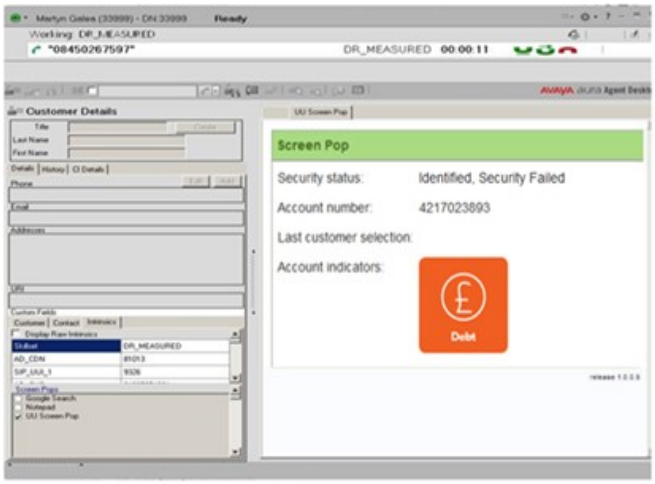
Our automated telephony line is an important channel for customers with over 435k transactions per year. We have delivered a 10% improvement in overall success rates of the new system. We have also developed caller recognition and customer flags presented to our agents to identify customer sensitives 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.

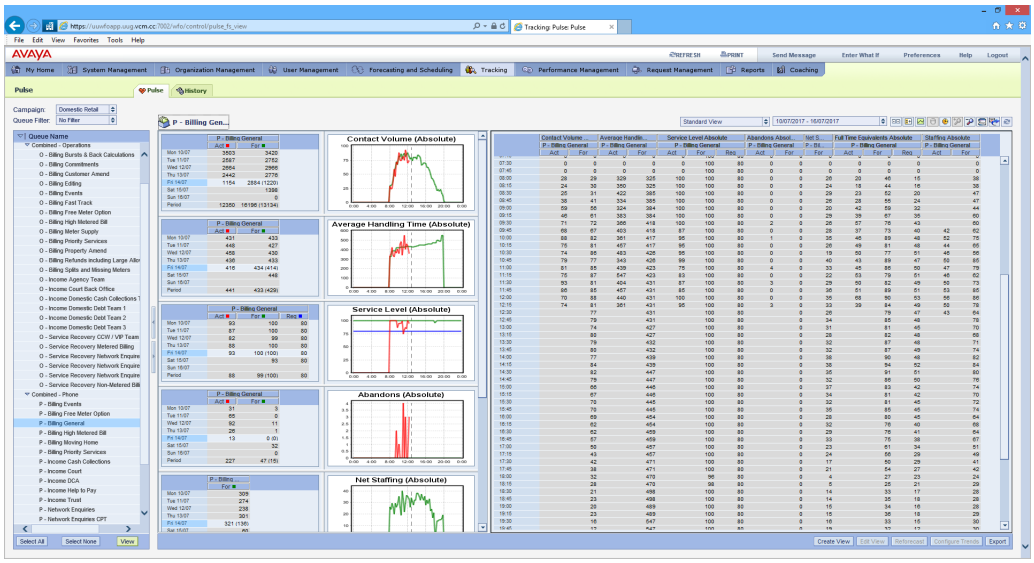
Figure 4: The screen pop enables customer identification and flags sensitives



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 5: Workforce tools driving planning and scheduling optimization and adherence efficiencies



4. Analytics capabilities (complete) – the use of Exasol 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 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

.

Figure 6: Our Priority Services dashboard provides a segmented view and is a critical tool used in operational incidents

5. Billing system upgrades[22] (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 (complete) – completed replacing the now out of support FICO Debt Manager 6 (DM6) with the current version 10 of FICO's Debt Manager system (DM10). Full transition to the new system completed in March 2019. 302k active customer accounts migrated over with a debt value of £313m. 120-130 agents actively use the system daily to collect outstanding customer debt. The legacy DM6 system had been switched off and is in read only mode.

DM10 offers additional benefits such as integration with advanced analytics tools, the ability to tailor approaches to collections, clearly presented 'dashboard'-style screens, and a system that is stable, fully supported and offers a high degree of future-proofing.

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.

[22] 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 four years has been subject to independent assurance, with the data for the remaining year 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 Cumulative Depreciation (£m)	0.001	0.363	*2.576*	*5.685*	*10.051*

Projected variance in cumulative depreciation by 2020	-£7.718m
Customer share rate	50%
Projected ODI performance adjustment	**-£3.859m**

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 2019	Assumed cost at PR14 (£m)
Debt Manager replacement	Yes	
Billing system upgrades	Yes	
Customer relationship management system (CRM)	**No**	8.996
Multi-channel routing	Yes	
Workforce optimisation	Yes	
Analytic capabilities	Yes	
Web content management system	Yes	

As shown in the table above all systems were delivered and 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	-£3.859m
Full delivery	-£1.838m
Total ODI value (nominal prices)	**-£5.697m**

Adjusting for inflation for an ODI linked to a residential Retail price control

As part of the UU Draft Determination Ofwat applied intervention "UUW.PD.A2a", which acted to increase the proposed penalty applied through "R-A2 Customer Experience Programme ODI". Details on our response to this proposed intervention can be found in our response to our Draft Determination[23].

Whilst we agree with Ofwat's approach to assessing the return to customers that should be made via the Customer Experience Programme ODI, we believe that the Revenue Adjustments model is incorrectly applying RPI inflation to the penalty value of retail measures. Therefore, as part of our PR19 Business Plan process, we believe inputs into the AMP7 price setting models for retail ODIs should be deflated from nominal to 2012/13 prices to correct for this.

In total £17.8m was allowed in UU Residential Retail price control limits for additional depreciation associated with the Customer Experience Programme. As retail price controls are not linked to RPI the amount received from customers over AMP6 will equal £17.8m on a nominal basis.

The purpose of the ODI is to return unused elements of funding for discretionary enhancement investment. The calculation of returns to customers under the ODI should therefore, be subject to the same inflationary uplifts as the original depreciation allowance, i.e. zero uplift. However the design of the PR19 Revenue Adjustments model automatically applies RPI inflation to all ODI rewards/penalties. There does not appear to be a mechanism within the model to prevent inflation being applied.

Left uncorrected the application of RPI inflation to this residential retail ODI will result in excess return to customers. As an extreme example, if we had delivered none of the Customer Experience Programme then the full £17.8m of the original revenue allowance would correctly be returned to customers. However using the current Revenue Adjustment model, RPI will automatically be applied to this value, resulting in a penalty of £20.5m, which is £2.7m more than we received in revenues to support the Customer Experience Programme investment.

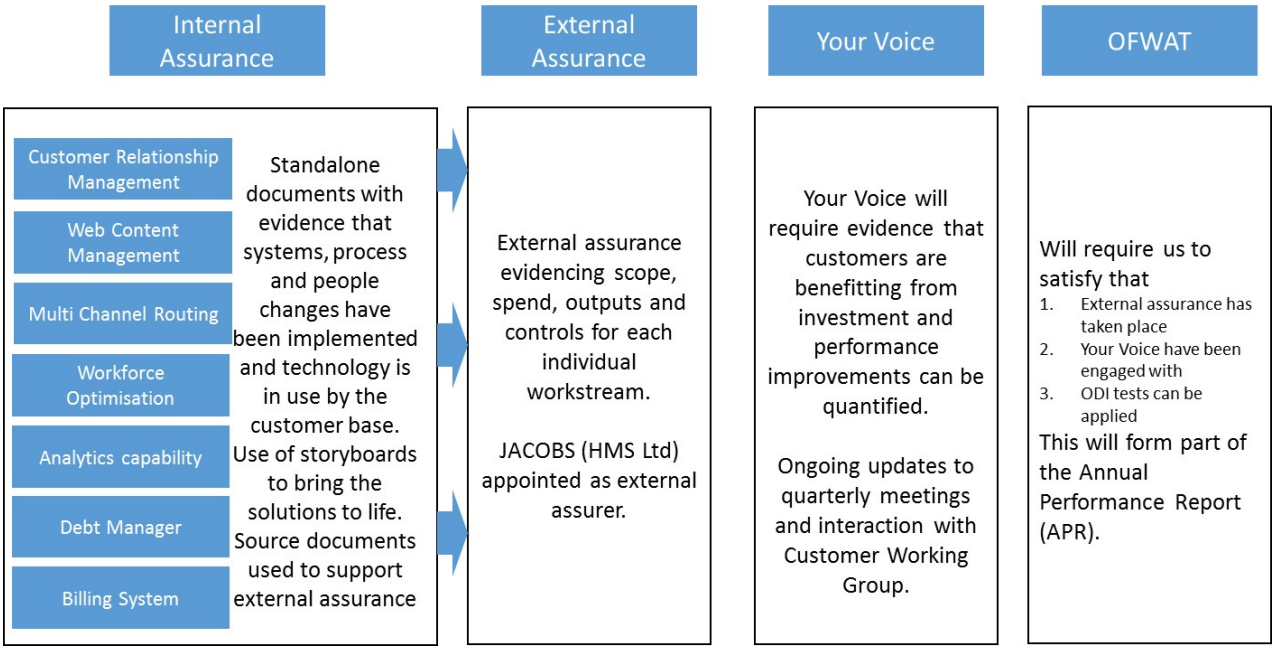
As part of our PR19 Business Plan submission[24] we deflated the forecast Customer Experience Programme penalty from nominal to 2012/13 prices. This was done to resolve the issue of inflationary uplifts embedded in the PR19 Revenue Adjustments and Financial Models. The effect of this was to ensure future revenue returned to customers via the Customer Experience ODI equaled the expected value on a nominal basis.

[23] UU Draft Determination response, 9th May 2019, "D005 – Past Delivery & SIM"

[24] This adjustment was set out in our 2018 PR14 reconciliation submission within Section 2.1 outcome delivery incentive (ODI) mechanisms, on page 29 Household retail assumptions and method. The calculation showing how we converted the nominal penalty to a 2012/13 prices input to App 27 was set out on a worksheet (called 'retail adjustment factors') that we added to our submitted revenue feeder model.

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 Jacobs UK ltd. 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 Jacobs 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.

In their report Jacobs state that 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. Jacob's detailed audit findings are provided alongside this submission, document reference UUW_012_AFPD, with the conclusions from their review presented 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. Performance against these outcomes is set out within our Annual Performance Report with key information from the APR being reproduced in Appendix A.

This appendix provides additional project level detail on the schemes within these outcomes. The appendix needs to be read alongside the spreadsheet that we have also provided which sets out the details of the actual or planned delivery dates for the projects within each programme. The spreadsheet also sets out any variance between the values currently assumed and the values that were included in our 2018 reconciliation document.

- **The spreadsheet is available as UUW_013_AFPD Project Delivery spreadsheet.**

In addition we have provided copies of the output in use certificates for the projects, which have been delivered to date. This document contains the information provided with our 2018 reconciliation and additional certificates for the projects delivered in 2018/19.

- **The output in use certificates are available as UUW_016_AFPD Output in use certificates**

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 eleven 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 2018/19;
- The anticipated levels of delivery performance in 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 agency's 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 Project Delivery spreadsheet.

Output in use certificates are produced for all completed schemes, certificates for the schemes completed up to March 2018 were provided with our 2018 submission with certificates for schemes completed in 2018/19 being provided alongside this submission within document UUW_014_AFPD Output in use certificates.

C.2 Environmental commitments

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 2015, 2016 and 2017 we attained four star status, which is the highest attainable category and classifies us as an industry leading company. In 2018 we attained three star status, as we were amber on two measures (discharge permit compliance and Environment Programme Delivery). This means we moved from the highest assessment of our performance as “Leading” (4 star), to the “Good” (3 star) performance category.

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 2016/17/18 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**	********
2018 Performance	**24**	**0.1**	**98.7**	**N/A (see commentary below)**	**79**	**98.8**	**100**	*******

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, 2017 and 2018 was in the amber classification due to 10 permit breaches in 2015, 11 in 2016, 5 in 2017 and 5 in 2018. 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 be put to good use, for example as a fertiliser on agricultural land. Its storage and spreading, requires regulatory control as misuse can result in environmental damage.

The definition of the EPA measure, Satisfactory Sludge Use/Disposal, is slightly different to the performance commitment, Satisfactory Sludge Disposal, definition. The EPA measure considers compliance with the Sludge Use in Agriculture Regulations, Environmental Permitting Regulations and the Safe Sludge Matrix. We attained 100% compliance in 2015, 2016 and 2017, which is the maximum available score. We have reported 100% compliance for 2018.

However, the Environment Agency notified us on 1st May 2019 that the 2018 EPA Sludge Use/Disposal measure has been suspended until further notice. The Environment Agency is investigating inconsistencies in practice by water companies which are not driving the right environmental and regulatory outcomes. In 2018, the EA will provide a narrative commentary on sector performance on sludge use and disposal, rather than providing the quantitative environmental performance assessment. We believe that we have complied fully with the measure and await further communication from the Environment Agency regarding its investigation.

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. In 2018, we achieved 98.8% due to the late delivery of Ulverston and Dragley Beck

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 and 2018.

C.3 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 3 and 4 performance

In years 1, 2, 3 we successfully delivered the schemes required by the Environment Agency (EA) 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.

In year four we were again able to deliver all of the schemes required by the EA or to agree exchanges, with exception of two bathing water schemes (Ulverston WwTW Storm Tanks and Dragley Beck combined sewer overflow). Due to unforeseen planning difficulties, we were unable to deliver these schemes to the regulatory delivery dates. We are now making good progress with these schemes and they are due to complete in summer 2019. To mitigate this delay we accelerated delivery of improvements at Ambleside WwTW by a year and we completed a major bathing water improvement scheme at Anchorsholme pumping station in March, ahead of its regulatory date

Year 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.

C.4 S-D3: Contribution to rivers improved (wastewater)

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
£0.903m	0.76	46.98	120.73	178.93	341.92

Detals of the derivation of the river lengths improved and of the calculation of the ODI financial incentive are set out below.

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 North, 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	Impact on outcome	Reported year
FY16 – EDM projects	Various	31/03/2016	31/03/2016	0.40	On time	0.01	FY16
FY16 – Flow project	Various	31/03/2016	31/03/2016	0.36	On time	0	FY16
FY17 – Chemicals programme	Various	31/03/2017	31/03/2017	9.21	On time	0	FY17
Marton North (Flow 3)	6UU0009	31/03/2017	31/03/2020	0.37	3 years late	-1.11	FY17
FY17 – Flow project	Various	31/03/2017	31/03/2017	0.42	On time	0.06	FY17
Elterwater (I1)	6UU0034	31/03/2017	31/03/2017	0.97	On time	0	FY17
Knutsford Moor Pumping Station (I5)	6UU0038	31/03/2017	31/03/2017	0.37	On time	0	FY17
EDM2 Year 2 (224)	Various	31/03/2017	31/03/2017	1.34	On time	0	FY17
Dalston WwTW (ND)	6UU0043	31/03/2018	31/03/2017	7.60	1 year early	7.60	FY17
Horwich WwTW (ND)	6UU0042	31/03/2018	31/03/2017	24.93	1 year early	24.93	FY17
Altrincham WwTW (U2)	6UU0007	14/11/2018	31/03/2017	1.37	1.75 years early	2.40	FY17

Notes

1. 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.
2. The reported rivers improved length in each year is the cumulative sum of the projects delivered by the end of each financial year. Therefore the reported length at the end of year two reflects the river length improved for all the schemes in the table above (including the four schemes delivered early), minus the length for Marton North which, although originally planned to be delivered in FY17 is now expected to be delivered in FY20.
3. The impact on ODI value reported in the each year is the cumulative sum of the impact of the accelerations and delays affecting projects that either were due to have been delivered by the end of the relevant financial year, or have actually been delivered by the end of the financial year. Therefore the impact on ODI value used in the calculation of the reported ODI value at the end of year two, reflects the actual acceleration for the six projects that delivered earlier than planned in the table above offset by the impact of the expected delay to the project at Marton North.

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	Impact on outcome	Reported year
Chorley WwTW Storm Tanks	6UU0521	30/04/2017	30/04/2017	0.00	On time	0	FY18
Chorley WwTW (ND)	6UU0040	17/08/2017	17/08/2017	12.70	On time	0	FY18
Oldham WwTW (F1a)	5UU0580A	30/09/2017	16/10/2019	2.60	2.25 years late	-5.85	FY18
River Loud and Chipping Brook investigation	6UU0553	30/09/2017	30/09/2017	0.37	On time	0	FY18
Mere Platts Pumping Station (I1)	6UU0037	07/12/2017	07/12/2017	1.19	On time	0	FY18
Davyhulme WwTW (F1a)	5UU0545	26/01/2018	26/01/2018	2.43	On time	0	FY18
Whaley Bridge WwTW (ND)	6UU0044	31/03/2018	31/03/2018	12.90	On time	0	FY18
Cleator WwTW (ND)	6UU0041	31/03/2018	31/03/2018	14.40	On time	0	FY18
FY18 – Flow project	Various	31/03/2018	31/03/2018	0.30	On time	0	FY18
FY18 – Chemicals programme	Various	31/03/2018	31/03/2018	6.97	On time	0	FY18
EDM2 Year 3 (588)	Various	31/03/2018	31/03/2018	3.59	On time	0.07	FY18
Tarvin WwTW	6UU0541	31/03/2018	31/03/2018	18.90	On time	0	FY18

The cumulative impact on the ODI 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 28.11. This would produce a reward of £0.787m when multiplied by the reward incentive rate of 0.028 £m/km.

Performance in year 4

In year 4 we have delivered all of the FY19 projects by their delivery dates and as we forecast in our 2018 submission, we have delivered the project at Oakmere WwTW one year earlier than required and have delivered more EDMs than required by the NEP. In addition, we have delivered the Ambleside biodiversity scheme 1 year early than planned.

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual Km river improved	Early/late	Impact on outcome	Reported year
Nantwich WwTW (U2)	6UU0003	14/11/2018	14/11/2018	1.82	On time	0	FY19
Nantwich WwTW (WFD)	6UU0548	14/11/2018	14/11/2018	1.82	On time	0	FY19
Crewe WwTW (U2)	6UU0004	14/11/2018	14/11/2018	1.82	On time	0	FY19
Winsford WwTW (U2)	6UU0005	14/11/2018	14/11/2018	3.64	On time	0	FY19
Northwich WwTW (U2)	6UU0006	14/11/2018	14/11/2018	1.06	On time	0	FY19
Darwen WwTW (U2)	6UU0002	14/11/2018	14/11/2018	1.50	On time	0	FY19
Blackburn WwTW (U2)	6UU0001	14/11/2018	14/11/2018	3.38	On time	0	FY19
Garstang WwTW (U2)	6UU0008	14/11/2018	14/11/2018	1.51	On time	0	FY19
Irlam WwTW	6UU0430	31/12/2018	31/12/2018	0.00	On time	0	FY19
Kendal WwTW (ND)	6UU0508	20/03/2019	20/03/2019	20.21	On time	0	FY19
FY19 – Flow project	Various	31/03/2019	31/03/2019	0.36	On time	0	FY19
FY19 – Chemicals programme	Various	31/03/2019	31/03/2019	6.22	On time	0	FY19
Outgate WwTW (I1)	6UU0039	31/03/2019	31/03/2019	0.37	On time	0	FY19
EDM2 Year 4 (579)	Various	31/03/2019	31/03/2019	3.52	On time	0.04	FY19
Lower Weaver - Cuddington WwTW	6UU0551	31/03/2019	31/03/2019	2.64	On time	0	FY19
Ambleside WwTW (Biod1)	6UU0033	31/03/2020	31/03/2019	5.70	1 year early	5.70	FY19
Lower Weaver - Oakmere WwTW	6UU0550	31/03/2020	31/03/2019	2.64	1 year early	2.64	FY19

The cumulative impact on the ODI at the end of year 4, based upon the projects that were due to be delivered or which have been delivered by this date is plus 36.48. This would produce a reward of £1.022m when multiplied by the reward incentive rate of 0.028 £m/km.

Incentive payment to date (see spreadsheet UUW 013 AFPD Project Delivery Spreadsheet)

Table 4: Incentive payment up to 2018/19 'contribution to rivers improved' (wastewater programme) performance commitment

Unit of measure	2015/16	2016/17	2017/18	2018/19
impact of performance to date on the ODI	0.01	33.89	28.11	36.48
cumulative ODI value (£m)	0.012000	0.395236	0.786954	1.021510
Year on year ODI value (£m)	0.000336	0.394900	0.391718	0.234556

The cumulative outperformance payment up to 2018/19 is £1.02m. However, as the cumulative value reported in 2017/18 was £0.823m, we have entered a value of £0.198m into table 3A. The variance in prior year's values is because they are based upon the assumed delivery dates for projects that were due to be delivered in that year, but which had slipped to a future year. These values are then reassessed in the subsequent year, with assumed delays (and associated negative impacts on the ODI) being replaced with actual delivery dates and delays.

Anticipated performance in year 5

As shown in the table below, we currently anticipate that we will be able to deliver forty projects on time during FY20. In our 2018 submission we had assumed that we would be able to deliver the scheme at Horwich ahead of the regulatory date. The delivery date has now moved back to its regulatory date. This is predominately associated with the primary settlement tank refurbishment, with the poor condition of the mechanical components within the tanks generating delays to the accelerated programme. This project is being closely monitored to ensure it delivers by the regulatory date of March 2020.

There are nine FY20 schemes that impact upon the ODI. Two of these are as a result of minor negative adjustments due to the timing of the delivery of the EDM or Flow programmes, which in the round offset positive adjustments in prior years.

In our 2018 submission we identified that we had submitted change paperwork to the EA to add two schemes (at Motherby and Barrow Nook) to the NEP in lieu of CHR021 and CHR012, which are now being forecast to deliver in AMP7. We also identified that one scheme at Whalley had been removed from the NEP programme. During the current year an additional requirement has been added to the scheme at Motherby.

As set out within our 2018/19 Risk and Compliance Statement, there are three schemes, where we will not be able to deliver to the dates set out within the NEP. We have applied a one year penalty to these projects to determine the impact on the ODI, which is equivalent to the one year acceleration we have applied to projects that have been added to the programme.

Manchester Ship Canal

We have a requirement in the NEP to contribute towards the aeration of the Manchester Ship Canal from Salford Quays to Bollin Point. The originally planned solution, which had been successfully trialled in the Turning Basin by Salford Quays, was to install aeration into the canal. Detailed surveys of the canal undertaken during project development identified that the only location in the canal with sufficient space and depth for aerators was the shipping channel.

As a result a detailed technical review has been undertaken to determine what alternative options might be available to achieve the objective of aerating the Ship Canal. This has concluded that other technologies have similar challenges and specifically the following significant risks mean that the project in its current form is not feasible:

- Access – UU have no right of access to the Ship Canal or adjacent land under the Water Industry Act 1991 for either operation or maintenance. This means we could only gain access with permission and we were unable to obtain permission on terms that would be acceptable to customers.
- Safety – Installation of equipment such as floating aerators could encourage people to use them as platforms for swimming in the canal
- Security – As aeration equipment would be in a publically accessible area the risk of vandalism and theft is significant which puts at threat the reliability of any solution
- Shipping/dredging – The legitimate use of the canal by third parties can not be controlled by United Utilities. Both shipping and dredging pose a significant risk to any cables or aerators in the canal.
- Bank stability – there is a risk that increased turbulence caused by aeration may accelerate bank erosion

We recognise that the risk of low concentrations of dissolved oxygen in the Ship Canal is one of the barriers to returning sustainable migratory fish populations to the Greater Manchester area and we are therefore working with the Environment Agency and Mersey Rivers Trust to identify an alternative strategy for the Ship Canal.

Once a strategy has been agreed we will work with the Environment Agency to agree an alternative requirement for the Ship Canal ahead of March 2020.

CHR0012 South Park Hall Road/ Stocks Lane CSO

We have proposed that the scheme at CHR0012 is delayed due to the complex nature of the scheme and the opportunity to implement a more environmentally beneficial treatment wetland solution. An NEP alteration form was submitted to the EA to substitute this scheme for a phosphorus removal scheme at Motherby WwTW which was due to be delivered in AMP7, we have had feedback on this and a revised proposal is to be submitted in June 2019.

CHR0021 Harrisons Farm CSO

The delay in the delivery of the scheme at CHR0021 is due to the need to move the location of a storage tank to minimise the impact on the local ecology. There are very restricted options for locating the tank which means that we have had to locate it in land with a high risk of abandoned mine workings. There is also the risk of river flooding the construction site during construction. These issues have resulted in a delay to this scheme, which we now expect to be able to complete in

December 2021. An NEP alteration form has been submitted to the EA to substitute this scheme for an AMP7 phosphorus removal scheme at Barrow Nook WwTW, this is yet to be agreed with the Environment Agency. Additionally, we will deliver part of the scheme by 31st March 2020 (diversion of trade effluent downstream of the overflow) which will deliver some of the intended environmental benefits.

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual Km river improved	Early/late	Impact on outcome	Reported year
Grasmere WwTW (Biod1)	6UU0035	31/03/2020	31/03/2020	0.78	On time	0	FY20
Grasmere WwTW Storm Tanks (Biod1)	6UU0036	31/03/2020	31/03/2020	0.78	On time	0	FY20
Glebe Road CSO (Biod1)	6UU0031	31/03/2020	31/03/2020	5.70	On time	0	FY20
Windermere WwTW (Biod1)	6UU0032	31/03/2020	31/03/2020	5.70	On time	0	FY20
FY20 – Chemicals programme	Various	31/03/2020	31/03/2020	6.59	On time	0	FY20
Investigations of sewerage effluent into groundwater (DrW2)	6UUD010	31/03/2020	31/03/2020	0.37	On time	0	FY20
EDM2 Year 5 (468)	Various	31/03/2020	31/03/2020	2.67	On time	-0.14	FY20
Horwich WwTW (WFD)	6UU0523	14/08/2019	14/08/2019	2.94	On time	0	FY20
Wigton WwTW (WFD)	6UU0500	31/03/2020	31/03/2020	16.79	On time	0	FY20
Calthwaite WwTW (WFD)	6UU0501	31/03/2020	31/03/2020	6.06	On time	0	FY20
Kidsgrove WwTW (WFD)	6UU0542/ 6UU0543	31/03/2020	31/03/2020	5.87	On time	0	FY20
Lawton Gate WwTW (WFD)	6UU0544/ 6UU0545/ 6UU0546	31/03/2020	31/03/2020	2.91	On time	0	FY20
Northwich WwTW (WFD)	6UU0552	31/03/2020	31/03/2020	1.06	On time	0	FY20
OLD0100 (WFD)	6UU0536	31/03/2020	31/03/2020	0.24	On time	0	FY20
OLD0109 (WFD)	6UU0537	31/03/2020	31/03/2020	1.26	On time	0	FY20
OLD0120 (WFD)	6UU0538	31/03/2020	31/03/2020	1.26	On time	0	FY20
OLD0151 (WFD)	6UU0539	31/03/2020	31/03/2020	1.82	On time	0	FY20
Failsworth WwTW (WFD)	6UU0532/ 6UU0533/ 6UU0534	31/03/2020	31/03/2020	5.81	On time	0	FY20
Billinge WwTW (WFD)	6UU0531	31/03/2020	31/03/2020	2.16	On time	0	FY20
Halsall WwTW and Haskayne WwTW (WFD)	6UU0528/ 6UU0529	31/03/2020	31/03/2020	12.99	On time	0	FY20
Harrisons Farm Storm Spill CHR0021 (WFD)	6UU0524	31/03/2020	31/03/2021	1.20	1 year late	-1.20	FY20
CHR0012 (WFD)	6UU0522	31/03/2020	31/03/2021	1.2	1 year late	-1.20	FY20
Motherby	N/A	31/03/2021	31/03/2020	1.5	1 year early	1.50	FY20
Motherby first time flow measurement	N/A	31/03/2021	31/03/2020	0.37	1 year early	0.37	FY20
HYN0005 (WFD)	6UU0515	31/03/2020	31/03/2020	0.60	On time	0	FY20
HYN0008 (WFD)	6UU0517	31/03/2020	31/03/2020	0.60	On time	0	FY20
HYN0003 (WFD)	6UU0516	31/03/2020	31/03/2020	2.33	On time	0	FY20
Colne WwTW (WFD)	6UU0518	31/03/2020	31/03/2020	4.45	On time	0	FY20
RIB0017 (WFD)	6UU0512	31/03/2020	31/03/2020	0.13	On time	0	FY20
RIB0019 (WFD)	6UU0513	31/03/2020	31/03/2020	0.13	On time	0	FY20
Billington Storm Tanks (WFD)	6UU0514	31/03/2020	31/03/2020	0.51	On time	0	FY20
Barton WwTW (WFD)	6UU0507	31/03/2020	31/03/2020	4.30	On time	0	FY20
Aspatria WwTW (WFD)	6UU0502	31/03/2020	31/03/2020	7.44	On time	0	FY20
Hayton WwTW (WFD)	6UU0503	31/03/2020	31/03/2020	7.48	On time	0	FY20
Hayfield WwTW (WFD)	6UU0540	31/03/2020	31/03/2020	16.70	On time	0	FY20
MAN0131 (WFD)	6UU0535	31/03/2020	31/03/2020	1.2	On time	0	FY20
Darwen WwTW (WFD)	6UU0526	31/03/2020	31/03/2020	1.48	On time	0	FY20
Darwen WwTW storm tanks (WFD)	6UU0527	31/03/2020	31/03/2020	1.48	On time	0	FY20
Blackburn WwTW (WFD)	6UU0525	31/03/2020	31/03/2020	4.40	On time	0	FY20
FY20 - Flow programme	Various	31/03/2020	31/03/2020	0.42	On time	-0.12	FY20
Inland CSW programme	6UU0530	31/03/2020	31/03/2020	0.18	On time	0	FY20
Manchester Ship Canal (F1a)	6UU0379	31/03/2020	31/03/2021	6.44	1 year late	-6.44	FY20
Barrow Nook	N/A	31/03/2021	31/03/2020	4	1 year early	4.00	FY20
West Newton	6UU0556	31/03/2020	31/03/2020	7.48	On time	0	FY20
Whalley WwTW	6UU0519	31/03/2020	31/03/2021	1.00	1 year late	-1.00	FY20
Crewe WwTW (WFD)	6UU0547	31/03/2020	31/03/2020	5.46	On time	0	FY20
Winsford WwTW (WFD)	6UU0549	31/03/2020	31/03/2020	3.64	On time	0	FY20

Calculation of the Outcome Delivery Incentive

The predicted cumulative impact on the ODI at the end of year 5, based upon all the projects that were either due to be delivered or which have subsequently been delivered or substituted is plus 32.25. This is lower than the cumulative value at the end of year 4 as there was a net negative impact on the ODI as a result of the schemes delivered or delayed in FY20. This cumulative value would produce a reward of £0.903m when multiplied by the reward incentive rate of 0.028 £m/km.

Table 5: Incentive payment to the end of the period 'contribution to rivers improved' (wastewater programme) performance commitment

Unit of measure	2018/19	2018/19
impact of performance to date on the ODI	36.48	32.25
cumulative ODI value (£m)	1.021510	0.903126
Year on year ODI value (£m)	0.234556	-0.118384

The cumulative outperformance payment up to the end of 2018/19 was £1.02m. In 2019/20 the net impact of the revised timings of the delivery of the projects in the table above has a negative impact on the ODI, which results in a cumulative net impact on the ODI of 32.25, with a cumulative net reward of £0.903m. As such we have added a value of -£0.198m into Table App5.

Proposed ODI Reward = 32.25km x £0.028m/km = £0.903m after year 5.

Incentive using the "corrigendum" profile as the performance commitment target

The details of the corrigendum profile and the impact of variations in actual or predicted deliver against the corrigendum programme are set out on a separate tab within UUW_013_AFPD Project Delivery spreadsheet. As the corrigendum does not reflect the subsequent changes that were made in the NEP, when this 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 plus 62.60km. As the equivalent value of the "impact on ODI" calculated using the NEP programme is smaller this indicates that the revisions that have been made to the programme 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 = 62.60km x £0.028m/km = £1.75m 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. We are therefore proposing that the NEP value of £0.903m is used as the basis of the performance commitment.

The detail supporting the calculations for the NEP and corrigendum profiles has been provided in supporting document UUW_013_AFPD Project Delivery spreadsheet.

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

It should be noted that the delivery dates and resultant impacts upon the ODI for the remaining year five programme are subject to potential revision. It should however, also be recognised that the revisions to the programme as compared to our projections in 2018 are relatively modest. 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.

C.5 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

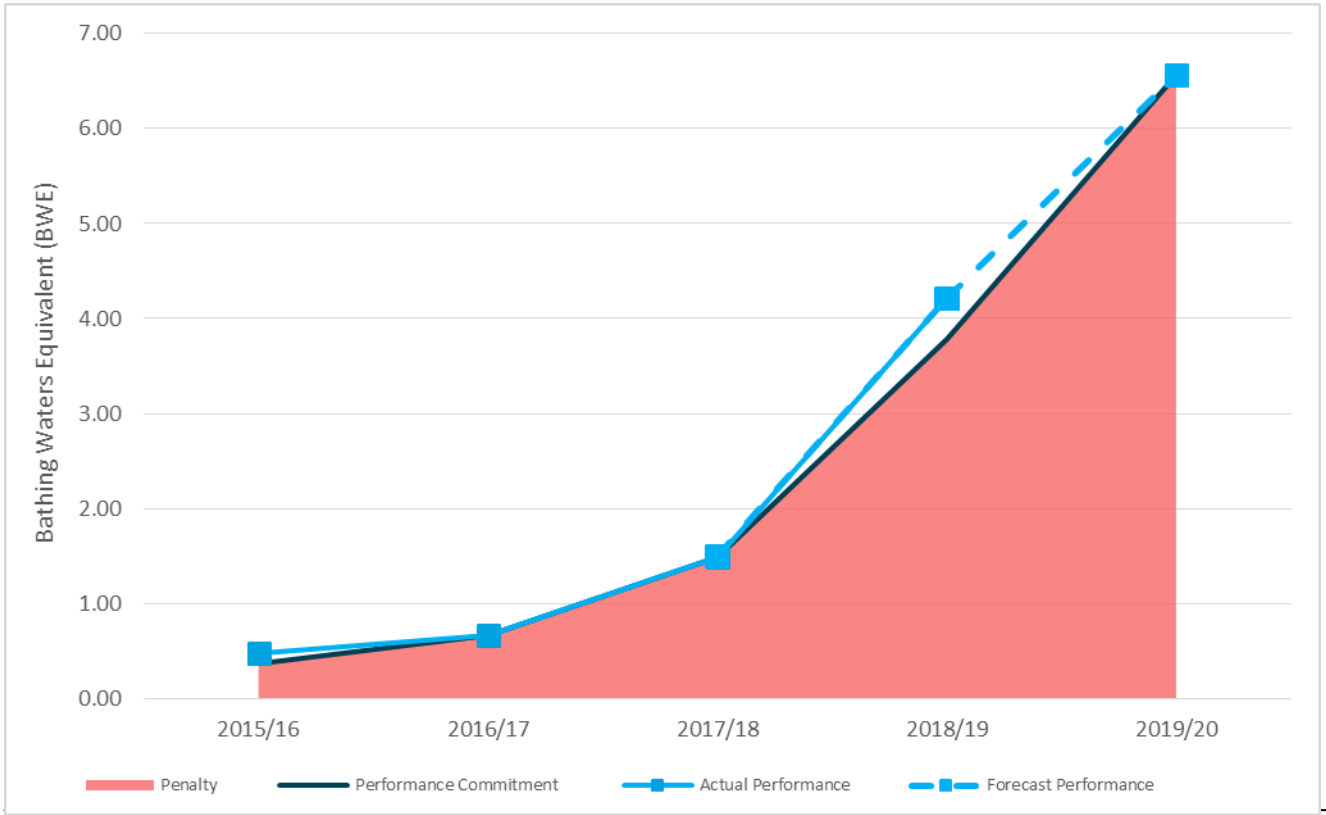
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Bathing water equivalent (BWE)	0.36	0.66	1.49	3.78	6.56

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	4.21	6.56

Figure 6: 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

Performance in year 4

In year 4 we have delivered schemes as agreed with EA and Ofwat at Manchester Square PS, Chatsworth Ave PS and Preston Storm Tanks. We have also delivered the outfall extension at Anchorsholme PS earlier than originally planned.

However, two planned schemes have not been delivered within the financial year, Ulverson WwTW storm tanks (6UU0027) and Dragley Beck CSO (6UU0028). These are currently forecast to deliver 31/07/2019 and 30/06/2019 against 31/03/2019 regulatory date. A number of issues arose on these schemes as set out below, although good progress is now being made.

Key issues on the Ulverston and Dragley Beck projects:

- significant infiltration into the sewer network and interaction with an EA flooding scheme – Town Beck culvert improvements;
- greater than anticipated objections to a required planning application; and
- protracted land purchase.

Table 10: Year 4 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
Anchorsholme	6UU0010	30/04/2019	29/03/2019	FY19	0.68	Early

The early delivery of the Anchorsholme outfall extension has netted off the loss of BWE due to the delay in the Ulverston and Dragley Beck scheme. With 2.72 bathing water equivalents being improved in the year compared to the planned 2.29 bathing water equivalents.

Anticipated performance in Year 5 and AMP7

Table 11: Year 5 Bathing Water programme

Project	NEP reference	Planned delivery date	Actual/LBE delivery date	Actual/LBE delivery year	Actual bathing water equivalent	Early/late
Raby Cote outfall	6UU0020	30/04/2019	30/04/2019	FY20	0.74	On time
Ulverston WwTW Storm Tanks	6UU0510	31/03/2019	31/07/2019	FY20	0.25	Late
Dragley Beck CSO	6UU0511	31/03/2019	30/06/2019	FY20	0.00	Late
Schola Green Pumping Station	6UU0016	31/03/2020	31/03/2020	FY20	0.79	On time
Blackburn WwTW Storm Tanks (part)	6UU0014	31/03/2020	31/03/2020	FY20	0.57	On time
Blackburn WwTW Storm Tanks (completion)	6UU0014	30/04/2021	30/04/2021	FY21	0.31	On time

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 were 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 2019/20 and the remaining 0.31 BWE being allocated to 2020/21 (outside of the ODI).

We anticipate that in year 5 we will deliver the delayed Ulverston and Dragley Beck schemes, and will be able to hit the delivery dates for the remaining 2019/20 projects, which were due to deliver in 2019/20. We also expect to be able to at least deliver the planned percentage of the spend on the Blackburn WwTW storm tank improvements. We will however, continue to work to ensure we can deliver these schemes as soon as possible so that the environmental benefit can be secured.

Calculation of the Outcome Delivery Incentive

This performance commitment is penalty only (there is no reward for early delivery of schemes) and we have met or outperformed the cumulative target for the first four years of the period and expect to hit the target for the end of the period.

We are proposing that no penalty is applied for this measure.

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

Table 12: 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.

C.6 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 our 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 it may affect our ability to include any required implementation schemes in the following AMP cycle.

AMP6 performance commitment

Table 13: Regulatory targets for the 'contribution to rivers improved' (water programme) performance commitment

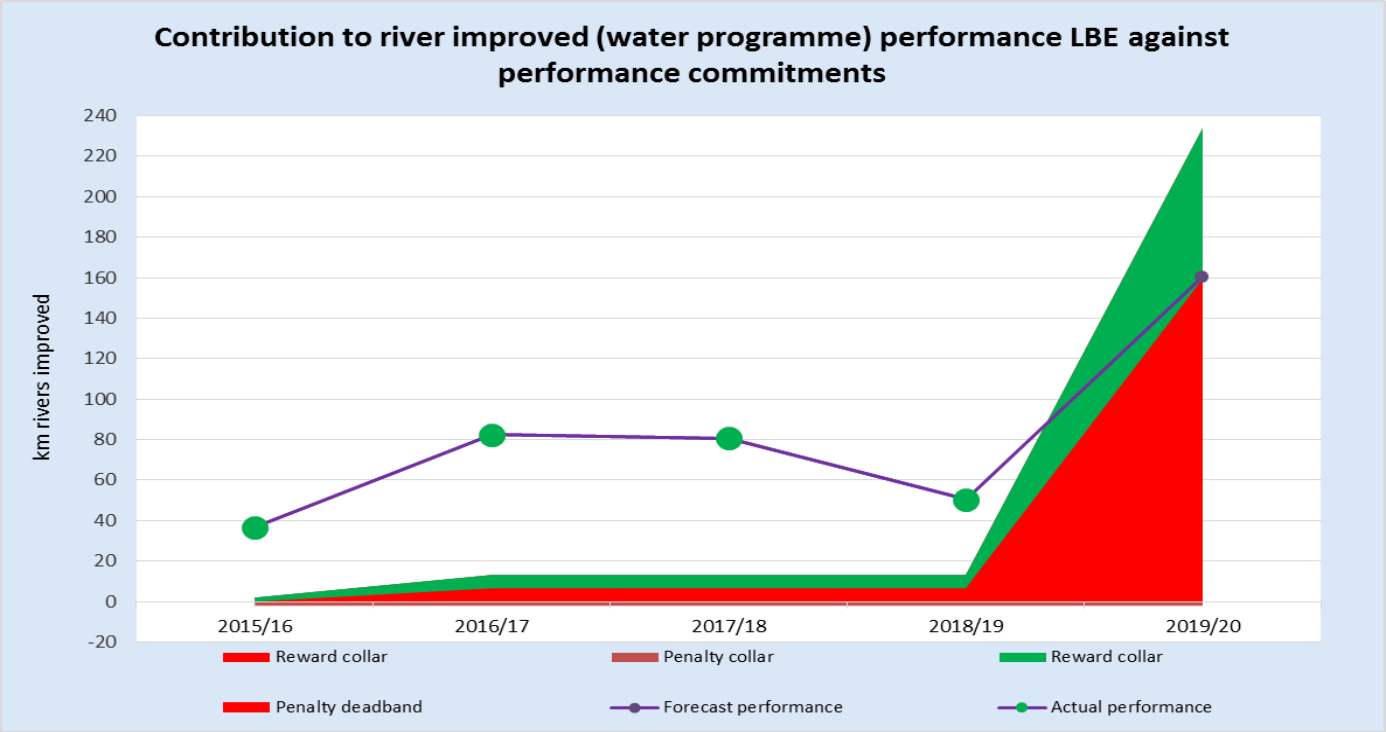
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river improved	0.0	6.6	6.6	6.6	159.5

AMP6 performance

Table 14: 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
£0.633m	36.85	82.55	80.56	50.48	159.50

Figure 7: Contribution to rivers improved (water programme)



Year 1, 2, 3 and 4 performance

Project	Planned delivery year	Planned Km river improved	Actual/LBE delivery date	Actual/LBE delivery year	early / late
6UUWR0045 - Heltondale fish migration investigation	FY17	0.01	18/03/2016	FY16	1 year early
6UUWR0031 - Swindale RoC2 works	FY17	6.55	31/03/2017	FY17	On time
6UUWR0009 - Calder	FY20	4.63	31/03/2017	FY17	3 years early
6UUWR0010 - Crummock	FY20	4.55	31/03/2017	FY17	3 years early
6UUWR0013 - Stocks	FY20	6.45	31/03/2017	FY17	3 years early
6UUWR0015/ 6UUWR0016/ 6UUWR0017 - Jumbles	FY20	9.01	31/03/2017	FY17	3 years early
6UUWR0020 - Dovestone	FY20	5.46	31/03/2017	FY17	3 years early
6UUWR0022 - Goyt	FY20	3.84	31/03/2017	FY17	3 years early
6UUWR0026 - Alston (Langden & Hareden)	FY20	5.21	31/03/2017	FY17	3 years early
6UUWR0042 - Thirlmere AMP6 investigation: impact of Mill Gill aqueduct interception of tributaries	FY20	0.00	31/03/2017	FY17	3 years early
6UUWR0036/ 6UUWR0038/ 6UUWR0040 - Haweswater AMP6 investigation: impact of aqueduct interception of Naddle-Tailbert-Mossy Beck tributaries	FY20	0.02	22/03/2018	FY18	2 years early
6UUWR0034 - River Calder hands off flow (EA flow site)	FY20	5.50	25/09/2018	FY19	1 year early
6UUWR0035a - Stage 3 assessments & UKTAG flow guidance assessments (7 sites listed in the January published NEP5)	FY20	0.00	31/03/2017	FY17	3 years early
6UUF022 - River Calder: Eel screen (9mm) & three eel passes	FY20	0.00	25/09/2018	FY19	1 year early
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	FY20	0.16	07/11/2018	FY19	1 year early
6UUF010 - River Lune (LCUS): Eel monitoring and feasibility study	FY20	0.23	07/11/2018	FY19	1 year 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 delivered the Heltondale fish migration investigation (6UUWR0045) one year earlier than proposed in the NEP, securing 0.01 km of river improved.

We also secured 36.84 km from the AIM element of the measure as river flows at the four AIM sites did not drop below the AIM threshold flows.

In 2016/17 we delivered the remaining FY17 scheme (Swindale 6UUWR0031) on schedule.

We also accelerated delivery of seven sediment management schemes which were due for delivery in FY20 (representing 9 NEP entries: 6UUWR0009, 6UUWR0010, 6UUWR0013, 6UUWR0015, 6UUWR0016, 6UUWR0017, 6UUWR0020, 6UUWR0022 and 6UUWR0026) – we decided to undertake these ourselves which 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 studies earlier than we anticipated.

We also completed an investigation of our Thirlmere tributary abstractions (6UUWR0042), again ahead of its FY20 NEP date. Together these secured a total of 45.70 km of river improved through delivery of NEP schemes in 2016/17.

We also secured 36.84 km from the AIM element of the measure as river flows at the four AIM sites did not drop below the AIM threshold flows.

In 2017/18 we delivered a further investigation in to our Haweswater tributary abstractions (this investigation addressed 3 NEP entries: 6UUWR0036, 6UUWR0038 and 6UUWR0040). The scheme was originally due to be completed in FY20 with the acceleration securing 0.02 km river improved.

The AIM flow threshold was reached at Ennerdale during 2017/18, although overall the position on AIM was positive resulting in 34.83 km river improved secured from the AIM element of the measure.

In 2018/19 we delivered three schemes, all ahead of their 2020 regulatory dates.

In our 2018 submission we had assumed that we would deliver the River Calder flow site scheme (6UUWR0034) during FY19, we delivered this scheme earlier in the year than assumed and we also accelerated the delivery of a second River Calder scheme (6UUF022), an eel trap and truck investigation.

In addition we accelerated the delivery of two further schemes, a scheme covering 8 NEP entries (6UUF002, 6UUF003, 6UUF004, 6UUF005, 6UUF006, 6UUF011, 6UUF013 and 6UUF015) and a River Lune eel investigation (6UUF010a), securing a total of 5.89 km of river improved securing a total of 5.89 km of river improved.

Due to the dry summer of 2018 we hit the AIM flow triggers at three of the four AIM sites resulting in a slightly negative AIM performance of -1.14 km river improved in 2018/19.

Note - Output in use certificates to evidence delivery of the projects which have been delivered to date have been provided within document UUW_016_AFPD Output in use certificates.

Anticipated year 5 performance

Project	Planned delivery year	Planned Km river improved	Actual/LBE delivery date	Actual/LBE delivery year	early / late
6UUWR0035b - Stage 3 assessments & UKTAG flow guidance assessments (any other sites identified by thte EA)	FY20	3.79	31/03/2020	FY20	On time
6UUWR0012 - Poaka Beck (new Q95 flow)	FY20	5.28	31/03/2020	FY20	On time
6UUWR0005 - Marchnant low flow alleviation	FY20	1.51	31/03/2020	FY20	On time
6UUWR0018 - Readycon Dean (new Q95 flow)	FY20	0.96	31/03/2020	FY20	On time
6UUWR0023 - Horse Coppice (new Q95 flow)	FY20	2.88	31/03/2020	FY20	On time
6UUWR0019 - Castleshaw (adaptive flow changes)	FY20	0.67	31/03/2020	FY20	On time
6UUWR0022 - Errwood and Fernilee (adaptive flow changes)	FY20	-	31/03/2020	FY20	On time
6UUWR0021 - Longdendale (adaptive flow changes)	FY20	-	31/03/2020	FY20	On time
6UUWR0004 - Cownwy low flow alleviation	FY20	2.81	31/03/2020	FY20	On time
6UUWR0002/ 6UUWR0003 - Tarnbrook Wyre low flow alleviation	FY20	8.24	31/03/2020	FY20	On time
6UUF016 - Crummock: Eel tiles and four pumped eel passes on weir; strobe light deterrents on intakes	FY20	6.03	31/03/2020	FY20	On time
6UUF014 - Ulpha: Two pumped eel passes and counter	FY20	4.12	31/03/2020	FY20	On time
6UUF010 - River Lune at Forge weir: Eel pass on south bank of Forge weir	FY20	1.54	31/03/2020	FY20	On time
6UUF007 - River Wyre: Four eel passes (both sides of bank on two downstream weirs) & up and over pass over intake	FY20	11.82	31/03/2020	FY20	On time
6UUF009 - River Lune at Caton: Eel screen (10mm)	FY20	2.66	31/03/2020	FY20	On time
6UUF012 - Windermere: Strobe light deterrents	FY20	14.40	31/03/2020	FY20	On time
6UUF021 - Ullswater: Strobe light deterrents	FY20	15.38	31/03/2020	FY20	On time
6UUF001/ 6UUF018/ 6UUF019/ 6UUF020 - River Dee intakes (Heronbridge, Huntington, Llangollen and Hurleston): Eel monitoring and feasibility study	FY20	1.47	31/03/2020	FY20	On time
6UUWR0032 - Haweswater tributary abstraction metering (Wet Sleddale, Keld, Thornship, Tailbert, Naddle, Cawdale, Heltondale, Mossy)	FY20	5.19	31/03/2020	FY20	On time
6UUWR0044 - RSA monitoring study of abstraction licence changes	FY20	2.17	31/03/2020	FY20	On time
6UUWR0028 - Ennerdale RoC3 works	FY20	2.27	31/03/2020	FY20	On time
6UUWR0030 - Yearl weir removal works	FY20	11.01	31/03/2020	FY20	On time
6UUWR0025 - River Ellen (increase to Q95 flow)	FY20	1.43	N/A	N/A	Removed
6UUWR0001 - Old Water hands off flow & fish passage (EA flow site)	FY20	0.74	N/A	N/A	Removed
6UUF010 - River Lune at Forge weir: Eel pass on north bank of Forge weir	FY20	1.54	N/A	N/A	Removed

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 the final NEP5. This reduces the length of river improved in 2019/20 by 3.71 km. These three projects are:

- 6UUWR0025 (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 (1.43 km).
- 6UUWR0001 (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 (0.74 km)
- 6UUF010 (Eel pass on the north bank of River Lune at Forge weir) – this has been provided by a third party (Lune Hydro) (1.54 km)

We expect to be able to deliver all the remaining projects to the date within the NEP.

Over the AMP6 period our performance for AIM has exceeded the target in three years but marginally failed the target in one year, with performance in 2019/20 also being to some degree dependent upon the weather. For 2019/20 our forecast position reflects the estimated additional 2 km as a result of reducing our abstraction at Ennerdale as a result of the new South Egremont boreholes. We have also assumed a relatively small additional benefit, of 1.68km, which produces a total forecast benefit of 3.68 km river improved under AIM and takes the predicted value for the combined measure to the performance commitment target of 159.5 km. In practice the value under AIM could exceed this value as it has done in the first three years of the period, or be lower than this value as it was in 2018/19.

To ensure delivery of this forecast position on AIM we are proactively managing abstraction at our AIM sites during periods of low river flow – however there are limited alternative supplies of water to utilise.

Due to delivery of the River Calder NEP scheme in 2018/19 (6UUWR0034), this site will not form part of AIM for 2019/20 as the sustainability issue has been addressed by the NEP scheme.

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 NEP schemes delivered plus the impact of AIM. Details of performance against the abstraction incentive element of this performance commitment are set out in our 2019 Annual Performance Report the relevant sections from which are reproduced in Appendix A of this document. 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, for the first four years of the period the total km delivered is greater than the reward cap, so the reward cap has been used to calculate the incentive. In year five the total km delivered is forecast to be marginally above the target, and well within the reward cap, so the forecast total km delivered has been used to calculate the incentive.

Table 15 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/Forecast delivery profile (cumulative) km	**0.01**	**45.71**	**45.73**	**51.62**	**155.82**
Contribution to measure from AIM	**36.84**	**36.84**	**34.83**	**-1.14**	**3.68**
Total km	**36.85**	**82.55**	**80.56**	**50.48**	**159.50**
Reward cap km	**2.00**	**13.20**	**13.20**	**13.20**	**234.00**
Annual incentive value (£m) [1]	**0.056**	**0.1848**	**0.1848**	**0.1848**	**0.000**

Note 1 – basis of the incentive calculation

The year 1 reward has been calculated as below: -

a) 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: -

b) 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: -

c) Year 3: (reward cap – reward deadband) x reward rate = (13.2 – 6.6) x £0.028m = **£0.1848m**

The year 4 reward has been calculated as below: -

d) 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: -

e) Year 5: (forecast performance – target performance) x reward rate = (159.5 – 159.5) x £0.028m = **£0.000m**

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 16: Factors that could affect the future performance of the 'contribution to rivers improved (water programme)' performance commitment

Factor	Potential impact
Strobe lighting	The originally agreed programme included a number of projects, which required the installation of strobe lighting which is no longer a preferred EA solution. We are working with the EA to agree an alternative solution but as we don't yet have an agreed solution there is a risk that we won't be able to deliver these schemes.
River Cownwy	We have a deliverable on the River Cownwy a contributory to lake Vyrnwy that is being delivered by Severn Trent Water. This schemes is currently behind schedule.
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 all three sites remaining in AIM for 2019/20 (Ennerdale, Aughertree Springs and Old Water), the alternative sources of supply are limited.

C.7 Accommodating development S-D1: Protecting rivers from deterioration

This section of Appendix 5 covers one performance commitment.

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. It consists of a programme of work 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. 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 cumulative km for each year of the AMP. 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 17: Regulatory targets for the 'protecting rivers from deterioration due to population growth' performance commitment

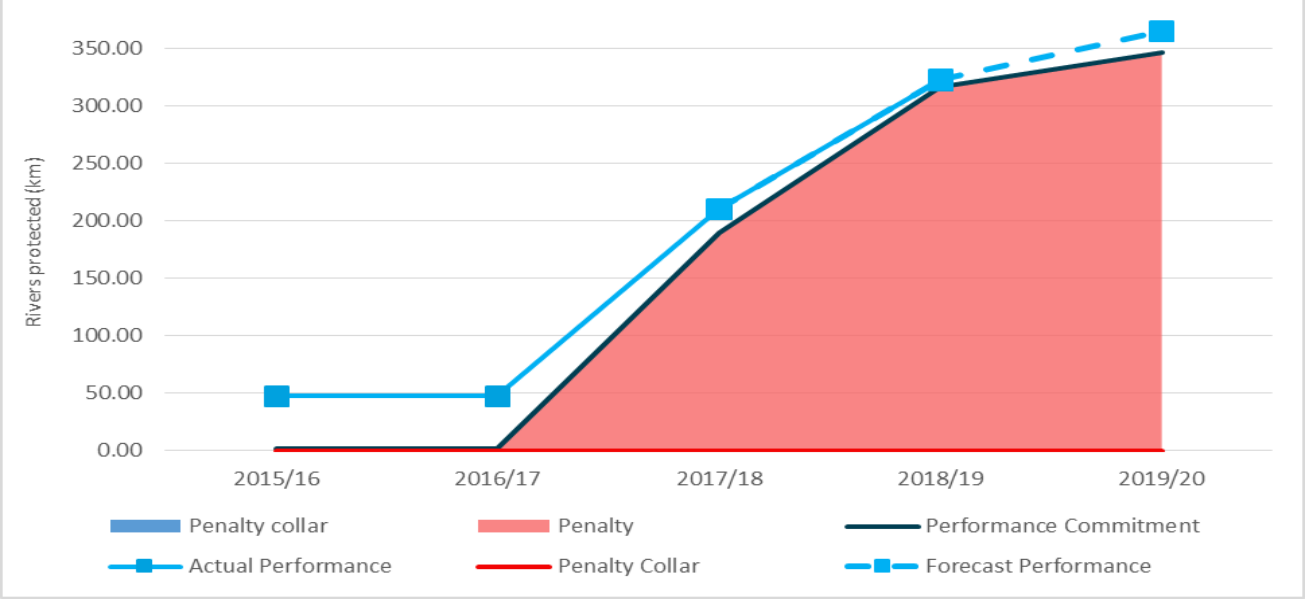
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Km of river protected	=>1.8	=>1.8	=>190.1	**=>316.7**	=>346.6

AMP6 performance

Table 18: Actual and forecast performance for the 'protecting rivers from deterioration due to population growth' performance commitment

AMP6 financial projection	Actual Km of river protected				Forecast
	2015/16	2016/17	2017/18	2018/19	2019/20
£0m	48.0Km	48.0 Km	210.5 Km	322.9 Km	365.5 Km

Figure 8: 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 date	Actual/LBE delivery date	Actual/LBE delivery year	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	N/A	N/A	N/A
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 which was originally planned for 2017/18 delivery. The project was delayed until 2019/20 in our 2018 PR14 reconciliation due to the slower pace of development than had been assumed and has now been reprioritised for delivery in AMP7.

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 performance

Project	Planned delivery date	Actual/LBE delivery date	Actual/LBE delivery year	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	31/03/2019	FY19	4.3
Oakmere (transfer to Northwich)	31/03/2020	31/03/2019	FY19	0.6

Four of the ten projects identified in the FBP to deliver in financial year 2018/19 are no longer required in AMP6:

- Burscough WwTW (27.2 km) and Clitheroe WwTW, (10.9 km) have sufficient capacity to accommodate the new development.

- Alsager WwTW (5.4 km) has been deferred until AMP7, due to the pace of development.
- The risk identified at Partington WwTW (1.4 km) will no longer have an impact at that works.

An additional project was added to the programme. This is a project to protect Barton WwTW (25.8 km) from substantial new development.

Schemes to address risks at two additional works Cuddington WwTW (4.3 km) and Oakmere WwTW (0.6 km), which were originally planned to be delivered by March 2020, were completed by 31/03/2019 as part of the Lower Weaver Rationalisation Project, which transferred the flow from these works to Northwich WwTW

Year 5 Anticipated Performance

Project	Planned delivery date	Actual/LBE delivery date	Actual/LBE delivery year	Actual Km river protected
Knutsford	31/03/2020	N/A	N/A	N/A
Crewe	N/A	31/03/2020	FY20	42.6

We were originally planning to deliver three schemes in 2019/20, the schemes at Cuddington and Oakmere were delivered in 2018/19. Development at the third works, Knutsford did not materialise at the pace or scale anticipated.

In 2019/20 we are now planning to deliver two schemes, the scheme at Whalley, which we were originally planning to deliver in 2017/18 and a new scheme at Crewe, where additional work is required. Delivery of these two schemes would deliver an addition 42.8kn and increase the cumulative rivers protected length to 365.5 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 and potential opportunities which could impact on this in the final year of the AMP. The key factors that could impact upon the coverage or timing of the delivery of the programme are set out in the table below.

Table 19: 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.	We may identify locations where the assumed growth does not occur or is not required to the same timescales. If such changes occur we could underperform against the performance commitment.
Forecast population increases in areas not previously included in the programme.	Should additional growth occur we may be required to deliver additional schemes which had not previously been considered. If it is effective to deliver these within the AMP6 period we would further outperform the performance commitment.

C.8 DWI and other water service 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, 3 and 4 performance

Table 20 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 completed 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	Work completed and completion report submitted to DWI, further 3 months data required to be submitted 31 August 2019
Hurleston WTW (Llangollen canal)	UUT3235	Metaldehyde and Total Pesticides	Work completed and LI revoked

Table 21 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	On track to complete following revision of DWI regulatory dates last year. TM cleaning in AMP6 and WSZ cleaning AMP7.
Lytham Trunk main and WSZ cleaning	UUT2798	Iron and Manganese	Construction work completed. Awaiting reporting to DWI before LI to be revoked
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

	Legal Instrument Reference	Driver	Status of Legal Instrument
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	Additional scope including control and automation of Vyrnwy LDTM and shut down start up to waste facility. Completion date of 30 July 2020 following which a further 12 month monitoring period.

As can be seen from the tables above we have delivered all the schemes that were required to be delivered by the end or 2018/19, by the Drinking Water Inspectorate (DWI) in line with the legal agreements that we have in place with them.

During AMP6, and following the significant events at Franklaw WTW and Sweetloves WTW, we have 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.

The water transformation programme covered improvements in processes, assets and people to drive reduction in risk to water quality and an improved water quality awareness and culture. The key deliverables within the transformation programme include the:

- Improvements to our site specific disinfection policies and approach to backwash water management
- delivery of shut down and start up to waste capacity at the majority of our WTWs in AMP6 and the delivery of the remaining more complex sites in early AMP7.
- Inspection with our industry leading flood testing approach of all our service reservoirs and subsequent repair and cleaning
- Rollout of our innovative approach to risk assessment (HAZREV) across all our WTWs
- Acceleration of mains cleaning in areas where discolouration contact rates were elevated.
- Additional targeted technical training for our front line operational staff.

C.9 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 22: Regulatory targets for the 'resilience of impounding reservoirs' performance commitment

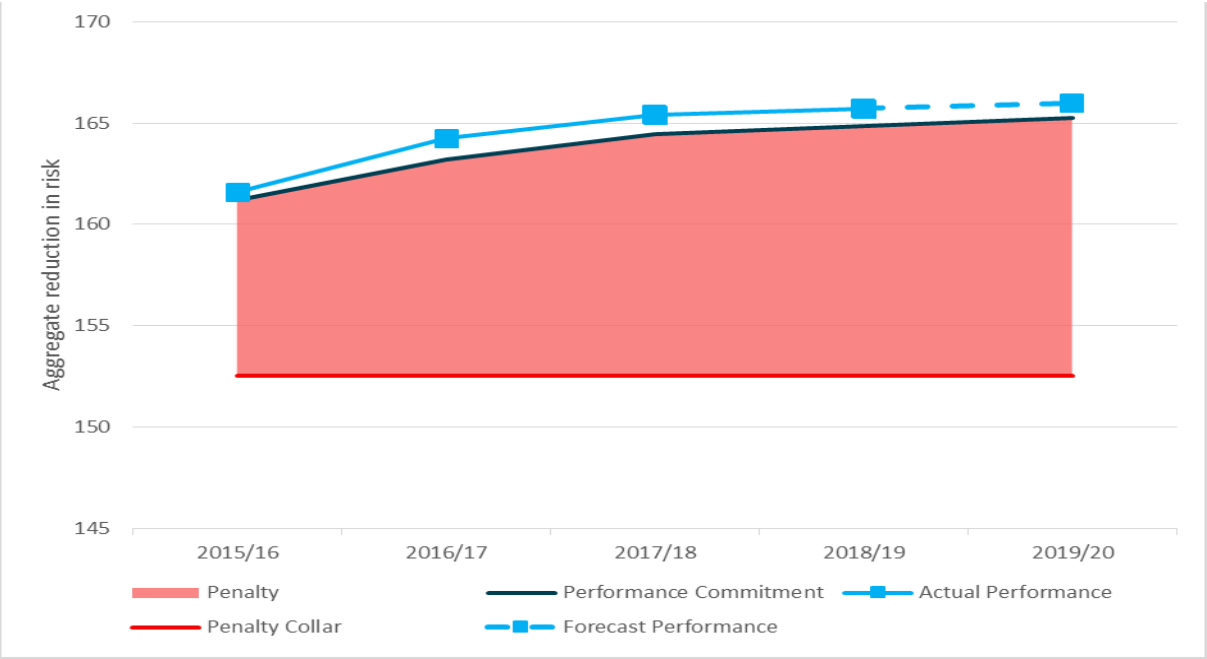
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
Aggregate reduction in risk	161.20	163.21	164.44	164.87	165.27

AMP6 performance

Table 23: 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	165.72	165.87

Figure 9 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 shows the initially assumed project delivery 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.

Project	Planned delivery year	Planned delivery year	Planned risk reduction	Actual/LBE delivery date	Actual/LBE delivery year	Actual risk reduction	Comments
Hollingworth Lake	Pre-AMP	Pre-AMP	0.46	10/09/2014	Pre-AMP	0.39	Delivered as original plan
Denton 1 & 2	Pre-AMP	Pre-AMP	0.19	07/04/2015	FY16	0.18	Delivered as original plan
Overwater	FY16	FY16	5.25	11/12/2015	FY16	5.25	Delivered as original plan
Crummock	FY16	FY16	1.00	14/10/2015	FY16	1.09	Delivered as original plan
Whiteholme	FY16	FY16	0.42	14/12/2015	FY16	1.57	Delivered as original plan
Chelburn	FY16	FY16	1.12	31/01/2018	FY18	1.17	Delayed
Sunnyhurst	FY16	FY16	0.58	30/08/2016	FY17	0.59	Delayed
Earnsdale	FY16	FY16	0.33	14/09/2016	FY17	0.38	Delayed
Hurst	N/A	N/A	N/A	30/09/2014	Pre-AMP	0.00	Additional scheme delivered
Hayeswater	N/A	N/A	N/A	30/09/2014	Pre-AMP	0.01	Additional scheme delivered
Readycon Dean	N/A	N/A	N/A	09/03/2015	Pre-AMP	0.14	Additional scheme delivered
Borrans	N/A	N/A	N/A	17/01/2017	FY17	0.14	Additional scheme delivered
Ridgegate	FY17	FY17	0.38	07/11/2014	Pre-AMP	0.38	Delivered through early start
Blackstone Edge	FY17	FY17	0.45	13/10/2015	FY16	0.46	Accelerated
Springs	FY17	FY17	0.26	23/02/2017	FY17	0.73	Delivered as original plan
Hollingworth Lake	FY17	FY17	0.41	N/A	N/A	N/A	Scheme removed from programme
Central quarry	FY17	FY17	0.43	N/A	N/A	N/A	Scheme removed from programme
Warland	FY17	FY17	0.08	N/A	N/A	N/A	Scheme removed from programme
Clowbridge	N/A	N/A	N/A	23/02/2017	FY17	0.44	Additional scheme delivered
Swinden	FY18	FY18	0.17	30/09/2015	FY16	0.13	Accelerated
Bottoms Macc	FY18	FY18	0.08	17/01/2017	FY17	0.07	Accelerated
Coldwell	FY18	FY18	0.20	N/A	N/A	N/A	Scheme removed from programme
Arnfield	FY18	FY18	0.11	N/A	N/A	N/A	Scheme removed from programme
Fisher Tarn	FY18	FY18	0.18	N/A	N/A	N/A	Scheme removed from programme
Crosshills	FY18	FY18	0.10	N/A	N/A	N/A	Scheme removed from programme
Yeoman Hey	FY18	FY18	0.10	N/A	N/A	N/A	Scheme removed from programme
Woodgate Hill no.2	FY18	FY18	0.29	N/A	N/A	N/A	Scheme removed from programme
Teggsnose	FY19	FY19	0.07	17/01/2017	FY17	0.07	Accelerated
Rumworth	FY19	FY19	0.10	17/01/2017	FY17	0.10	Accelerated
Simpson Ground	FY19	FY19	0.15	16/10/2015	FY16	0.13	Accelerated
High Bullough	FY19	FY19	0.04	17/01/2017	FY17	0.06	Accelerated
Cloughbottom	FY19	FY19	0.07	17/01/2017	FY17	0.07	Accelerated
Moorside	FY19	FY19	0.02	N/A	N/A	N/A	Scheme removed from programme
Hanging Lees	FY20	FY20	0.06	08/03/2019	FY19	0.31	Accelerated
Laneshaw	FY20	FY20	0.05	31/03/2020	FY20	0.15	On schedule
Heaton Park	FY20	FY20	0.09	N/A	N/A	N/A	Scheme removed from programme
crag holes	FY20	FY20	0.10	N/A	N/A	N/A	Scheme removed from programme
leadbeaters	FY20	FY20	0.05	N/A	N/A	N/A	Scheme removed from programme
Delph	FY20	FY20	0.06	N/A	N/A	N/A	Scheme removed from programme

As a consequence of the revisions to the programme the only reservoir scheme that will be delivered in the 2019/20 is at Laneshaw reservoir.

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 cumulative target risk reduction in each year of the period.

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?

Table 24: Factors that could affect the future performance of the 'resilience of impounding reservoirs' performance commitment

As we have already hit the cumulative five year risk reduction target there are no risks to the delivery of the performance commitment. However there is a risk to the delivery of the one remaining schemes within the programme at Laneshaw reservoir.

Factor	Potential impact
Laneshaw reservoir	Potential construction risks.

C.10 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 25: Regulatory targets for the 'Thirlmere transfer into West Cumbria' performance commitment

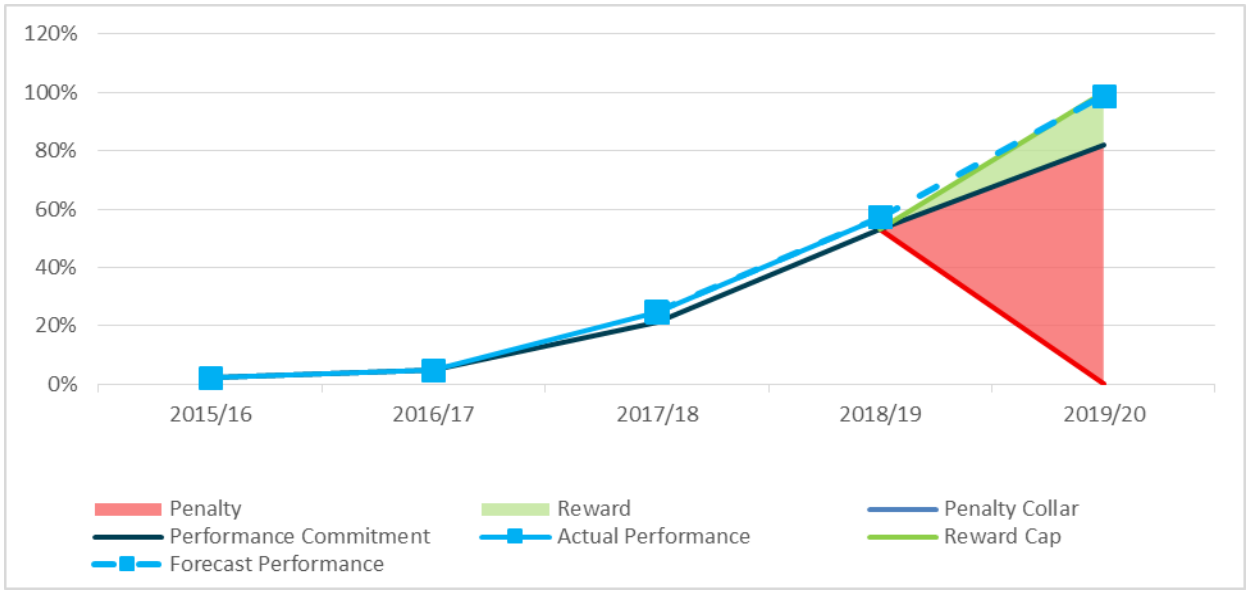
Unit of measure	2015/16	2016/17	2017/18	2018/19	2019/20
% or project complete (based on earned value tied to milestones)	2	5	21	53	82

AMP6 performance

Table 26: 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	5	25	57	99

Figure 10: Thirlmere transfer into West Cumbria - AMP6 actual and forecast performance against performance commitment and financial incentives



Year 1, 2, 3 and 4 performance

We are planning to deliver this project as soon as possible. We initially set up a planning performance agreement with various authorities and carried out extensive stakeholder management to ensure successful achievement of the planning approved milestone.

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 continue to make good progress on this project, as can be seen in the table below.

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
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

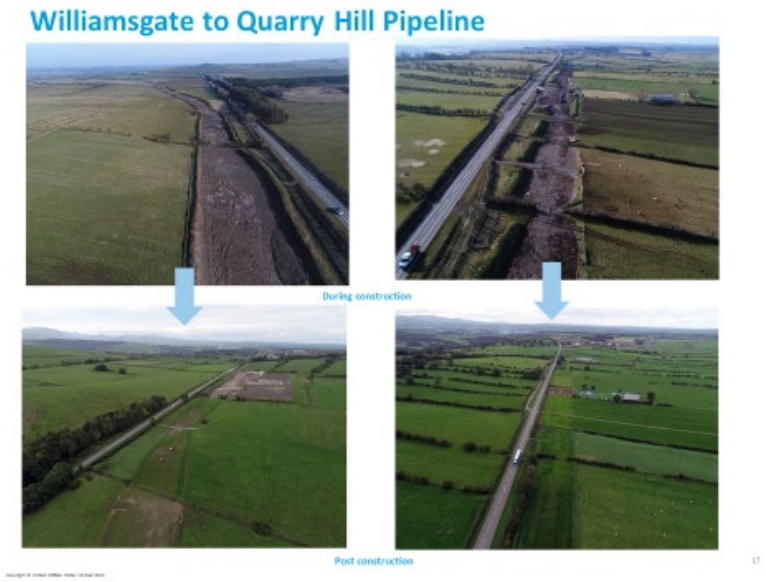
Note - copies of the output in use certificates for the milestones delivered to date are included within document UUW_016_AFPD Output in use certificates.

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' early. 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%.

In 2018/2019 we delivered the three milestones scheduled in the year, with the substructure of the Water Treatment Works (WTW) being completed in September 2018, the substructure of the service reservoirs completed in January 2019 and the next 29.64 of mains being laid in December 2018. This took the total earned value up to 56.68%.



Year 5 and AMP7 anticipated performance

Milestone	Planned delivery year	Actual/LBE delivery year	Actual %	Early/late
Next 27.27% of main in the ground	FY20	FY20	25.32	On time
Next 12.54% of main in the ground	FY21	FY20	7.82	Early
Final 7.43% of main in the ground	FY22	FY20	6.70	Early
Superstructure of WTW complete	FY21	FY20	2.18	Early
SRs complete	FY22	FY21	0.65	Early
WTWs complete	FY22	FY21	0.65	Early

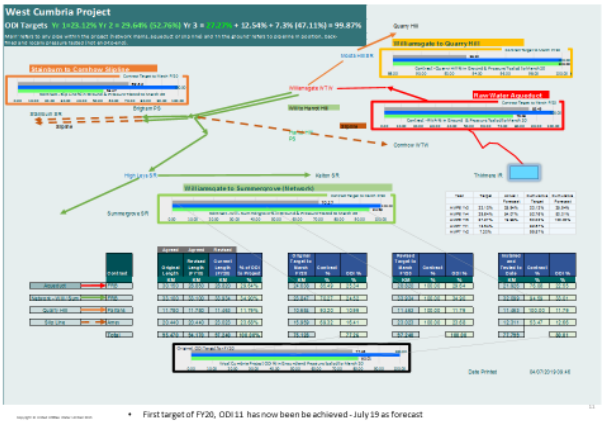
In 2019/20 – We now expect to be able to lay the remainder of the transfer main, which was originally due for completion in FY22. The milestone for the next 27.27% of the main in the ground was completed in July 2019, with the remaining 19.97% of the main progressing well.

This would only leave the work to complete the service reservoirs and water treatment works remaining to be completed in AMP7.

Progress against each remaining milestone is reviewed on a regular basis, with key risks and issues highlighted and action plans reviewed through collaborative planning sessions.

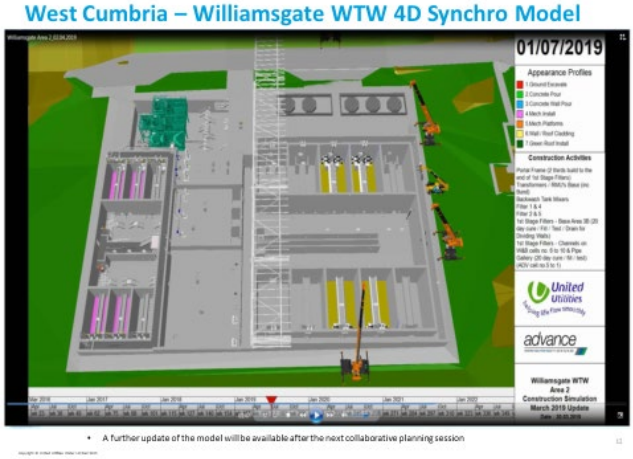
This would take the total earned value of the project by the end of the AMP6 period up to 99% (98.70%), substantially greater than the 82% assumed within the performance commitment.

West Cumbria – AMP 6 Main in ground



Remaining delivery within AMP7. We are making good progress on the remaining elements of the programme, as can be seen from the pictures below and 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.

West Cumbria – Williamsgate WTW 4D Synchro Model



Williamsgate WTW

High Leys SR

Moota Hill SR

Details of actual and planned delivery dates for each milestone are set out within document UUW_013_AFPD ES Project Delivery spreadsheet.

Calculation of the Outcome Delivery Incentive

The reward for this measure applies for outperformance at the end of AMP6, with the ODI reported and calculated to the nearest %. By FY20 we anticipate we will have delivered 99% (98.7%) of the project against a target of 82%.

This is an outperformance of 17% (99-82)

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

Proposed ODI Reward = 17% * £1.271m/% = £21.607m

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 27: Factors that could affect the future performance of the Security of Supply Index performance commitment

Factor	Potential impact
Weather	Extreme or prolonged unfavourable weather could slow delivery of the project.
Geotechnical tunnelling difficulties	Could result in delays to the scheme.
Environmental and archaeological discoveries	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 projects)
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 claims)
PR14UUWSWW_S-D3	UU	WSWW			100.0%						100.0%	S-D3	S-D3: Contribution to rivers improved - wastewater programme (includes Oldham, Royton and
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, please enter actuals if/when available (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	4.8	No				
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	6	Yes			-	0.0000
A3	A3: Water Quality Service Index	Out & under	RCV or Revenue		score	Water Quality Service Index (UU bespoke)	3	101.182	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	9.10	Yes			Outperformance payment	11.2577
B2	B2: Reliable water service index	Out & under	RCV or Revenue		score	Reliable water service index (UU bespoke)	3	98.457	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	6.70	Yes			Outperformance payment deadband	0.0000
B5	B5: Resilience of impounding reservoirs	Under	RCV or Revenue		nr	Aggregate (cumulative) reduction in risk	2	165.72	Yes			-	0.0000
B6	B6: Thirlmere transfer into West Cumbria	Out & under	RCV or Revenue		%	% project complete based on earned value tied to milestones	0	57	Yes			-	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	50.5	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	89	No			-	-
E1	E1: Number of free water meters installed	NFI			nr	No. of free water meters installed per year	0	32069	No			-	-
S-A1	S-A1: Private sewers service index	Out & under	RCV or Revenue		score	Private sewers service index (UU bespoke)	2	89.27	Yes			Outperformance payment	7.3761
S-A2	S-A2: Wastewater network performance index	Under	RCV or Revenue		score	Wastewater network performance index (UU bespoke)	2	90.75	Yes			-	0.0000
S-B1	S-B1: Future flood risk	NFI			nr	No. of properties at risk	0	16379	No			-	0.0000
S-B2	S-B2: Sewer flooding index	Out & under	RCV or Revenue		score	Sewer flooding index (UU bespoke)	1	61.7	Yes			Outperformance payment	0.5670
S-C1	S-C1: Contribution to bathing waters improved (includes NEP phase 3&4 bathing water intermittent discharge projects)	Under	RCV or Revenue		nr	Bathing water equivalent (BWE)	2	4.21	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	323.0	Yes			-	0.0000
S-D2	S-D2: Maintaining our wastewater treatment works (includes Oldham and Royton WwTWs special cost factor claims)	Under	RCV or Revenue		score	Maintaining WwTWs index (UU bespoke)	4	39.1665	Yes			-	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	178.93	Yes			Outperformance payment	0.1985
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	1	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	143	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	87.64	-			0	0.0000
R-A2	R-A2: Customer experience programme	Under	Revenue		£m	£ million cumulative depreciation	3	5.685	-			0	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	314	No				

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	4.8	No				
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	110.503	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	11:35	Yes			Outperformance payment	1.6575
B2	B2: Reliable water service index	Out & under	RCV or Revenue		score	Reliable water service index (UU bespoke)	3	100	Yes			-	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	6.70	Yes			Outperformance payment deadband	0.0000
B5	B5: Resilience of impounding reservoirs	Under	RCV or Revenue		nr	Aggregate (cumulative) reduction in risk	2	165.97	Yes			-	0.0000
B6	B6: Thirlmere transfer into West Cumbria	Out & under	RCV or Revenue		%	% project complete based on earned value tied to milestones	0	99	Yes			Outperformance payment	21.6070
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	159.5	Yes			-	0.0000
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	30157	No				
S-A1	S-A1: Private sewers service index	Out & under	RCV or Revenue		score	Private sewers service index (UU bespoke)	2	91.9	Yes			Outperformance payment	7.3761
S-A2	S-A2: Wastewater network performance index	Under	RCV or Revenue		score	Wastewater network performance index (UU bespoke)	2	89.5	Yes			-	0.0000
S-B1	S-B1: Future flood risk	NFI			nr	No. of properties at risk	0	16359	No				
S-B2	S-B2: Sewer flooding index	Out & under	RCV or Revenue		score	Sewer flooding index (UU bespoke)	1	68.1	No			Underperformance penalty deadband	0.0000
S-C1	S-C1: Contribution to bathing waters improved (includes NEP phase 3&4 bathing water intermittent discharge projects)	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	365.5	Yes			-	0.0000
S-D2	S-D2: Maintaining our wastewater treatment works (includes Oldham and Royton WwTWs special cost factor claims)	Under	RCV or Revenue		score	Maintaining WwTWs index (UU bespoke)	4	84.1000	No			Underperformance penalty	-4.3872
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	341.92	No			Underperformance penalty	-0.1187
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	87.64	-			0	
R-A2	R-A2: Customer experience programme	Under	Revenue		£m	£ million cumulative depreciation	3	10.051	-			0	
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

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 forecast data (PCs and sub-measures) please enter actuals if/when available: 2018-19 performance level - forecast	2018-19 performance level met? forecast	2019-20 forecast data (PCs and sub-measures): 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	101.182	No	110.503	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	99.98	Yes	99.97	Yes
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		03	No. of WTW turbidity fails	nr	0	0	Yes	1	Yes
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		04	Mean Zonal Compliance (MZC)	%	2	99.93	No	99.97	No
PR14UUWSW_A3	UU	WSW	A3	A3: Water Quality Service Index		05	Distribution Maintenance Index (%)	%	2	99.86	No	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	10923	No	10377	No
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index	Out & under	00	B2: Reliable water service index	score	3	98.457	No	100.000	Yes
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		01	Total bursts (nr/annum)	nr	0	5212	No	5080	Yes
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		02	Interruptions >12hours (nr of properties/total nr of properties)	nr	0	849	No	730	Yes
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		03	Pressure (nr of properties on DG2 register/ total number of properties)	nr	0	262	Yes	272	Yes
PR14UUWSW_B2	UU	WSW	B2	B2: Reliable water service index		04	Customer contacts for water availability (contacts/annum)	nr	0	49278	No	48000	Yes
PR14UUWSW_S-A1	UU	WSW	S-A1	S-A1: Private sewers service index	Out & under	00	S-A1: Private sewers service index	score	2	89.27	Yes	91.90	Yes
PR14UUWSW_S-A1	UU	WSW	S-A1	S-A1: Private sewers service index		01	Blockages	nr	0	14589	Yes	14295	Yes
PR14UUWSW_S-A1	UU	WSW	S-A1	S-A1: Private sewers service index		02	Collapses	nr	0	316	Yes	361	Yes
PR14UUWSW_S-A1	UU	WSW	S-A1	S-A1: Private sewers service index		03	Pollution incidents	nr	0	2	Yes	3	Yes
PR14UUWSW_S-A1	UU	WSW	S-A1	S-A1: Private sewers service index		04	Properties flooded internally	nr	0	308	Yes	379	Yes
PR14UUWSW_S-A1	UU	WSW	S-A1	S-A1: Private sewers service index		05	Areas flooded externally	nr	0	3949	Yes	4484	Yes
PR14UUWSW_S-A2	UU	WSW	S-A2	S-A2: Wastewater network performance index	Under	00	S-A2: Wastewater network performance index	score	2	90.75	Yes	89.50	Yes
PR14UUWSW_S-A2	UU	WSW	S-A2	S-A2: Wastewater network performance index		01	Blockages	nr	0	7276	Yes	7391	No
PR14UUWSW_S-A2	UU	WSW	S-A2	S-A2: Wastewater network performance index		02	Collapses	nr	0	239	Yes	255	Yes
PR14UUWSW_S-A2	UU	WSW	S-A2	S-A2: Wastewater network performance index		03	Rising main bursts	nr	0	53	No	48	No
PR14UUWSW_S-A2	UU	WSW	S-A2	S-A2: Wastewater network performance index		04	Equipment failures	nr	0	3613	No	2707	No
PR14UUWSW_S-B2	UU	WSW	S-B2	S-B2: Sewer flooding index	Out & under	00	S-B2: Sewer flooding index	score	1	61.7	Yes	68.1	Yes
PR14UUWSW_S-B2	UU	WSW	S-B2	S-B2: Sewer flooding index		01	Properties flooded due to other causes	nr	0	551	No	561	No
PR14UUWSW_S-B2	UU	WSW	S-B2	S-B2: Sewer flooding index		02	Properties flooded due to hydraulic overload	nr	0	15	Yes	84	No
PR14UUWSW_S-B2	UU	WSW	S-B2	S-B2: Sewer flooding index		03	Areas flooded due to other causes	nr	0	2848	Yes	3082	Yes
PR14UUWSW_S-B2	UU	WSW	S-B2	S-B2: Sewer flooding index		04	Areas flooded due to hydraulic overload	nr	0	146	Yes	207	Yes
PR14UUWSW_S-B2	UU	WSW	S-B2	S-B2: Sewer flooding index		05	Incidents of repeat flooding	nr	0	124	Yes	120	Yes
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works	Under	00	S-D2: Maintaining our wastewater treatment works	score	4	39.1665	Yes	84.1000	No
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		01	WwTWs failing EA permit - small (size band 1-4)	score	4	4.0967	Yes	8.1934	No
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		02	WwTWs failing EA permit - medium (size band 5)	score	4	0.0000	Yes	16.3868	No
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		03	WwTWs failing EA permit - large (size band 6a)	score	4	32.7734	Yes	16.3868	Yes
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		04	WwTWs failing EA permit - large (size band 6b)	score	4	0.0000	Yes	40.9668	No
PR14UUWSW_S-D2	UU	WSW	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	0.2932	Yes	0.3358	Yes
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		06	WwTWs at high risk of failing EA permit - medium (size band 5)	score	4	0.0137	Yes	0.1242	Yes
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		07	WwTWs at high risk of failing EA permit - large (size band 6)	score	4	0.7168	Yes	0.601	Yes
PR14UUWSW_S-D2	UU	WSW	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	0.3102	Yes	0.3134	Yes
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		09	WwTWs at medium risk of failing EA permit - medium (size band 5)	score	4	0.0751	Yes	0.109	Yes
PR14UUWSW_S-D2	UU	WSW	S-D2	S-D2: Maintaining our wastewater treatment works		10	WwTWs at medium risk of failing EA permit - large (size band 6)	score	4	0.8874	No	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	2601.635	1971.704	
3	Impact of 50% of proceeds	A7003W	£m	3	Outturn (nominal)	0.243	1.065	1.426	1.039	1.301	0.986	
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	-	2.52%	2.52%	2.52%	2.52%	2.52%	2.52%	
6	Discount rate (nominal)	A7004W	%	2	-	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	
7	Years for discounting purposes	A7005YR	nr	0	-	-3	-2	-1	0	1	2	
8	Discount factor	A7005W	ratio	2	-	0.84	0.89	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)	0.291	1.200	1.514	1.039	1.226	0.875	
10	NPV effect of 50% of proceeds from disposals of interest in land	A7010W	£m	3	2017-18 FYA (RPI)							-6.144
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)							-6.255
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	353.277	289.772	
14	Impact of 50% of proceeds	A7003WW	£m	3	Outturn (nominal)	0.006	0.025	0.096	0.054	0.177	0.145	
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	-	2.52%	2.52%	2.52%	2.52%	2.52%	2.52%	
17	Discount rate (nominal)	A7004WW	%	2	-	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	
18	Years for discounting purposes	A7005YR	nr	0	-	-3	-2	-1	0	1	2	
19	Discount factor	A7005WW	ratio	2	-	0.84	0.89	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)	0.007	0.028	0.102	0.054	0.166	0.129	
21	NPV effect of 50% of proceeds from disposals of interest in land	A7010WW	£m	3	2017-18 FYA (RPI)							-0.486
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)							-0.495
C	RCV midnight adjustment ~ land sales for the dummy control											
23	Forecast at previous review	A7001DMMY	£m	3	Outturn (nominal)	0.000						
24	Actual and current forecast sales	BT39301PTTT	£000	3	Outturn (nominal)	0.000	0.000	0.000	0.000	0.000	0.000	
25	Impact of 100% of proceeds	A7003DMMY	£m	3	Outturn (nominal)							
26	WACC - fully post tax on notional structure	A7004ADMMY	%	2	-							
27	RPI: Financial year average year on year %	A7004BDMMY	%	2	-							
28	Discount rate (nominal)	A7004DMMY	%	2	-							
29	Years for discounting purposes	A7005YR	nr	0	-							
30	Discount factor	A7005DMMY	ratio	2	-							
31	PV effect of 100% of proceeds from disposals of interest in land	A7006DMMY	£m	3	2017-18 FYA (RPI)							
32	NPV effect of 100% of proceeds from disposals of interest in land	A7010DMMY	£m	3	2017-18 FYA (RPI)							
33	Wastewater ~ NPV effect of 100% of proceeds from disposals of interest in land at 2017-18 FYA CPIH deflated price base	A7011DMMY	£m	3	2017-18 FYA (CPIH deflated)							0.000

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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
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
2	Retail Price Index for April	BB3805AL	nr	1	234.4	242.5	249.5	255.7	258.0	261.4	270.6	279.7	287.6
3	Retail Price Index for May	BB3805MY	nr	1	235.2	242.4	250.0	255.9	258.5	262.1	271.7	280.7	288.3
4	Retail Price Index for June	BB3805JN	nr	1	235.2	241.8	249.7	256.3	258.9	263.1	272.3	281.5	289.2
5	Retail Price Index for July	BB3805JL	nr	1	234.7	242.1	249.7	256.0	258.6	263.4	272.9	281.7	289.2
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	291.3
7	Retail Price Index for September	BB3805SR	nr	1	237.9	244.2	251.9	257.6	259.6	264.9	275.1	284.1	291.1
8	Retail Price Index for October	BB3805OR	nr	1	238.0	245.6	251.9	257.7	259.5	264.8	275.3	284.5	291.0
9	Retail Price Index for November	BB3805NR	nr	1	238.5	245.6	252.1	257.1	259.8	265.5	275.8	284.6	291.0
10	Retail Price Index for December	BB3805DR	nr	1	239.4	246.8	253.4	257.5	260.6	267.1	278.1	285.6	292.7
11	Retail Price Index for January	BB3805JY	nr	1	238.0	245.8	252.6	255.4	258.8	265.5	276.0	283.0	290.5
12	Retail Price Index for February	BB3805FY	nr	1	239.9	247.6	254.2	256.7	260.0	268.4	278.1	285.0	292.7
13	Retail Price Index for March	BB3805MH	nr	1	240.8	248.7	254.8	257.1	261.1	269.3	278.3	285.1	293.0
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
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	105.5	107.7
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	107.9
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	105.9	107.9
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	105.9	107.9
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	106.5	108.4
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	106.6	108.5
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	106.7	108.4
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	108.6
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	107.1	108.9
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	106.4	108.4
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	106.8	108.9
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	107.0	109.1
C	Indexation rate for index linked debt percentage increase												
27	Indexation rate for index linked debt percentage increase	A9001	%	2								3.43%	3.13%
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	283.3	290.6
29	CPIH: Financial year average indices	PB00200	nr	1	94.3	96.6	98.6	99.7	100.2	101.5	104.2	106.4	108.4
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%	3.19%	2.25%
31	RPI: Financial year average indices year on year %	APP23002	%	2		3.09%	2.88%	1.96%	1.08%	2.14%	3.74%	3.06%	2.53%
32	RPI: Financial year end indices year on year %	APP23003	%	2		3.28%	2.45%	0.90%	1.56%	3.14%	3.34%	2.44%	2.77%
33	CPIH: November year on year %	APP23004	%	2		2.43%	1.86%	1.11%	0.40%	1.50%	2.85%	2.10%	1.59%
34	CPIH: Financial year average indices year on year %	APP23005	%	2		2.41%	2.09%	1.14%	0.44%	1.37%	2.63%	2.13%	1.83%
35	CPIH: Financial year end indices year on year %	APP23006	%	2		2.52%	1.53%	0.30%	0.80%	2.29%	2.34%	1.81%	1.96%
36	Wedge between RPI and CPIH	APP23007	%	2		0.68%	0.80%	0.82%	0.64%	0.77%	1.11%	0.93%	0.75%

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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)						36.415
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)						-11.610
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)						52.533
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)						-11.846
11	Water ~ CIS RCV inflation correction at 2017-18 FYA CPIH deflated price base	APP25007	£m	3	2017-18 FYA (CPIH deflated)						-79.751
12	Wastewater ~ CIS RCV inflation correction at 2017-18 FYA CPIH deflated price base	APP25008	£m	3	2017-18 FYA (CPIH deflated)						-135.065
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)						-6.255
14	Wastewater ~ NPV effect of 50% of proceeds from disposals of interest in land at 2017-18 FYA CPIH deflated price bas	A7011WW_CPY	£m	3	2017-18 FYA (CPIH deflated)						-0.495
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)						-8.413
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)						55.872
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)					49.614	
19	Water: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WS15027_CPY	£m	3	2017-18 FYA (CPIH deflated)					107.771	
20	Wastewater: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WWS15021_CPY	£m	3	2017-18 FYA (CPIH deflated)					11.187	
21	Wastewater: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WWS15022_CPY	£m	3	2017-18 FYA (CPIH deflated)					42.022	
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)					-6.015	
23	WRFIM Total reward / (penalty) at the end of AMP6 ~ wastewater network plus	WWS13027_CPY	£m	3	2017-18 FYA (CPIH deflated)					7.797	
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)					5.209	
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)						14.968

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App27 PR14 reconciliation – financial outcome delivery incentives summary

Line	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	7.824	18.454	-2.832
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	-4.522	-4.522
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	7.824	13.931	-7.354
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	3.539	11.082	11.420	6.148	48.843
13	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Thames Tideway	APP27013	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
14	Total net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ PR14 controls	APP27014	£m	3	10.654	3.539	11.082	11.420	6.148	48.843
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	0.000	0.610
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	7.639	18.454	-3.442
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	-4.522	-4.522
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	7.824	13.931	-7.354
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	3.539	11.082	11.420	6.148	48.843
32	Net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ Thames Tideway	APP27032	£m	3	0.000	0.000	0.000	0.000	0.000	0.000
33	Total net performance payment / (penalty) applied to RCV for end of period ODI adjustments ~ PR19 controls	APP27033	£m	3	10.654	3.539	11.082	11.420	6.148	48.843
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						0.638
42	ODI end of period revenue adjustment ~ Water network plus at 2017~18 FYA CPIH deflated price base	APP27042	£m	3						-3.938
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						-5.173
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						-8.413
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						55.872
51	ODI end of period RCV adjustment ~ Thames Tideway at 2017~18 FYA CPIH deflated price base	APP27051	£m	3						0.000
52	ODI end of period RCV adjustment ~ Total net adjustment at 2017~18 FYA CPIH deflated price base	APP27052	£m	3						55.872

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	-							3.60%
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%	3.19%	
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	810.290	
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	337.954	336.948	
16	Water: Unmeasured ~ non-household	CR583	£m	3	Outturn (nominal)		2.422	2.321	3.660	0.607	2.809	
17	Water: Measured ~ household	CR582	£m	3	Outturn (nominal)		182.165	186.199	197.445	222.841	233.566	
18	Water: Measured ~ non-household	CR584	£m	3	Outturn (nominal)		185.828	182.037	189.516	200.956	201.077	
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	3.704	4.899	
21	Water: Revenue collected from household and non-household	WS13029	£m	3	Outturn (nominal)		701.050	704.948	719.641	766.062	779.298	
22	Water: Grants and contributions	BC11274IN	£m	3	Outturn (nominal)		11.536	18.406	14.505	19.489	17.914	
23	Water: Revenue recovered	WS13030	£m	3	Outturn (nominal)		712.586	723.354	734.146	785.551	797.212	
F	**Variance analysis of grants and contributions**											
24	Water: Capital contributions from connection charges and revenue from infrastructure charges (PR14	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	19.489	17.914	
26	Water: Grants and contributions variance	WS13028	£m	3	Outturn (nominal)		2.227	8.507	4.126	8.059	5.700	
G	**Penalties**											
27	Main revenue adjustment as incurred ~ water	WS13023	£m	3	Outturn (nominal)				-10.127	-1.919	-3.213	
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	-3.213	
30	WRFIM Total reward / (penalty) at the end of AMP6 ~ water	WS13026	£m	3	Outturn (nominal)						-6.116	
31	WRFIM Total reward / (penalty) at the end of AMP6 ~ water network plus	WS13027	£m	3	2017-18 FYA (CPIH deflated)						-6.015	

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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	663.919	663.714	
D	**Adjustments to TOTEX**											
10	Water: Third party services (opex)	BM323TASIN	£m	3	Outturn (nominal)		2.422	2.826	1.169	1.291	1.600	
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	20.177	39.968	
13	Water: Other cash items	WS15028	£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	-1.317	0.337	
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	-							0.00%
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)				0.000	0.000	0.000	
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				0.000	0.000	0.000	
23	Water: IDoK Business rates adjustment	WS15023	nr	3	Outturn				0.000	0.000	0.000	
G	**Totex menu adjustments**											
24	Water: revenue adjustment from totex menu model	WS15024	£m	3	2012-13 FYA (RPI)						43.373	
25	Water: RCV adjustment from totex menu model	WS15025	£m	3	2012-13 FYA (RPI)						94.213	
26	Water: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WS15026	£m	3	2017-18 FYA (CPIH deflated)						49.614	
27	Water: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WS15027	£m	3	2017-18 FYA (CPIH deflated)						107.771	

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Input
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Calculation
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WS17 PR14 water trading incentive reconciliation

Line	Line description	Item reference	Units	DPs	Price base	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	-	
C	New export 1					
4	Name/reference of export trade	WS17HE1004	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?	WS17HE1005	Boolean	0	-	
6	Proportion of the incentive allocated to the water resources control	WS17HE1006	%	2	-	0.00%
7	Proportion of the incentive allocated to the network plus water control	WS17HE1007	%	2	-	0.00%
8	Forecast revenue from export 1	WS17HE1008	£m	3	2012-13 FYA (RPI)	
9	Forecast cost (inclusive of return on capital) of export 1	WS17HE1009	£m	3	2012-13 FYA (RPI)	
10	Net revenue/(cost) for export 1	WS17HE1010	£m	3	2012-13 FYA (RPI)	
11	First year to include in cap calculation	WS17HE1011	year	0	-	2016
12	Last year to include in cap calculation	WS17HE1012	year	0	-	2020
D	New export 2					
13	Name/reference of export trade	WS17HE2004	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?	WS17HE2005	Boolean	0	-	
15	Proportion of the incentive allocated to the water resources control	WS17HE2006	%	2	-	0.00%
16	Proportion of the incentive allocated to the network plus water control	WS17HE2007	%	2	-	0.00%
17	Forecast revenue from export 2	WS17HE2008	£m	3	2012-13 FYA (RPI)	
18	Forecast cost (inclusive of return on capital) of export 2	WS17HE2009	£m	3	2012-13 FYA (RPI)	
19	Net revenue/(cost) for export 2	WS17HE2010	£m	3	2012-13 FYA (RPI)	
20	First year to include in cap calculation	WS17HE2011	year	0	-	2016
21	Last year to include in cap calculation	WS17HE2012	year	0	-	2020
E	New export 3					
22	Name/reference of export trade	WS17HE3004	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?	WS17HE3005	Boolean	0	-	
24	Proportion of the incentive allocated to the water resources control	WS17HE3006	%	2	-	0.00%
25	Proportion of the incentive allocated to the network plus water control	WS17HE3007	%	2	-	0.00%
26	Forecast revenue from export 3	WS17HE3008	£m	3	2012-13 FYA (RPI)	
27	Forecast cost (inclusive of return on capital) of export 3	WS17HE3009	£m	3	2012-13 FYA (RPI)	
28	Net revenue/(cost) for export 3	WS17HE3010	£m	3	2012-13 FYA (RPI)	
29	First year to include in cap calculation	WS17HE3011	year	0	-	2016
30	Last year to include in cap calculation	WS17HE3012	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	-	
H	New import 1					
36	Name/reference of import trade	WS17HI1017	Text	0	-	
37	Has the company provided evidence that this is a new import and complies with its Ofwat-approved trading and procurement code?	WS17HI1018	Boolean	0	-	
38	Cost of water imported under new import 1	WS17HI1019	£m	3	2012-13 FYA (RPI)	0.000
39	Proportion of the incentive allocated to the water resources control	WS17HI1020	%	2	-	
40	Proportion of the incentive allocated to the network plus water control	WS17HI1021	%	2	-	
I	New import 2					
41	Name/reference of import trade	WS17HI2017	Text	0	-	
42	Has the company provided evidence that this is a new import and complies with its Ofwat-approved trading and procurement code?	WS17HI2018	Boolean	0	-	
43	Cost of water imported under new import 2	WS17HI2019	£m	3	2012-13 FYA (RPI)	0.000
44	Proportion of the incentive allocated to the water resources control	WS17HI2020	%	2	-	
45	Proportion of the incentive allocated to the network plus water control	WS17HI2021	%	2	-	
J	New import 3					
46	Name/reference of import trade	WS17HI3017	Text	0	-	
47	Has the company provided evidence that this is a new import and complies with its Ofwat-approved trading and procurement code?	WS17HI3018	Boolean	0	-	
48	Cost of water imported under new import 3	WS17HI3019	£m	3	2012-13 FYA (RPI)	0.000
49	Proportion of the incentive allocated to the water resources control	WS17HI3020	%	2	-	
50	Proportion of the incentive allocated to the network plus water control	WS17HI3021	%	2	-	
K	Application of import incentive cap					
51	Import incentive rate (%)	WS17022	%	1	-	
52	Company's water activity turnover	C_ES_000670_A00	£m	3	2012-13 FYA (RPI)	
53	Cap rate (%)	WS17024	%	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)	

Line	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
3	-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
31						0.000																					
32						0.000																					
33						0.000																					
35		5	4	3	2	1																					
51		5.0%	5.0%	5.0%	5.0%	5.0%																					
52		653.777	659.954	665.944	672.459	678.097																					
53		0.1%	0.1%	0.1%	0.1%	0.1%																					
54						0.000																					
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58						0.000																					
59						0.000																					
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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	-							3.60%
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%	3.19%	
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	959.429	
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	367.219	367.566	
16	Wastewater: Unmeasured ~ non-household	CR883	£m	3	Outturn (nominal)		3.663	4.101	3.416	3.140	3.885	
17	Wastewater: Measured ~ household	CR882	£m	3	Outturn (nominal)		190.899	197.859	216.749	239.795	260.243	
18	Wastewater: Measured ~ non-household	CR884	£m	3	Outturn (nominal)		291.567	301.671	301.455	297.043	319.305	
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	WWS13029	£m	3	Outturn (nominal)		829.031	849.223	875.376	907.197	951.539	
22	Wastewater: Grants and contributions	BC11374IN	£m	3	Outturn (nominal)		5.187	9.610	7.411	11.631	7.192	
23	Wastewater: Revenue recovered	WWS13030	£m	3	Outturn (nominal)		834.218	858.833	882.786	918.827	958.791	
F	**Variance analysis of grants and contributions**											
24	Wastewater: Capital contributions from connection charges and revenue from infrastructure charges (PR1	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	11.631	7.192	
26	Wastewater: Grants and contributions variance	WWS13028	£m	3	Outturn (nominal)		0.470	4.461	1.894	5.424	0.420	
G	**Penalties**											
27	Main revenue adjustment as incurred ~ wastewater	WWS130023	£m	3	Outturn (nominal)				0.161	-2.306	2.263	
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	2.263	
30	WRFIM Total reward / (penalty) at the end of AMP6 ~ wastewater	WWS13026	£m	3	Outturn (nominal)						7.928	
31	WRFIM Total reward / (penalty) at the end of AMP6 ~ wastewater network plus	WWS13027	£m	3	2017-18 FYA (CPIH deflated)						7.797	

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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	697.676	609.900	
D	ADJUSTMENTS TO TOTEX											
10	Sewerage: Third party services (opex)	BM823TASIN	£m	3	Outturn (nominal)		0.000	0.000	0.262	0.192	0.192	
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	18.872	37.379	
13	Sewerage: Other cash items	WWS15028	£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	0.979	0.912	
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)						9.780	
20	Wastewater: RCV adjustment from totex menu model	WWS15020	£m	3	2012-13 FYA (RPI)						36.735	
21	Wastewater: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WWS15021	£m	3	2017-18 FYA (CPIH deflated)						11.187	
22	Wastewater: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WWS15022	£m	3	2017-18 FYA (CPIH deflated)						42.022	

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R9 PR14 reconciliation of household retail revenue

	Line description	Item	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		28,263	28,263	28,263	28,263	28,263	
3	Unmetered water and wastewater customer	R9003	nr	0		1,678,184	1,616,836	1,558,102	1,505,803	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		14,368	14,368	14,368	14,368	14,368	
6	Metered water and wastewater customer	R9006	nr	0		1,142,043	1,215,584	1,287,697	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	1,576,269	
10	Metered water-only customer	R9010	nr	0		25,146	24,803	27,152	28,235	29,309	
11	Metered wastewater-only customer	R9011	nr	0		15,521	15,930	42,661	51,164	52,281	
12	Metered water and wastewater customer	R9012	nr	0		1,115,567	1,133,493	1,197,996	1,237,244	1,296,303	
C	Actual customer numbers										
13	Unmetered water-only customer	R9013	nr	0		45,009	44,617	44,146	43,432	42,849	
14	Unmetered wastewater-only customer	R9014	nr	0		25,120	24,682	24,279	23,868	23,191	
15	Unmetered water and wastewater customer	R9015	nr	0		1,714,540	1,688,940	1,642,920	1,612,802	1,583,035	
16	Metered water-only customer	R9016	nr	0		25,068	25,936	27,298	28,205	29,492	
17	Metered wastewater-only customer	R9017	nr	0		16,729	44,369	49,720	50,744	51,752	
18	Metered water and wastewater customer	R9018	nr	0		1,098,587	1,143,348	1,186,980	1,238,611	1,305,406	
D	Actual revenue collected										
19	Unmetered water-only customer	R3017RR	£m	3	Outturn (nominal)	1.180	1.102	1.057	1.027	1.051	
20	Unmetered wastewater-only customer	R3019RR	£m	3	Outturn (nominal)	0.535	0.501	0.472	0.456	0.479	
21	Unmetered water and wastewater customer	R3021RR	£m	3	Outturn (nominal)	76.190	69.163	60.447	55.256	53.556	
22	Metered water-only customer	R3018RR	£m	3	Outturn (nominal)	0.596	0.589	0.595	0.592	0.611	
23	Metered wastewater-only customer	R3020RR	£m	3	Outturn (nominal)	0.400	0.700	0.650	0.665	0.681	
24	Metered water and wastewater customer	R3022RR	£m	3	Outturn (nominal)	50.855	50.007	48.172	47.454	48.864	
E	Revenue sacrifice										
25	Unmetered water-only customer	R9025	£m	3	Outturn (nominal)	0.000	0.003	0.005	0.009	0.011	
26	Unmetered wastewater-only customer	R9026	£m	3	Outturn (nominal)	0.000	0.000	0.000	0.001	0.002	
27	Unmetered water and wastewater customer	R9027	£m	3	Outturn (nominal)	1.302	2.314	6.027	8.815	11.452	
28	Metered water-only customer	R9028	£m	3	Outturn (nominal)	0.000	0.000	0.002	0.002	0.003	
29	Metered wastewater-only customer	R9029	£m	3	Outturn (nominal)	0.000	0.000	0.000	0.000	0.000	
30	Metered water and wastewater customer	R9030	£m	3	Outturn (nominal)	0.300	0.344	1.240	2.398	3.323	
F	Actual revenue collected (net)										
31	Unmetered water-only customer	R9031	£m	3	Outturn (nominal)	1.180	1.105	1.062	1.036	1.062	
32	Unmetered wastewater-only customer	R9032	£m	3	Outturn (nominal)	0.535	0.501	0.472	0.457	0.481	
33	Unmetered water and wastewater customer	R9033	£m	3	Outturn (nominal)	77.492	71.477	66.474	64.071	65.008	
34	Metered water-only customer	R9034	£m	3	Outturn (nominal)	0.596	0.589	0.597	0.594	0.614	
35	Metered wastewater-only customer	R9035	£m	3	Outturn (nominal)	0.400	0.700	0.650	0.665	0.681	
36	Metered water and wastewater customer	R9036	£m	3	Outturn (nominal)	51.155	50.351	49.412	49.852	52.187	
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)					5.453	
46	Residential retail revenue adjustment at 2017-18 FYA CPIH deflated price l	R9046	£m	3	2017-18 FYA (CPIH deflated)					5.209	

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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	4.53	
2	2nd survey score	SIMAMP6_QL2	nr	2	4.09	4.42	4.44	4.50	4.53	
3	3rd survey score	SIMAMP6_QL3	nr	2	4.35	4.40	4.54	4.52	4.53	
4	4th survey score	SIMAMP6_QL4	nr	2	4.36	4.56	4.61	4.59	4.53	
5	Qualitative SIM score (out of 75)	SIMAMP6_QLS	nr	2	61.31	64.27	65.41	66.13	66.13	
B	Quantitative performance									
6	Quantitative composite score	SIMAMP6_CS	nr	2	95.33	76.60	70.80	69.82	69.82	
7	Quantitative SIM score (out of 25)	IMAMP6_QNS_PR1	nr	2	20.23	21.17	21.46	21.51	21.51	
C	SIM score									
8	Total annual SIM score (out of 100)	KI001U_PR19	nr	0	82	85	87	88	88	
D	Revenue adjustment for SIM performance									
9	SIM forecast revenue adjustment at 2017-18 FYA CPIH deflated price base	R10009	£m	3						14.968

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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
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

E.1 Table commentaries

Table App5 PR14 reconciliation – performance commitments

Details of our performance commitments are set out in **Appendix A,** to this document.

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

IAP action UUW.PD.A1 stated that "the company should provide additional evidence to support the forecast trajectory reported in table App9."

Specific response to IAP query UUW.PD.A1

As set out in our commentary to our 2018 submission our FY19 and FY20 estimated proceeds were set by taking AMP6's three historic years of data (FY16, FY17 and FY18) and taking an average. At the time this was seen as being the most logical approach, due to the inherent uncertainty of land sales. In this resubmission we have undertaken a detailed review of our processes for capturing, estimating and reporting land sales and have replaced the forecast for 2018/19 values with actual values that are consistent with our Annual Performance Report. We have also taken a more detailed and bottom up approach to forecast the values for the final year of the AMP.

The values set out in App9 consist of net proceeds from fully disposing of an interest in land by way of a sale and from partially disposing of an interest in land by effectively granting a lease, license or wayleaves agreement.

The element that relates to partially disposing of an interest is relatively consistent year on year as the rental profits are derived from a rental portfolio that remains fairly stable with few significant changes. For this reason the forecast for 2019/20 is based on the underlying rental profits of 2018/19 as this best reflects the latest position of the rental portfolio.

The element of the proceeds that relates to fully disposing of the interest (selling) can be very volatile from year to year for both Water and Wastewater as it depends on what properties in our portfolio are disposed of in any particular year. We have now come up with a more robust forecast for 2019/20. The forecast for 2019/20 consists of a bottom up build identifying sales on a site by site basis and applying a probability of completion to each site. Based on this we have calculated an expected value of fully disposing of interests in land.

Given this change in approach to a more detailed and robust method of forecasting there are variances to the values that we had previously submitted. All evidence to support the forecasts above including the calculations of the expected values of land sales is available upon request.

Commentary for the 2019 version of Table App9

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 one 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 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.

All historic information about proceeds has been taken from the signed-off Regulatory Reporting Table 2E's from FY16, FY17, FY18 and FY19. FY20 estimated proceeds have been developed based upon a bottom up of the net proceeds from either fully disposing of an interest in land by way of a sale or from partially disposing of an interest in land by effectively granting a lease, license or wayleaves agreement.

Lines 1 and 12 – Forecast at previous review ~ land sales water & wastewater

The forecast of 2014-15 proceeds at previous review has been taken from our PR14 submission.

Lines 2 and 13 – Actual and current forecast sales ~ land sales water & wastewater

All historic information about proceeds has been taken from the published Regulatory Reporting Table 2E's from 2015/16, 2016/17 and 2017/18. The 2018/19 information has been taken from the Annual Performance Report Table 2E for 2018/19. The 2019/20 estimated proceeds have been set by the UU Property team who have built a bottom up forecast of the 2019/20 property sales and estimated the expected proceeds for this year. The estimated proceeds from rental profits is based on the 2018/19 rental profits position as the vast majority of these proceeds are derived from recurring lease payments and the UU Property team are not expecting any significant variation to this income in 2019/20.

Lines 11 and 22 – Water ~ NPV effect of 50% of proceeds from disposals of interest in land at 2017/18 FYA CPIH deflated price base ~ land sales water & wastewater.

NPV effect of 50% of proceeds from disposals of interest in land at 2017/18 FYA CPIH deflated price base is an output from the RCV adjustments model.

Table App23 Inflation measures

The source data for most of 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/CPIH is obtained from the Office for National Statistics (ONS). United Utilities uses external forecasts from Barclays, HSBC, BNP and NatWest as the basis for our inflation forecasts up to December 2020. Annual inflation forecasts up until December 2023 are obtained from Her Majesty's Treasury (HMT).

Forecast Method

Historic ONS data to March 2019 is used unchanged. We then take the average of inflation forecasts from Barclays (RPI and CPIH), HSBC (RPI and CPIH), BNP (RPI only) and NatWest (RPI and CPIH) to get a forecast of inflation until December 2020.

We have not updated line C27 'indexation rate for index linked debt percentage increase' from our September 2018 business plan submission as this data does not appear to be used in the PR14 reconciliation process.

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[25]. Further details about the wastewater contribution to rivers improved performance commitment are set out within **Appendix C**.
- Used actual performance levels for the first four 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 anticipated performance in 2019/20 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.

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.

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

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 four years of the 2015-2020 period, and forecast data for the final year 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 £5.697m to a 2012/13 FYA price equivalent value of £4.552m. 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 four years of the 2015-2020 period, and forecast data for the final year 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 four years of the 2015-2020 period, and forecast data for the final year 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 four years of the 2015-2020 period, and forecast data for the final year 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 £5.415m 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 £5.173m, 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 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 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 were £11.5m (1.5%) higher than allowed under the wholesale price control. This is within the penalty tolerance threshold of 2%.
5. 2019/20 revenues are expected to equal revenues allowed under the wholesale price control. We have accelerated the return of £6.1m relating to estimated 2018/19 out-performance and have adjusted allowed revenues for 2019/20 by this amount.

The WRFIM model provided by Ofwat allows (per item 16 of the WRFIM model change log) for companies to accelerate the return of over-recovered 2018/19 revenue after one year, i.e. in 2019/20. We have utilised this facility of the model to amend our adjusted allowed revenue and revenue forecast for 2019/20 by our anticipated (at the time of setting 2019/20 charges) over-recovery of revenue in 2018/19 of £6.1m. However there is an inconsistency in the WRFIM model since it does not take into account this accelerated return of revenue in 2019/20 when calculating the end of AMP adjustment. We have therefore corrected the formula in cell P67 in the "WRFIM - Water" worksheet so that it takes into account the revenue that we will have already returned back to customers in 2019/20 as a result of our use of the accelerated return of over-recovered revenue facility in the model.

Therefore of the total £12.253m penalty calculated by the model for 2018/19 outperformance, we have calculated that **the correct penalty to carry forward to AMP7 is £6.116m** since we have already returned £6.137m back to customers in 2019/20 charges. We do not expect a variance against adjusted allowed revenues for 2019/20, therefore we are not forecasting an end of AMP correction that relates to 2019/20 performance.

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 actual expenditure levels for 2015/16 to 2018/19 or our latest best estimate of expenditure for 2019/20. It has also been populated 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.

A detailed assessment of expenditure levels during the AMP6 period and the resulting adjustments can be found in section 2.3 Totex menu reconciliation.

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 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 and 2018/19 revenues and forecast 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.

Lines 1-31

1. 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%.
2. 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%.
3. 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%.
4. 2018/19 revenues were £5.5m (0.6%) lower than allowed under the wholesale price control. This is within the penalty tolerance threshold of 2%.
5. 2019/20 revenues are expected to equal revenues allowed under the wholesale price control. We have accelerated the return of £2.1m relating to estimated 2018/19 out-performance and have adjusted allowed revenues for 2019/20 by this amount.

The WRFIM model provided by Ofwat allows (per item 16 of the WRFIM model change log) for companies to accelerate the return of over-recovered 2018/19 revenue after one year, i.e. in 2019/20. We have utilised this facility of the model to amend our adjusted allowed revenue and revenue forecast for 2019/20 by our anticipated (at the time of setting 2019/20 charges) over-recovery of revenue in 2018/19 of £2.1m. However there is an inconsistency in the WRFIM model since it does not take into account this accelerated return of revenue in 2019/20 when calculating the end of AMP adjustment. We have therefore corrected the formula in cell P67 in the "WRFIM - Waste" worksheet so that it takes into account the revenue that we will have already returned back to customers in 2019/20 as a result of our use of the accelerated return of over-recovered revenue facility in the model.

At the time of setting charges for 2019/20 we estimated that we would outperform for 2018/19 by £2.1m, whereas at year end we actually under-performed against our allowed revenue. Therefore of the total £5.829m reward calculated by the model for 2018/19 under-performance, we have calculated that **the correct reward to carry forward to AMP7 is £7.928m**, since we have already returned £2.099m of anticipated outperformance (and hence penalty) back to customers in 2019/20 charges. We do not expect a variance against adjusted allowed revenues for 2019/20, therefore we are not forecasting an end of AMP correction that relates to 2019/20 performance.

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 actual expenditure levels for 2015/16 to 2018/19 or our latest best estimate of expenditure for 2019/20. It has also been populated 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.

A detailed assessment of expenditure levels during the AMP6 period and the resulting adjustments can be found in section 2.3 Totex menu reconciliation.

Table R9 reconciliation of household retail revenue

IAP action UUW.PD.A3 required us to provide further clarity on the reasons for the difference between reforecast customer numbers and actual customer numbers in 2018-2019 in table R9.

The difference between the reforecast customer numbers and actual customer numbers in 2018-2019 in our 2018 version of Table R9 was because the re-forecast customer numbers were based on forecast customer number movements for 2017-18 and 2018-19 that were developed when our tariff setting charge multipliers were due, at which time our overall estimated customer numbers were 2,979,200. Our forecast "actual" customer number for 2018/19 were based upon a later view of the estimated customer numbers, 2,999,232 (a forecast growth of 20,032).

This updated view was taken because we were seeing the early benefits from residency validation activities that were being undertaken. This data cleansing activity - supported by Credit Reference Agency datasets - helped to validate household billing records, and resolve instances where incorrect or out dated occupier identity information was held. A larger number than forecast of accounts to be billed up was also being identified through this process, reducing the level of voids as compared to the assumptions within our earlier re-forecast customer numbers. In addition, there had been an increased number of new connections in 2018-19 than previously forecast. The assumptions behind the forecast "actual" have now largely materialised in actual customer numbers that we are now reporting for 2018/19.

Actual customer numbers for 2018-19 (year average) have now been updated in Table R9, and reflect actual customer number movements across 2018-19. Overall our total actual customer numbers were 2,997,662.

In line with Ofwat query UUW-DD-PD-001 we have updated forecasts of 2019-20 customer numbers to reflect latest expectations of year end performance. The anticipated actual customer number for the year has been updated to 3,035,724, compared to the re-forecast customer number movements of 3,020,426. The variance of 15,298 is due to greater than expected increases in new connections and the benefits of residency validation and gap site identification activities. We have also seen greater than expected up take of tariff discount schemes, resulting in an expected small net under recovery of revenue for the year.

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 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 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, 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 (outturn (nominal))

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 (2017-18 FYA (CPIH deflated))

Definition: Output item from revenue adjustments model. The value entered is prior to profiling.

Once all other sections of Table R9 above are 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.

Commentary on performance

The Service Incentive Mechanism (SIM) is designed to improve the level of service that water companies provide. 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
- 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 meaning quicker resolution of customer requests, with the reduced need for error correction and rework
- "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
- Proactive contact to 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
- A commitment to providing effective, accessible digital channels, and believe we now have one of the highest rates of digital interactions in the water sector
- Developed new propositions and offerings, including new mobile services via website and app
- 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
- 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
- We continue to be the company who has achieved the most WOW! Awards nominations and currently stand at over 32,000 customer nominations for the great efforts by our employees in delivering great customer service and have been winners and finalist at the annual awards ceremony for the last five years
- Awarded with the Institute of Customer Service, ServiceMark accreditation (with distinction) in August 18. There are only around 100 companies in the country who have achieved the accreditation, and only 13 companies who have achieved ServiceMark 'with distinction'
- Introduced a 'Make a Friend' training programme which has enabled our people to bring their personality to work, to engage in conversations with our customers, have empathy, listen and understand their needs and treat them like a friend
- A change in tone to our communications, through our people, our channels, our bills and physical communication, so they are more accessible, with simple and helpful information

- Recognition that some of our customers need extra support, with the introduction of an industry leading Priority Services scheme and leading the industry with a data sharing trial to make life easier for customers who require particular help from all utilities
- Restructured our payment support schemes to make it easier for our customers to understand what help is available if they are struggling with their bill payments. Schemes such as 'Back On Track', 'Payment Matching Plus' and 'Restart'
- Introduced a payment break scheme to support our customers who need our help for times in life when it's a struggle to make ends meet
- Campaigns to encourage customers to consider the benefits of being charged through a meter, such as our most recent campaign to bust the myths around meters being championed by Gloria Hunniford. In addition we have proactively targeted customers who would financially benefit from being on a metered charge versus their rateable value charge

In March 2019, we ended the last quarter of FY2019 as a leading company in our peer group for customer satisfaction as measured by SIM, which gave us our highest ever year end score of 4.53, placing us at 5th out of 18 companies. Over the past four years, we have made a significant improvement in performance and moved from below industry average, to one of the leading performers.

The improvements in SIM performance is also reflected in our number of complaints. Our performance over the past four years shows an improving trend with 32% less complaints than in 15/16. Consumer Council for Water performance report for 17/18 placed UU 4th of the WASC's for complaints per 10,000, this was the first time they have shared domestic customer league tables. From the industry data share information we anticipate retaining 4th position in 18/19.

Appendix F: IAP query responses

This appendix restates the IAP queries relating to IAP Test 8: Accounting for past delivery and published on published on 31st January 2019. It then sets out the response we provided to each query in our Actions Summary Table Response document (Reference: I001), which we provided in February 2019 and provides a cross reference to where more detailed response to each query can be found within this submission.

UUW.PD.A1 – Action

PR14 Land sales: The company should provide additional evidence to support the forecast trajectory reported in table App9.

UUW.PD.A1 – Initial response

The company notes this requirement and will provide additional evidence by the deadline of 15th July 2019.

UUW.PD.A1 – Further information and cross references

We provide additional evidence to support our forecast trajectory of land sales, within Appendix E in the Table commentary to App 9.

UUW.PD.A2 – Action

PR14 Outcome delivery incentives: The company should provide evidence of how the proposed change to the R-A2 customer experience programme outcome delivery incentive is in customers' interests and how it has calculated the Thirlmere outcome delivery incentive in tables App5/App6 for table App27.

The company should, in its 15 July 2019 submission, update its forecast for 2019-20 performance to take account of the actual 2018-19 performance for all its performance commitments. We expect the company to pay particular focus where we found the evidence provided in its business plan for the 2018-20 forecasts to be insufficient which was for:

- A2: Water quality events DWI category 3 or above
- A3: Water Quality Service IndexS-D4a: Wastewater serious (category 1 and 2) pollution incidents
- S-D2: Maintaining our wastewater treatment works (includes Oldham and Royton WwTWs special cost factor claims)
- B5: Resilience of impounding reservoirs
- B2: Reliable water service index
- B1: Average minutes supply lost per property (a year)
- S-A1: Private sewers service indexS-B2: Sewer flooding index
- S-A2: Wastewater network performance index
- C1: Contribution to rivers improved - water programme (NEP schemes and abstraction changes at 4 AIM sites)
- S-C1: Contribution to bathing waters improved (includes NEP phase 3&4 bathing water intermittent discharge projects)

UUW.PD.A2 – Initial response

In respect of the requirement to update forecasts for 2019-20 performance to take account of the actual 2018-19 performance for all performance commitments, the company confirms that these will be provided in line with the APR timetable (15th July 2019).

We note the expectation that we pay particular focus to the listed areas in UUW.PD.A2.

In respect of the proposed change to R-A2 customer experience programme outcome delivery incentive, please see document I011 – R-A2 Customer experience programme.

In respect of how we have calculated the Thirlmere outcome delivery incentive in tables App5 / App6 for table App27, this will also be provided by 15th July 2019.

UUW.PD.A2 – Further information and cross references

Specific information related to Outcome delivery incentives R-A2 customer experience programme is set out within Appendix B: Customer experience programme.

The Thirlmere outcome delivery incentive in tables App5/App6 for table App27 has been calculated in this resubmission to the appropriate number of decimal places. Details of the delivery of this project and the calculation of the ODI are included within Appendix A Detailed review of our performance commitments with a detailed breakdown of the delivery of the project being included within Appendix C Delivery of our AMP6 outputs - see Section C.10 W-B6: Thirlmere transfer into West Cumbria.

In this submission we have updated our forecasts for 2019-20 performance to take account of the actual 2018-19 performance for all of our performance commitments. The basis of our projections for each of these measures is set out within our APR and reproduced in Appendix A: Detailed review of our performance commitments.

The detailed breakdown of the actual and planned progress against the performance commitments that cover the delivery of enhancement programmes such as C1 and S-C is set out in Appendix C 1 Delivery of our AMP6 outputs.

UUW.PD.A3 – Action

PR14 Residential retail: The company should provide further clarity on the reasons for the difference between reforecast customer numbers and actual customer numbers in 2018-2019 in table R9.

UUW.PD.A3 – Initial response

The company notes this requirement and will provide additional evidence by the deadline of 15th July 2019.

UUW.PD.A3 – Further information and cross reference

We provide further clarity on the reasons for the difference between reforecast customer numbers and actual customer numbers in 2018-2019, within Appendix E in the Table commentary to R9.

UUW.PD.A4 – Action

PR14 Totex: The company should provide a more detailed and numerically sound explanation of its forecasted performance in tables WS15/WWS15.

UUW.PD.A4 – Initial response

The company notes this requirement and will provide additional evidence by the deadline of 15th July 2019.

UUW.PD.A4 – Further information and cross reference

We provide a more detailed and numerically sound explanation of our forecast expenditure projections that are set out within tables WS15/WWS15, within section 2.3 Totex menu reconciliation.

UUW.PD.A5 – Action

PR14 reconciliations: Further to the actions we have set out to address our concerns over the evidence provided in its business plan for the individual reconciliations, we will require the company to refresh all of its PR14 reconciliations to replace its 2018-19 forecast performance with 2018-19 actual performance and update the evidence for its forecast 2019-20 performance taking into account of the actual 2018-19 performance. The company should submit the updated past delivery tables and populated models by 15 July 2019.

UUW.PD.A5 – Initial response

The company notes this requirement and will provide additional evidence by the deadline of 15th July 2019.

UUW.PD.A5 – Further information and cross reference

We have refreshed all of our PR14 reconciliations, replacing our 2018-19 forecast performance with 2018-19 actual performance and have updated the evidence for our forecast 2019-20 performance taking into account of the actual 2018-19 performance.

This document provides a detailed commentary on the updated values and the reasons for variances from our previous projections. We have also submitted the updated past delivery tables and populated models.