Yorkshire Water

PR14 Reconciliation Commentary to Data Tables

PR19 Business Plan

13 July 2018

It's part of our Blueprint for Yorkshire

YorkshireWater

Contents

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1. Introduction

A key part of the 2019 price review (PR19) is the calculation of adjustments to take account of company past performance and incentive mechanisms for the period 2015-20 covered by the 2014 price review (PR14).

The PR14 price review represented a significant evolution of Ofwat's historical approach to price controls, and as such a number of reconciliation mechanisms were developed to take into account performance over the 2015-20 period, along with those factors not reconciled from the previous 2009 price review (PR09). The reconciliations and incentive mechanisms create requirements for adjustments in revenues applicable for the PR19 review (affecting the 2020-15 period). The adjustments will be either Regulatory Capital Value (RCV) or revenue adjustments.

Ofwat requires companies to provide specific data and information, in the form of defined data tables, reconciliation models and commentaries[1], to reconcile companies' performance during 2015-20. The output will be adjustments to either revenues or RCV for PR19.

Ofwat published the PR14 reconciliation rulebook[2], which explains how it will take account of performance from 2015-20, and those factors not reconciled from PR09, at PR19. The rulebook describes the approach to the reconciliation of the incentive mechanisms.

Our aim is to deliver a PR14 performance reconciliation that is in line with the Ofwat guidance and PR14 reconciliations rule book. This is a requirement for an early submission in July 2018 for PR19 in September 2018. The reconciliation mechanisms which apply to PR14 are set out below:

- **Outcome delivery incentives** – out performance payments for companies that exceed their stretching performance commitment levels, and under performance penalties for customers if performance is below their performance commitment levels.

- **Wholesale total expenditure (totex) sharing** – where a company's over and under performance on totex is shared with customers.

- **Wholesale revenue forecasting incentive mechanism (WRFIM)** – financial incentives for companies to make accurate forecasts for wholesale revenue, ensuring under and over-recovery is reconciled.

- **Water trading incentive** – incentive payments for new water trades that start in the 2010-15 period.

- **2010-15 reconciliation** – further adjustments for performance against the PR09 incentive mechanisms, including the Capital Incentive Scheme (CIS), to reflect the update for actual 2014-15 performance.

- **Land disposals** – adjusting the RCV to share any proceeds from disposals of interest in land equally with customers.

- **Residential retail** – the total revenue allowance is adjusted for actual customer numbers.

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[1] Delivering Water 2020: Our methodology for the 2019 price review – Updated guidance for the final business plan data tables – 31 May 2018
[2] Ofwat PR14 reconciliation rulebook – updated 13 Dec 2017

In addition, the PR19 methodology consultation document[3] describes the reconciliation required by companies for the service incentive mechanism (SIM).

Ofwat will take account of performance in the 2015-20 period in its initial assessments of business plans at PR19.

As defined in the guidance provided by Ofwat, companies are required to provide specific information to Ofwat by 15 July 2018 using a suite of data tables and reconciliation models provided.

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[3] Delivering Water 2020: Our final methodology for the PR19 price review: section 12. Accounting for past delivery (Dec 2017)

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2. Purpose of this document

This document contains commentary on each data table required to be submitted as part of the PR14 reconciliations and the assessment of past performance.

The aim of this document, and the other documents in the submission is to provide Ofwat with all the required information to assess our PR14 reconciliation proposals. It will also allow for proportionate scrutiny of past performance to have confidence in our PR19 business plan.

2.1. The PR14 reconciliation submission structure

The Yorkshire Water PR14 reconciliation submission consists of a suite of completed and audited data tables and reconciliation models required by Ofwat. The data is supplemented with detailed commentaries for each data table.

A high level summary of the PR14 reconciliations and our proposed adjustments for revenue and RCV in PR19 is provided in a separate document, PR14 Reconciliation and Accounting for Past delivery – Summary (13 July 2018), as part of the submission.

The submission contains of the following five required PR14 reconciliation models:

- WRFIM PR14 reconciliation model spreadsheet
- Totex menu PR14 reconciliation model spreadsheet
- Household retail PR14 reconciliation model spreadsheet
- RCV adjustments feeder model
- Revenue adjustments feeder model

The submission includes 14 data tables that collect information specific to our performance during 2015-20, which are listed in table below. These tables and this commentary document have been completed in accordance with the data requirements set out in PR19 data table final guidance [4] published by Ofwat in May 2018. The data provided in the tables has been subject to both internal and external assurance.

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[4] Delivering Water 2020: Our methodology for the 2019 price review. Updated guidance for the final business plan data tables (31 May 2018)

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PR14 reconciliation data tables

Purpose	Ofwat date table ref:	Contents	External Assurance Provider
Past delivery: Reconciling 2015-20 performance	App5	PR14 reconciliation – performance commitments	Halcrow
	App6	PR14 reconciliation - sub-measures	Halcrow
	App27	PR14 reconciliation – financial outcome delivery incentives summary	Deloitte
	App9	Adjustments to RCV from disposals of interest in land	Deloitte
	App25	PR14 reconciliation adjustments summary	Deloitte
	App31	Past performance	Halcrow
Input to cost, risk, reconciliation and financial models	App23	Inflation measures	Deloitte
Wholesale water services mechanisms	WS13	PR14 wholesale revenue forecast incentive mechanism for the water service	Deloitte
	WS15	PR14 wholesale total expenditure outperformance sharing for the water service	Deloitte
	WS17	PR14 water trading incentive reconciliation	n/a – nil return
Wholesale wastewater services mechanisms	WWS13	PR14 wholesale revenue forecast incentive mechanism for the wastewater service	Deloitte
	WWS15	PR14 wholesale total expenditure outperformance sharing for the wastewater service	Deloitte
Household retail reconciliation and SIM	R9	PR14 reconciliation of household retail revenue	Deloitte
	R10	PR14 service incentive mechanism	Halcrow

3.   Data table commentaries

Detailed over the following sections are the commentaries explaining the purpose of the data table and the required supporting information to assist Ofwat and stakeholders understand and interpret the data submitted by Yorkshire Water as part of the PR14 reconciliation submission.

The commentaries are specific to each data table. Yorkshire Water has also prepared a high level summary document of its PR14 reconciliation submission, called 'PR14 Reconciliation and Accounting for Past delivery – Summary'. The summary document explains how we are accounting for past delivery over the 2015-20 period.

The PR19 business plan submission, due in September 2018 will also provide additional information of our past performance, customer support for our proposed adjustments, and how we will improve services further as we move into the PR19 period.

3.1.   Our approach to PR19

To develop a comprehensive PR19 business plan, Yorkshire Water has engaged extensively with customers to understand what is important to them, how their lives interact with water and waste water services, and what they want from us. These conversations have helped us understand where we need to focus our activities, now and into the long term.

We heard from customers, and stakeholders, who felt overall that we did a good job, but there are aspects of our services they would like to see improve.

We have reflected the feedback in the current and next planning period, by adopting a twin-track approach.

- In areas where we can improve now, we are driving further performance commitment improvement within the 2015-20 period. We have been working on improving areas of our business over the last 12 months.

- We will build in these immediate improvements with our PR19 business plans as the platform for further service quality improvement.

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3.2.   App5 PR14 reconciliation – performance commitments

Table App5 is used to capture forecasts for performance levels and outcome delivery incentives (ODIs) for the 2018-19 and 2019-20 reporting years

App5 forecast data provided has been audited by our external auditor Halcrow. Performance data for previous years published in our APR (table 3a) has also been audited by our external auditor Halcrow each year.

The assurance statement from Halcrow on their audit activity on the PR14 tables is provided as part of our PR14 reconciliation submission.

3.3.   App6 PR14 reconciliation – sub-measures

Table App6 is used to capture forecasts for sub-measure performance levels for the 2018-19 and 2019-20 reporting years.

The App6 forecast data has been audited by our external auditor Halcrow. Performance data for previous years published in our APR (table 3b) has also been audited by our external auditor Halcrow each year.

The assurance statement from Halcrow on their audit activity on the PR14 tables is provided as part of our PR14 reconciliation submission.

3.4. Financial ODI forecasts and adjustments (App5 and App6)

For each performance commitment with a financial ODI forecast in data tables App5 (performance commitments) and App6 (sub-measures), we have explained how we have calculated the relevant under performance or over performance payments from 2015-20.

This covers 16 performance commitments and stability and reliability factors, out of the 33 reported in App5.

We also outline where the underperformance or outperformance is within a defined deadband, and therefore does not generate and financial reward or penalty adjustment. Where we have voluntarily foregone an outperformance payment contrary to the reward determined by the calculation we provide our reasoning.

Where a performance commitment operates with sub-measures, we explain how the ODI has been calculated in relation to the individual forecast sub-measure performance levels (from data shown in App6).

Detailed below is a table for each of the performance commitments with a financial ODI, with a brief explanation of the measure, the forecast performance for 2018-19 and 2019-20, with a breakdown of the calculation that determines the level of assessed reward or penalty payments. There are brief explanatory notes provided to add context and explanation for each performance commitment where a reward or penalty adjustment is proposed.

3.4.1. WA1: Drinking water quality

Unit	Percentage	
Period	Calendar year measure	
Definition	The mean zonal percentage compliance from the regulatory sampling programme, as calculated by the DWI.	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	100.000%	100.000%
Forecast Performance Level	99.962%	99.962%
Performance Commitment Level Met?	No	No
Underperformance Penalty Deadband	99.950%	99.950%
Underperformance Within Deadband	Yes	Yes
Underperformance Penalty Incentive Rate	£8.920m per 0.01% additional failure	£8.920m per 0.01% additional failure
Underperformance Penalty	£0.000m	£0.000m

- No penalty as within the deadband determined by our reported/forecast performance.

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3.4.2. WA3: Drinking water contacts

Unit	Number	
Period	Financial year measure	
Definition	The number of times customers contact Yorkshire Water about discolouration, taste and odour and illness each year, in line with DWI reporting.	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	6,108	6,108
Forecast Performance Level	7,400	7,200
Performance Commitment Level Met?	No	No
Underperformance Penalty Deadband	6,108	6,108
Underperformance Within Deadband	No	No
Underperformance Penalty Incentive Rate	£0.0033m per contact	£0.0033m per contact
Underperformance Penalty	= 7,400 (Forecast Performance) – 6,108 (Deadband) = 1,292 * 0.0033 (Incentive Rate) =£4.264m	= 7,200 (Forecast Performance) – 6,108 (Deadband) = 1,092 * 0.0033 (Incentive Rate) =£3.604m
Outperformance Payment Deadband	6,108	6,108
Outperformance Within Deadband	N/A	N/A
Outperformance Payment Incentive Rate	£0.0030m per contact	£0.0030m per contact
Outperformance Payment	N/A	N/A

- Penalty being claimed matches that determined by our reported/forecast performance.
- There was originally some ambiguity around whether or not web-chats would be included in this measure, following an internal review process by the Regulatory Issues Group it was decided that these would be included and this was then communicated to the DWI.
- This is the only financially incentivised performance commitment where we forecast to fail to meet the target level. Financial penalties of £4.3m (2018-19) and £3.6m (2019-20) are forecast. These values are in 2012-13 prices.
- In line with our Final Determination, the underperformance penalty will not be returned to customers via a bill adjustment. Instead, as determined by our customers at PR14, it will be reinvested on further asset improvements within three years of the failure to meet targets.

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3.4.3. WA4: Water quality stability and reliability factor

Unit	Assessment
Period	Financial year measure (some sub-measures are calendar year measures)
Definition	An overall assessment of long term stability and reliability for water quality, based on a basket of indicators. Assessment is based on the recent historical trend of the indicators. Assessment will give a classification of Improving, Stable or Deteriorating.

Forecast Year	2018-19		2019-20	
Performance Commitment Level	Stable		Stable	
Forecast Performance Level	Stable		Stable	
Performance Commitment Level Met?	Yes		Yes	
Underperformance Penalty	£0.000m		£0.000m	
Sub-Measure Performance				
WTW coliform non-compliance	Upper Reference Level	0.07%	Upper Reference Level	0.07%
	Reference Level	0.04%	Reference Level	0.04%
	Forecast Performance	0.02%	Forecast Performance	0.02%
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
SRE coliform non-compliance	Upper Reference Level	0.24%	Upper Reference Level	0.24%
	Reference Level	0.00%	Reference Level	0.00%
	Forecast Performance	0.00%	Forecast Performance	0.00%
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Turbidity	Upper Reference Level	4	Upper Reference Level	4
	Reference Level	0	Reference Level	0
	Forecast Performance	0	Forecast Performance	0
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Enforcements	Upper Reference Level	1	Upper Reference Level	1
	Reference Level	0	Reference Level	0

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	Forecast Performance	0	Forecast Performance	0
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Reactive equipment failures	Upper Reference Level	8,380	Upper Reference Level	8,380
	Reference Level	6,771	Reference Level	6,771
	Forecast Performance	4,200	Forecast Performance	4,200
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable

- As performance has been assessed as Stable overall no penalty is applied.
- There was some ambiguity in how the penalty mechanism for the Stability & Reliability Factors would be calculated and applied should it be appropriate. This was addressed and a document outlining the agreed process was agreed with our customer challenge group, the Yorkshire Forum for Water Customers (YFWC) and Ofwat in September 2016.

3.4.4. WB1: Leakage

Unit	Megalitres per day (Ml/d)	
Period	Financial year measure	
Definition	The sum of distribution losses and supply pipe losses. This includes any uncontrolled losses between the treatment works and the customer's stop tap. It does not include internal plumbing losses.	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	292.1	287.1
Forecast Performance Level	277.0	235.0
Performance Commitment Level Met?	Yes	Yes
Underperformance Penalty Deadband	297.1	297.1
Underperformance Within Deadband	N/A	N/A
Underperformance Penalty Incentive Rate	£0.101m per megalitre a day	£0.101m per megalitre a day
Underperformance Penalty	N/A	N/A
Outperformance Payment Deadband	274	274
Outperformance Within Deadband	Yes	No
Outperformance Payment Incentive Rate	£0.051m per megalitre a day	£0.051m per megalitre a day
Outperformance Payment	£0.000m	= 274 (Deadband) – 235 (Forecast Performance) = 39 * 0.051 (Incentive Rate) =£1.970m

- Reward being claimed matches that determined by our reported/forecast performance.
- To ensure we can better manage future impacts on leakage from extreme weather, further investment has been allocated to leakage activities. This investment has been targeted to meet our AMP6 PC service levels, and achieve upper quartile performance by the end of the first year of AMP7 (the 2020-25 period).
- Our investment plans to target upper quartile performance for leakage have been assured by Halcrow to ensure our plans are both affordable and deliverable. This additional investment will increase our find and fix field resource, and deliver additional mains rehabilitation and communication pipe replacement activity.
- This is reflected in our forecast improved performance levels for leakage for years 4 and 5 of AMP6.

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3.4.5. WB2: Water supply interruptions

Unit	Minute	
Period	Financial year measure	
Definition	Number of minutes lost per property served in the year with supply interruptions of three hours or longer (irrespective of whether it was planned, unplanned or caused by a third party).	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	12.00	12.00
Forecast Performance Level	6.00	4.00
Performance Commitment Level Met?	Yes	Yes
Underperformance Penalty Deadband	12.00	12.00
Underperformance Within Deadband	N/A	N/A
Underperformance Penalty Incentive Rate	£2.610m per minute	£2.610m per minute
Underperformance Penalty	N/A	N/A
Outperformance Payment Deadband	12.00	12.00
Outperformance Within Deadband	No	No
Outperformance Payment Incentive Rate	£2.610m per minute	£2.610m per minute
Outperformance Payment Cap	8.08	8.08
Outperformance Payment	= 12.00 (Deadband) – 8.08 (Payment Cap) = 3.92 * 2.610 (Incentive Rate) =£10.227m	= 12.00 (Deadband) – 8.08 (Payment Cap) = 3.92 * 2.610 (Incentive Rate) =£10.227m

- The reward being claimed matches that determined by our reported/forecast performance.
- As forecast performance is below the Outperformance Payment Cap we are forecasting to receive the maximum allowed outperformance payment for this measure.
- As part of our upper quartile plan to target sector leading performance on this measure we have increased our capital funding by £10m to fund additional pressure and flow monitoring on our distribution network to allow for earlier event recognition. This will also improve the accuracy of reporting.
- We will also be creating a "Supply Restoration" team which is a change to our approach to incident response which focuses on the restoration of supplies through the deployment of continuous supplies techniques in a more pro-active manner. This is reflected in our forecast improved performance for years 4 and 5 of AMP6.

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3.4.6. WB4: Water network stability and reliability factor

Unit	Assessment
Period	Financial year measure (some sub-measures are calendar year measures)
Definition	An overall assessment of long term stability and reliability for water quality, based on a basket of indicators. Assessment is based on the recent historical trend of the indicators. Assessment will give a classification of Improving, Stable or Deteriorating.

Forecast Year	2018-19		2019-20	
Performance Commitment Level	Stable		Stable	
Forecast Performance Level	Stable		Stable	
Performance Commitment Level Met?	Yes		Yes	
Underperformance Penalty	£0.000m		£0.000m	
Sub-Measure Performance				
Total bursts	Upper Reference Level	7,710	Upper Reference Level	7,710
	Reference Level	6,000	Reference Level	6,000
	Forecast Performance	8,010	Forecast Performance	7,500
	Performance Level Met?	No	Performance Level Met?	No
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Interruptions >12 hours	Upper Reference Level	659	Upper Reference Level	659
	Reference Level	220	Reference Level	220
	Forecast Performance	220	Forecast Performance	220
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
DG2 low pressure	Upper Reference Level	67	Upper Reference Level	67
	Reference Level	15	Reference Level	15
	Forecast Performance	15	Forecast Performance	15
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Customer contacts for discolouration	Upper Reference Level	1.570	Upper Reference Level	1.570
	Reference Level	1.180	Reference Level	1.180

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	Forecast Performance	0.700	Forecast Performance	0.700
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Distribution index TIM (100 - mean zonal compliance)	Upper Reference Level	0.340%	Upper Reference Level	0.340%
	Reference Level	0.200%	Reference Level	0.200%
	Forecast Performance	0.200%	Forecast Performance	0.200%
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Reactive equipment failures	Upper Reference Level	2,261	Upper Reference Level	2,261
	Reference Level	1,825	Reference Level	1,825
	Forecast Performance	1,100	Forecast Performance	1,100
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable

- As performance has been assessed as Stable overall no penalty is applied.
- There was some ambiguity in how the penalty mechanism for the Stability & Reliability Factors would be calculated and applied should it be appropriate. This was addressed and a document outlining the agreed process was agreed with our YFWC and Ofwat in September 2016.
- We are showing an upward trend on Total Bursts; however, this is due to our push to improve our leakage performance (WB1) and does not reflect an anticipated deterioration in the condition of our assets. As such, we are still assessing this sub-measure as stable for the remainder of the 2015-20 period.

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3.4.7. WC1: Length of river improved

	2018-19	2019-20
Unit	Kilometres (Km)	
Period	Financial year measure	
Definition	The length of river in the Yorkshire Water region improved during 2015-2020 against Water Framework Directive component measures.	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	-	100
Forecast Performance Level	-	106.45
Performance Commitment Level Met?	-	Yes
Underperformance Penalty Deadband	-	97
Underperformance Within Deadband	-	N/A
Underperformance Penalty Incentive Rate	-	£0.146m per kilometre
Underperformance Penalty	-	N/A
Outperformance Payment Deadband	-	103
Outperformance Within Deadband	-	No
Outperformance Payment Incentive Rate	-	£0.077m per kilometre
Outperformance Payment	-	= 106.45 (Forecast Performance) – 103 (Deadband) = 3.45 * 0.077 (Incentive Rate) =£0.265m

- Reward being claimed matches that determined by our reported/forecast performance.

3.4.8. WC2: Solutions delivered by working with others

Unit	Number
Period	Financial year measure
Definition	The number of intervention solutions delivered through working with multi-agencies, organisations or individuals. **The performance commitment is a total commitment, held at appointee level. It spans water and waste water controls and specific targets have not been allocated to the individual controls.**

Forecast Year	2018-19	2019-20
Performance Commitment Level	3 (12 Cumulative)	4 (16 Cumulative)
Forecast Performance Level	10 (31 Cumulative)	8 (39 Cumulative)
Performance Commitment Level Met?	Yes	Yes
Outperformance Payment Deadband	12 (Cumulative number of Interventions Delivered in AMP)	16 (Cumulative number of Interventions Delivered in AMP)
Outperformance Within Deadband	No	No
Outperformance Payment Incentive Rate	5% of totex cost of Yorkshire Water cost for each eligible intervention.	5% of totex cost of Yorkshire Water cost for each eligible intervention.
Outperformance Payment	= £0.060m (average cost of interventions in year) * 5% =£0.003m (Reward per intervention above target) =10 (Forecast Interventions) – 3 (Target) = 7 * £0.003m =£0.021m total outperformance payment =£0.021m * 64% (% of total cost of interventions that relate to clean water schemes) = £0.013m water only outperformance payment	= £0.294m (average cost of interventions in year) * 5% =£0.015m (Reward per intervention above target) =8 (Forecast Interventions) – 4(Target) = 4 * £0.015m =£0.059m total outperformance payment =£0.059m * 100% (% of total cost of interventions that relate to clean water schemes) = £0.059m water only outperformance payment

- Reward being claimed matches that determined by our reported/forecast performance.
- There was some ambiguity about how the reward for this measure was calculated and how it should be distributed between water and waste water, this has now been resolved and agreed with our auditors and via our internal assurance processes.

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3.4.9. WC3: Amount of land conserved and enhanced

Unit	Hectares (Ha)	
Period	Financial year measure	
Definition	The amount of land that the company conserves and enhances, for example Biodiversity 2020, Ancient Woodlands and Sites of Special Scientific Interest (SSSIs). This includes land within the region and includes both Yorkshire Water and non-Yorkshire Water land. **The performance commitment is a total commitment, held at appointee level. It spans water and waste water controls and specific targets have not been allocated to the individual controls.**	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	-	11,736
Forecast Performance Level	-	11,684
Performance Commitment Level Met?	-	No
Underperformance Penalty Deadband	-	11,501
Underperformance Within Deadband	-	Yes
Underperformance Penalty Incentive Rate	-	£0.020m per hectare
Underperformance Penalty	-	£0.000m
Outperformance Payment Deadband	-	11,971
Outperformance Within Deadband	-	N/A
Outperformance Payment Incentive Rate	-	£0.013m per hectare
Outperformance Payment	-	N/A

- We are expecting to fail this performance commitment, although we will still be in the deadband, this is due to an area of SSSI at Newton Dale that was sold just before the start of the AMP6 when the performance figures had already been set by Ofwat.
- This was audited and communicated to the YFWC.

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3.4.10.   SA1: Internal sewer flooding

Unit	Number
Period	Financial year measure
Definition	Total number of incidents of internal sewer flooding of homes and businesses in the year. The measure includes incidents due to other causes, including blocked and defective gullies and overloaded serwers in rainfall events up to and including 1 in 30 year return period. Incidents in exceptional rainfall events are excluded. The measure includes incidents arising from assets transferred to Yorkshire Water in October 2011.

Forecast Year	2018-19	2019-20
Performance Commitment Level	1,919	1,919
Forecast Performance Level	1,796	1,463
Performance Commitment Level Met?	Yes	Yes
Underperformance Penalty Deadband	2,029	2,029
Underperformance Within Deadband	N/A	N/A
Underperformance Penalty Incentive Rate	£0.220m per incident	£0.220m per incident
Underperformance Penalty	N/A	N/A
Outperformance Payment Deadband	1,808	1,808
Outperformance Within Deadband	No	No
Outperformance Payment Incentive Rate	£0.057m per incident	£0.057m per incident
Outperformance Payment Cap	1,651	1,651
Outperformance Payment	= 1,808 (Deadband) – 1,796 (Forecast Performance) = 12 * £0.057 (Incentive Rate) =£0.690m	= 1,808 (Deadband) – 1,651 (Payment Cap) = 157 * £0.057 (Incentive Rate) =£9.027m

- Reward being claimed matches that determined by our reported/forecast performance.
- As forecast performance is below the Outperformance Payment Cap in 2019-20 we are forecasting to receive the maximum allowed outperformance payment for this measure.
- As part of our plan to target upper quartile internal flooding performance we have further increased the level of repair and maintenance on our sewer network to drive down internal property flooding due to other causes over the remainder of AMP6. This is reflected in our forecast improved performance for years 4 and 5 of AMP6.

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3.4.11. SA3: Pollution

Unit	Number
Period	Calendar year measure
Definition	Total number of Category 1-3 pollution incidents caused by a discharge or escape from any Yorkshire Water waste water asset each year (this covers all consented and non-consented intermittant events but not continuous discharges). This measure includes all waste water assets, that is, surface water assets are included and excludes impacts from private pumping stations that will transfer to Yorkshire Water in 2016[5].

Forecast Year	2018-19	2019-20
Performance Commitment Level	211	211
Forecast Performance Level	180	155
Performance Commitment Level Met?	Yes	Yes
Underperformance Penalty Deadband	211	211
Underperformance Within Deadband	N/A	N/A
Underperformance Penalty Incentive Rate	£0.185m per incident	£0.185m per incident
Underperformance Penalty	N/A	N/A
Outperformance Payment Deadband	147	147
Outperformance Within Deadband	No	No
Outperformance Payment Incentive Rate	£0.185m per incident	£0.185m per incident
Outperformance Payment	= 211(Deadband) – 180 (Forecast Performance) = 31 * £0.057 (Incentive Rate) =£5.739m	= 211 (Deadband) – 155 (Forecast Performance) = 56 * £0.185 (Incentive Rate) =£10.367m

- Reward being claimed matches that determined by our reported/forecast performance.
- No deadband remains in place for the years 2017-20 for this performance commitment.
- As part of our plan to target upper quartile pollution performance we have increased the level of repair and maintenance on our sewer network as well as adding additional telemetry to our sewer network to allow us to target failing assets before they impact the environment by spilling and therefore polluting. This is reflected in our forecast improved performance for years 4 and 5 of AMP6.
- It should be noted that reported data in table App31 for pollution incidents is under a different definition to our PR14 performance commitment, therefore the numbers do not align.

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[5] FD stated transfer would occur in 2015 but official date for transfer of pumping stations is 1st October 2016

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3.4.12. SA4: Sewer network stability and reliability factor

Unit	Assessment			
Period	Financial year measure (some sub-measures are calendar year measures)			
Definition	An overall assessment of long term stability and reliability for the sewer network, based on a basket of indicators. Assessment is based on the recent historical trend of the indicators. Assessment will give a classification of Improving, Stable or Deteriorating.			
Forecast Year	**2018-19**		**2019-20**	
Performance Commitment Level	Stable		Stable	
Forecast Performance Level	Stable		Stable	
Performance Commitment Level Met?	Yes		Yes	
Underperformance Penalty	£0.000m		£0.000m	
Sub-Measure Performance				
Sewer collapses	Upper Reference Level	369	Upper Reference Level	369
	Reference Level	255	Reference Level	255
	Forecast Performance	238	Forecast Performance	238
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Pollution incidents (CSO, RM, FS and SPS)	Upper Reference Level	251	Upper Reference Level	251
	Reference Level	203	Reference Level	203
	Forecast Performance	170	Forecast Performance	170
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Properties flooded due to other causes	Upper Reference Level	379	Upper Reference Level	379
	Reference Level	302	Reference Level	302
	Forecast Performance	355	Forecast Performance	330
	Performance Level Met?	No	Performance Level Met?	No
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Properties flooded overloaded sewers,	Upper Reference Level	110	Upper Reference Level	110
	Reference Level	72	Reference Level	72

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excluding severe weather	Forecast Performance	72	Forecast Performance	72
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Sewer blockages	Upper Reference Level	22,936	Upper Reference Level	22,936
	Reference Level	20,695	Reference Level	20,695
	Forecast Performance	17,075	Forecast Performance	17,075
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Reactive equipment failures	Upper Reference Level	7,282	Upper Reference Level	238
	Reference Level	5,869	Reference Level	5,869
	Forecast Performance	3,510	Forecast Performance	3,510
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable

- As this factor has been assessed as Stable overall, no penalty is applied.
- There was some ambiguity in how the penalty mechanism for the Stability & Reliability Factors would be calculated and applied should it be appropriate. This was addressed and a document outlining the agreed process was agreed with the YFWC and Ofwat in September 2016.
- The number of properties flooded due to other causes in year 3, has been assessed as deteriorating by our auditors Halcrow. However, as part of our planned upper quartile work on Internal Flooding we expect performance on this sub-measure to improve in years 4 and 5 and so return to being stable.

3.4.13.   SB2: Waste water quality stability and reliability factor

Unit	Assessment			
Period	Financial year measure (some sub-measures are calendar year measures)			
Definition	An overall assessment of long term stability and reliability for waste water quality, based on a basket of indicators. Assessment is based on the recent historical trend of the indicators. Assessment will give a classification of Improving, Stable or Deteriorating.			
Forecast Year	**2018-19**		**2019-20**	
Performance Commitment Level	Stable		Stable	
Forecast Performance Level	Stable		Stable	
Performance Commitment Level Met?	Yes		Yes	
Underperformance Penalty	£0.000m		£0.000m	
Sub-Measure Performance				
Sewage Treatment Works non-compliance	Upper Reference Level	8	Upper Reference Level	8
	Reference Level	0	Reference Level	0
	Forecast Performance	5	Forecast Performance	5
	Performance Level Met?	No	Performance Level Met?	No
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Population equivalent non-compliance	Upper Reference Level	0.6%	Upper Reference Level	0.6%
	Reference Level	0.0%	Reference Level	0.0%
	Forecast Performance	0.0%	Forecast Performance	0.0%
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable
Reactive equipment failures	Upper Reference Level	20,848	Upper Reference Level	20,848
	Reference Level	15,651	Reference Level	15,651
	Forecast Performance	13,000	Forecast Performance	12,500
	Performance Level Met?	Yes	Performance Level Met?	Yes
	Sub-Measure Assessment	Stable	Sub-Measure Assessment	Stable

- As factor has been assessed as Stable overall no penalty is applied.
- There was some ambiguity in how the penalty mechanism for the Stability & Reliability Factors would be calculated and applied should it be appropriate. This was addressed

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and a document outlining the agreed process was agreed with the YFWC and Ofwat in September 2016.

3.4.14. SB3: Solutions delivered by working with others

Unit	Number
Period	Financial year measure
Definition	The number of intervention solutions delivered through working with multi-agencies, organisations or individuals. **The performance commitment is a total commitment, held at appointee level. It spans water and waste water controls and specific targets have not been allocated to the individual controls.**

Forecast Year	2018-19	2019-20
Performance Commitment Level	3 (12 Cumulative)	4 (16 Cumulative)
Forecast Performance Level	10 (31 Cumulative)	8 (39 Cumulative)
Performance Commitment Level Met?	Yes	Yes
Outperformance Payment Deadband	12 (Cumulative number of Interventions Delivered in AMP)	16 (Cumulative number of Interventions Delivered in AMP)
Outperformance Within Deadband	No	No
Outperformance Payment Incentive Rate	5% of totex cost of Yorkshire Water cost for each eligible intervention.	5% of totex cost of Yorkshire Water cost for each eligible intervention.
Outperformance Payment	= £0.060m (average cost of interventions in year) * 5% =£0.003m (Reward per intervention above target) =10 (Forecast Interventions) – 3 (Target) = 7 * £0.003m =£0.021m total outperformance payment =£0.021m * 36% (% of total cost of interventions that relate to clean water schemes) = £0.008m waste water only outperformance payment	= £0.294m (average cost of interventions in year) * 5% =£0.015m (Reward per intervention above target) =8 (Forecast Interventions) – 4(Target) = 4 * £0.015m =£0.059m total outperformance payment =£0.059m * 0% (% of total cost of interventions that relate to clean water schemes) = £0.000m waste water only outperformance payment

- Reward being claimed matches that determined by our reported/forecast performance.
- There was some ambiguity about how the reward for this measure was calculated and how it should be distributed between water and waste water, this has now been resolved and agreed with our auditors and via our internal assurance processes.

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3.4.15.   SB4: Length of river improved

Unit	Kilometres (Km)	
Period	Financial year measure	
Definition	The length of river in the Yorkshire Water region improved during 2015-2020 against Water Framework Directive component measures.	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	-	340
Forecast Performance Level	-	357
Performance Commitment Level Met?	-	Yes
Underperformance Penalty Deadband	-	337
Underperformance Within Deadband	-	N/A
Underperformance Penalty Incentive Rate	-	£0.146m per kilometre
Underperformance Penalty	-	N/A
Outperformance Payment Deadband	-	343
Outperformance Within Deadband	-	No
Outperformance Payment Incentive Rate	-	£0.077m per kilometre
Outperformance Payment based on Forecast Performance	-	= 357 (Forecast Performance) – 343 (Deadband) = 14 * £0.077 (Incentive Rate) =£1.073m
Outperformance Payment being Claimed	-	= 357 (Forecast Performance) – 356 (New Internally Agreed Target) = 1 * £0.077 (Incentive Rate) =£0.077m

- We are voluntary foregoing a proportion of the reward payment assessed for forecast outperformance
- The reward being claimed is less than that 'earned' based on forecast performance. There was an error in setting our original target which was discovered after the Final Determination had been published. Further to our correspondence with Ofwat they advised us that the original target would not be changed but a business decision was made to only claim reward greater than the revised internal target.

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3.4.16.   SB5: Amount of land conserved and enhanced

Unit	Hectares (Ha)	
Period	Financial year measure	
Definition	The amount of land that the company conserves and enhances, for example Biodiversity 2020, Ancient Woodlands and Sites of Special Scientific Interest (SSSIs). This includes land within the region and includes both Yorkshire Water and non-Yorkshire Water land. **The performance commitment is a total commitment, held at appointee level. It spans water and waste water controls and specific targets have not been allocated to the individual controls.**	
Forecast Year	**2018-19**	**2019-20**
Performance Commitment Level	-	11,736
Forecast Performance Level	-	11,684
Performance Commitment Level Met?	-	No
Underperformance Penalty Deadband	-	11,501
Underperformance Within Deadband	-	Yes
Underperformance Penalty Incentive Rate	-	£0.020m per hectare
Underperformance Penalty	-	£0.000m
Outperformance Payment Deadband	-	11,971
Outperformance Within Deadband	-	N/A
Outperformance Payment Incentive Rate	-	£0.013m per hectare
Outperformance Payment	-	N/A

- We are expecting to fail this performance commitment, although we will still be within the deadband. This performance is due to an area of SSSI at Newton Dale that was sold just before the start of the AMP when the figures had already been set with Ofwat.

3.5. App27 – Financial outcome delivery incentives summary

Table App27 provides a summary of the financial adjustments arising from the actual and forecast performance levels as calculated under the PR14 reconciliation rulebook methodology, published by Ofwat in December 2017.

Table App27 data aligns to that of tables App5 and App6, and does not include any figures for penalties. In line with our Final Determination, any penalty values assessed will not be returned to customers via a bill adjustment.

At PR14 our customers determined that they would prefer to see reinvestment to drive material improvements in failing services, rather than receive a small rebate and continue to suffer service failures or performance that is not at targeted levels within the AMP or beyond.

We have ensured that the reinvested funds within this AMP and for the 2020-25 period are not included in totex out or under-performance sharing mechanisms.

There is no place in App27 to add such performance related investment (shareholder funded in effect). As a result, this table does not fully reconcile to APR table 3A and PR19 table App5.

We have chosen to input the claimed reward, not the earned reward (see the section for performance commitment SB4 - Length of River Improved (wastewater) for our decision to forego some of the calculated reward).

App27 data provided has been audited by our external financial auditor Deloitte.

The assurance statements from auditors Deloitte is provided as part of the PR14 reconciliation submission.

3.6.   App23 – Inflation measures

This table contains our assumptions about CPIH and RPI inflation for the remainder of the 2015-20 period and for the ten years 2020-30.

Ofwat has prepopulated published index numbers from 2011-12 to 2017-18.

App23 data provided has been audited by our external financial auditor Deloitte.

The assurance statements from auditors Deloitte is provided as part of the PR14 reconciliation submission

3.7.   App9 - Adjustments to RCV from disposals of interest in land

Table App9 – 'Adjustments to RCV from disposals of interest in land' is used to state the past performance of land disposals. Inputs into App9 land disposals data table come from the following data sources:

- Annual Performance Reports (actual)
- Annual Performance Reports (forecast)
- Ofwat RCV Adjustment Feeder Model
- Ofwat RCV Midnight Adjustment Model

The data reconciliation has been performed using internal information held by Yorkshire Water. App9 data has been audited by our external financial auditor Deloitte.

The assurance statements from auditors Deloitte is provided as part of the PR14 reconciliation submission.

The App9 data table is part pre-populated by Ofwat and part completed by Yorkshire Water using Annual Performance Reports, Land and Property forecasts and the Ofwat RCV Adjustments Feeder Model. The table has been completed as set out below.

- WACC and discounting period information has been pre-populated by Ofwat.
- Forecast at previous review completed using 'PR14 RCV midnight adjustment – Calc 2 – RCV calcs'.
- 2014-15 actual sales completed using Finance Results 2015 report – 'FIN ACC 26'.
- 2015-16 to 2017-18 actual sales completed using Annual Performance Reports.
- 2018-19 and 2019-20 forecast sales completed using Land and Property team forecast information. Forecast split 50:50 to water and wastewater.
- 2014-20 NPV effect of 50% of proceeds from disposals of interest in land completed using the RCV Adjustment Feeder model.

The adjustments to RCV from the disposal of land are transferred to the App25 PR14 reconciliation adjustments summary – block B.

The adjustments to RCV from the disposal of land are transferred to the 'RCV Adjustments Feeder Model – Inputs'.

3.8.   App25 - PR14 reconciliation adjustments summary

Table App25 provides a summary of all the further adjustments arising from the 2010-15 reconciliation updated for 2014-15 actual performance and from each of the PR14 reconciliations of performance in the period ending 31 March 2020.

The table copies values entered in the tables for each of the PR14 reconciliation mechanisms.

The following data sources are required to complete the App25 data table.

- Ofwat pre-populated data
- Revenue Adjustments Feeder Model
- RCV Adjustments Feeder Model
- Completed PR14 business data tables
- Ofwat Blind Year – F_Outputs
- Ofwat CIS reconciliation calculations

The App25 data table is part pre-populated by Ofwat and part completed by Yorkshire Water using other PR14 past performance data tables.

Block A is part completed by Ofwat and part completed using the RCV adjustment feeder model and Revenue adjustments feeder model.

Blocks B to H are completed by copying outputs from all completed PR14 past performance data tables.

App25 data has been audited by our external financial auditor Deloitte.
The assurance statements from auditors Deloitte is provided as part of the PR14 reconciliation submission.

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3.9.   App31 - Past performance

Table App31 is relevant to the assessment of past performance and contains information that is not captured in other data tables associated with the PR14 reconciliations.

Table App31 provides information on actual and forecast performance over the 2015-20 period.

App31 data has been audited by our external auditor Halcrow. The assurance statements from auditors Halcrow is provided as part of the PR14 reconciliation submission.

3.9.1. Complaints from residential and business customers

For Block A - Complaints from residential and business customers, which is complaints data provided for years 2015-2016 and 2016-17 for complaints from household and non-household customers received and managed by Yorkshire Water as an integrated wholesaler and retailer.

As a water company that has not exited the non-household retail market, from 2017-18 onwards when the non-household retail market had opened, we capture complaint records separately. Our non-household retail business, Yorkshire Water Business Services (YWBS) operates on an arms-length basis from our wholesale and household retail operations.

Our complaints data also includes for completeness, complaints received from customers of our developer services business. These will be either developers, self-lay providers or New Appointment and Variations (NAVs).

The App31 data table does not provide the structure to separate out the complaints data between residential and business customers, or developer services customers.

Line 1 - Stage 1 complaints received

- Actual performance figures for 2015-16 and 2016-17 include all written complaints received into Yorkshire Water whether from residential or business customers, and developer services customers.
- Actual performance figures for 2017-18 include additional non-household retail complaints from business customers into YWBS. These will offset the drop-in business customer complaints received into Yorkshire Water following the opening of the non-household retail market.
- Forecast for residential customer complaints received for 2018-19 which is a 10% drop in stage 1 complaints received compared to 2017-18. This 10% reduction is based on current service improvement activities set up to improve SIM performance. This includes a transfer of the operational complaints teams from our retail contact centre, to our Service Delivery Centre to unify with the operational teams within Yorkshire Water.
- The forecast for residential customer complaints for 2019-20, assumes stage 1 complaints remain flat as per 2018-19.
- For YWBS business customer complaints received, a 15% reduction has been forecast for 2018-19 against 2017-18 performance. This improvement is based on the activities currently planned to address the complaint levels, including data improvement as part of the stabilisation of the processes in the new non-household retail market.

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- The forecast for business customer complaints for 2019-20 is as per the 2018-19 forecast.

Line 2 - Complaints escalated internally to Stage 2

- Actual performance figures for 2015-16 and 2016-17 include all stage 1 complaints into Yorkshire Water that have been escalated, whether from residential or business customers, and developer services customers.
- Actual performance figures for 2017-18 include additional non-household retail complaint escalations from business customers in YWBS. These will offset the drop in business customer complaints escalated into Yorkshire Water following the opening of the non-household retail market.
- Forecast for residential stage 2 complaints for 2018-19 assumes a 10% drop in stage 2 complaints received compared to 2017-18.
- Forecast for 2019-20 assumes residential stage 2 compliant levels remain flat as per 2018-19.
- For YWBS stage 2 complaints received, a 15% reduction has been forecast 2018-19 against 2017-18. The number of complaints reported as 2019-20 performance assumes stage 2 levels remain as per the 2018-19 forecast.

Line 3 - Complaints referred to CCWater

- Actual performance figures for 2015-16 and 2016-17 include all complaints for Yorkshire Water referred to CCWater, covering complaints referred from residential and business customers, and developer services customers.
- Actual figures for 2017-18 and beyond include business customer complaints referred to CCWater relating to YWBS.
- For 2017-18 the CCWater End of Year Complaints and Enquiries report has not been published yet. Yorkshire Water has forecast a 7% reduction based on previous years improvements. A further 7% improvement for each year after that (2018-19 and 2019-20) is targeted.
- For YWBS business customer complaint forecasts have reduced 2018-19 figures by 15% against 2017-18 figures. 2019-20 assumes performance levels remain as per 2018-19 forecast.

Line 4 - Investigations opened by CCWater

- Figures for 2015-16 and 2016-17 are as reported by CCWater.
- Figures for 2017-18 and beyond include business customer complaints relating to YWBS where an investigation has been opened by CCWater.
- Forecasts for 2017-18 to 2019-20 assumes performance on CCWater investigations is the same as that of previous years, including for YWBS.

Line 5 - Complaints investigated by Ofwat or WATRS

- Figures for 2015-16 to 2017-18 as reported by Yorkshire Water on Ofwat and WATRS (the Water Redress Scheme) complaint investigation cases.
- Note the low result for 2015-16 is impacted by the WATRS ADR scheme only commencing part way through that year.

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- Figures for complaints upheld by Ofwat and WATRS (subset of data in line 5) are provided in the commentary later in this section.
- Figures for 2017-18 and beyond include business customer complaints investigations relating to YWBS.
- Forecasts for 2018-19 and 2019-20 assumes performance is of the same level as that of previous years, including for YWBS.

Further to data in line 5 about complaints that were ultimately investigated by Ofwat or WATRS, a summary of the subject of those complaints and the findings is as follows:

- For 2015-16, four of the seven cases that were investigated by WATRS were upheld in the customers favour (in full or in part).　Three of the complaints were in relation to sewer flooding and one related to billing charges.

- For 2016-17, four cases investigated by WATRS were upheld in the customers favour (in full or in part).　Two of these were in relation to sewer flooding, one related to poor service and one related to a leak on a supply pipe.

- Finally, for 2017-18, three cases investigated by WATRS were upheld in the customers favour (in full or in part).　One of the three was in relation to the identification of a water leak, one related to the adoption of a private pumping station and one related to sewer flooding.

A breakdown of the complaint data provided in App31, box A, segmented by customer type is detailed below.

Line description		Item reference	2015-16	2016-17	2017-18	2018-19	2019-20
A	Complaints from residential and business customers		Residential and Business	Residential and Business	Residential only	Residential only	Residential only
1	Stage 1 complaints received	BN200	7356	6219	3784	3584	3584
2	Complaints escalated internally to stage 2	SM000035	481	286	127	130	130
3	Complaints referred to CCWater	APP310003	532	497	463	431	401
4	Investigations opened by CCWater	APP310004	1	0	0	0	0
5	Complaints investigated by Ofwat or WATRS	APP310005	7	17	9	9	9

Line description		Item reference	2015-16	2016-17	2017-18	2018-19	2019-20
A	Complaints from residential and business customers				Business only (YWBS)	Business only (YWBS)	Business only (YWBS)
1	Stage 1 complaints received	BN200			1371	1165	1165
2	Complaints escalated internally to stage 2	SM000035			20	17	17
3	Complaints referred to CCWater	APP310003			14	12	12
4	Investigations opened by CCWater	APP310004			0	0	0
5	Complaints investigated by Ofwat or WATRS	APP310005			1	1	1

Line description		Item reference	2015-16	2016-17	2017-18
A	Complaints from residential and business customers		Developer Services	Developer Services	Developer Services
1	Stage 1 complaints received	BN200	206	215	198
2	Complaints escalated internally to stage 2	SM000035	18	20	17
3	Complaints referred to CCWater	APP310003	0	0	0
4	Investigations opened by CCWater	APP310004	0	0	0
5	Complaints investigated by Ofwat or WATRS	APP310005	0	0	0

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3.9.2. Major incidents

For Block B, line 6 of App31 – Major incidents, these are defined as a category 1 event by the Environment Agency (EA) or a major water quality event by the Drinking Water Inspectorate (DWI).

The figures reported in App31 line 6 are reported for calendar year, not financial year.

We work closely with the EA to make sure that our records match and our Escapes Optimisers verify all pollution reports submitted to ensure compliance with the EA's CICS guidance. This information is also audited annually as part of our APR process.

Out of the three major incidents reported in the data table, these are all category 1 events defined by the EA. We have had no major water quality events over the reported period, which is consistent with information published in DWI Chief Inspectors' Report. Details of the category 1 events are as follows:

For 2016

Hookstone Road CSO, Harrogate – pollution occurrences on 31/08/2016**,** 01/09/2016 to 02/09/2016 and 10/11/2016 to 11/11/2016.

Event summary:

Complete blockage of throttle pipe in CSO, scaffold board found blocking sewer. Investigations revealed telemetry was not working from 17/08/2016 and a large amount of debris was found in the detention tank upstream of the throttle which suggested cyclical cleaning work in place was not sufficient.

Key actions to prevent a reoccurrence:

The telemetry system functioning correctly across our asset base is vitally important to identify incidents early. At Hookstone Road, a fixed line telemetry system was installed following this incident to increase reliability and to allow it to be "polled" at any time to gather asset data rather than waiting for a daily dial in. Adjustments to the number of sensors have also been made so that we can identify partial blockages in the throttle which was not possible prior to this incident.

With regard to cyclical maintenance the visit frequency was changed at this asset from twice to four times a year. The task list for this maintenance was also reviewed.

For 2017

Dale Road, Drighlington, Bradford – incident occurred on 08/11/2017

Event summary:

Burst on the rising main in an unmapped valve chamber to the rear of the sewage pumping station. Yorkshire Water were first alerted by a farmer at 12:10 on 08/11/2017 and we were on site by 13:15 with the discharge stopped by 14:30 by switching the pumps off and utilising tankers. Subsequent investigations have found that the chamber where the burst occurred was created to facilitate replacement of riser pipework in the SPS. The pipework in the

chamber was not properly supported and on completion of the work the chamber was not mapped and a maintenance plan had not been setup.

Key actions to prevent a reoccurrence:

The lesson learned is the need for a better governance procedure around changes made to assets and to ensure any changes are mapped on the Yorkshire Water system as a matter of course. We are currently rolling out Management of Change processes in operations which will give tighter control around asset changes.

The rising main affected by this burst was due for replacement due to being asset life expired. The outcome of this incident was increased funding to accelerate the programme of capital replacement of rising mains.

<u>Ingbirchworth Water Treatment Works, Barnsley (Clean Water Treatment Works)</u> – incident occurred on 28/11/2017.

Event summary:

Yorkshire Water were made aware by the EA at 16:30 of a report of pollution on Scout Dike downstream of the Water Treatment Works. Chlorine residual readings were found in the watercourse and by 20:00 a spill from a clean water backwash had been identified.

Investigations since have found that there was a failure of an inlet valve on the tank on 01/11/2017 which meant it was sticking and not allowing the tank to fill. This was responded to remotely by the Yorkshire Water control room and opened and put in manual to the normal level to allow the tank to fill as normal. Due to a breakdown in communication, the operational team were not aware that the valve had been placed in manual and therefore the tank eventually filled and overflowed into site drainage and into the watercourse starting on the morning of 2/11/2017. The alarm point was setup on the valve itself rather than a high level on the tank which meant the overflow went unnoticed.

Key actions to prevent a reoccurrence:

An alarm point has now been setup on the tank so that if the same situation was to occur again a high level alarm would be received – checks on this have also taken place on other tanks at this site and across the asset base. It was also noted during the investigation that the site drainage was incorrectly mapped and it has been arranged to correctly map this drainage.

A company wide project is commencing on all assets to ensure site drainage plans are up to date and include any changes on site.

3.9.3. Compliance with Environment Agency/National Resources Wales statutory requirements

For Block C in App31 – Compliance with Environment Agency/National Resources Wales statutory requirements, we have provided data as required on pollution incidents, discharge permit compliance, satisfactory sludge use, and prosecutions and enforcement undertakings from the EA.

Definitions for the fields are set out in the EA Environment Performance Assessment methodology. The data for lines 7 through to 10 are reported for calendar year, not financial year.

For lines 7 and 8 - category 1, 2 and 3 pollution incidents for wastewater only.

The data includes pollution events from Transferred sewers for each year.

Data provided is consistent with the EA's MD109 Report or End of Year Report for 2017-18 report year. For 2017-18 we have one additional incident in our reported numbers, included here, compared to the current End of Year report received from the EA. We have asked for an updated report but this has not yet been received. We are aware that EA's NIRS system has been updated and aligns with the figures we are reporting here.

The data is as per the EA EPA methodology (Nov 2017) - the total number of pollution incidents as recorded in EA NIRS database. It should be noted that the pollution numbers reported in App31 do not match the numbers reported in App5 on performance commitments. The Yorkshire Water PR14 performance commitment on pollution uses a different definition and excludes continuous discharges as pollution incidents.

The forecast figures are from the Yorkshire Water upper quartile plans. These pollution incident figures are copied into PR19 data table WWS18.

Throughout the 2015-20 period we have been targeting our investment to minimise environmental pollution from our assets   Further investment has been allocated to not only meet our PR14 performance commitment service levels, but to target upper quartile performance by the end of the first year of AMP7. Our investment plans to target upper quartile performance for pollution have been assured by Halcrow to ensure our plans are both affordable and deliverable.

As part of our plan to target upper quartile pollution performance we have increased the level of repair and maintenance on our sewer network as well as adding additional telemetry to our sewer network to allow us to target failing assets before they impact the environment by spilling and therefore polluting. This additional £33m of investment has been funded from outperformance in other areas of the wholesale wastewater programme.

Line 9 – discharge permit compliance (DPC)

Discharge Permit Compliance data from the EA Annual Performance Report for Yorkshire Water 2017/18 (FINAL). Section 2i) Permit compliance at Water and Waste Water Treatment Works details our DPC performance with the sector average.

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This covers actuals by calendar year to the end of 2017. The forecast years percentage of failing works have been derived from the number of forecast failing works divided by the expected number of works over 2 years.

2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19 (forecast)	2019-20 (forecast)
Annual Outturn performance (where available)						*Forecast*	
9	7	3	4	9	7	6	5

The works counts for 2018 and 2019 are 314, this drives forecast % DPC of 98.1% and 98.4% respectively.

Line 10 – Satisfactory sludge use / disposal

This line includes the data for satisfactory sludge use and disposal. Our performance is 100% actual and agrees to our forecast. Details of sludge compliance is also presented in the APR under table 4E.

Our compliance position has been 100% since 2013-14 and forecast to remain at this level for the remainder of the 2015-20 period.

Line 11 – 13 - Prosecutions, enforcement and formal cautions by the EA

Data for these components of App31 have been provided by our Legal Services team

3.9.4. Compliance with DWI statutory requirements

For Block D in App31 - Compliance with DWI statutory requirements, we have had no DWI cautions and prosecutions under drinking water quality requirements to report over the period.

Therefore Lines 14 and 15 are a zero return.

3.9.5. Compliance with Ofwat regulatory requirements

For Block E in App31 - Compliance with Ofwat regulatory requirements, we have had no completed enforcement actions under WIA91 or competition law over the period.

Therefore Lines 16 and 17 are a zero return.

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3.10.   WS13 - PR14 wholesale revenue forecast incentive mechanism for the water service

Table WS13 contains the water service inputs used for populating the PR14 WRFIM model and the revenue adjustment arising as calculated by the WFRIM model. The WRFIM model calculates in outturn prices and is converted to 2017-18 prices in the revenue adjustments feeder model.

The inputs to the model are entered on the 'Data' worksheet. The inputs cover customer numbers, revenue collected and adjustments. The data includes results for six customer types and five years from 2015--20.

WS13 data has been audited by our external financial auditor Deloitte. The assurance statements from Deloitte is provided as part of the PR14 reconciliation submission.

We have submitted our populated WRFIM models with associated explanation.

The submission has been calculated using the model that was provided by Ofwat in line with the PR14 reconciliation rulebook.

Sources of inputs;

- 2015-16, 2016-17 and 2017-18: The total revenue governed by wholesale price control values have been taken from our published APR table 2I.

- 2018-19 and 2019-20: The forecast wholesale revenue recovered from households and non-households has been included in line with the anticipated revenues allowances for these years. Our tariffs for 2018-19 have been set to recover the revenue allowance and we have used 3.12% November RPI forecast for 2019-20, this also includes the wholesale revenue element of the WRFIM adjustment from 2017-18. We have used the forecast values for grants and contributions which are included within PR19 table App28.

These values are shown within section E of table WS13.

Adjustments to sources of inputs for modelling purposes.

Due to inconsistencies between the categories of revenue and capital contributions within the APR table 2I and PR19 tables (WS13), which we are asked to report by Ofwat, and those which were included within our wholesale revenue price controls at the Final Determination. This means that we must adjust the input information before it is modelled within the WRFIM calculation.

The table below shows the adjustments that we have made for table WS13, this is to remove s45 contributions that were not included within our price control in PR14:

Line description	Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
E	**Revenue recovered**										
15	Water: Unmeasured ~ household	CR581	£m	3	Outturn (nominal)		182.258	182.767	179.869	181.787	173.827
16	Water: Unmeasured ~ non-household	CR583	£m	3	Outturn (nominal)		1.070	1.131	1.074	1.002	0.991
17	Water: Measured ~ household	CR582	£m	3	Outturn (nominal)		116.394	124.261	131.598	141.686	159.634
18	Water: Measured ~ non-household	CR584	£m	3	Outturn (nominal)		99.835	100.613	101.853	105.700	113.381
19	Water: Third party revenue ~ household	W9008HH	£m	3	Outturn (nominal)		-	-	-	-	-
20	Water: Third party revenue ~ non-household	W9008NHH	£m	3	Outturn (nominal)		-	-	-	-	-
21	Water: Revenue collected from household and non-household	BR589	£m	3	Outturn (nominal)		399.557	408.772	414.395	430.176	447.834
22	Water: Grants and contributions	BC11274	£m	3	Outturn (nominal)		14.342	14.416	15.639	9.898	7.128
23	Water: Revenue recovered	W9014	£m	3	Outturn (nominal)		413.899	423.188	430.034	440.074	454.962
	Less: capital contributions for S45						(6.997)	(7.283)	(7.566)	(6.862)	(6.453)
E	**Revenue recovered - adjusted**										
15	Water: Unmeasured ~ household	CR581	£m	3	Outturn (nominal)		182.258	182.767	179.869	181.787	173.827
16	Water: Unmeasured ~ non-household	CR583	£m	3	Outturn (nominal)		1.070	1.131	1.074	1.002	0.991
17	Water: Measured ~ household	CR582	£m	3	Outturn (nominal)		116.394	124.261	131.598	141.686	159.634
18	Water: Measured ~ non-household	CR584	£m	3	Outturn (nominal)		99.835	100.613	101.853	105.700	113.381
19	Water: Third party revenue ~ household	W9008HH	£m	3	Outturn (nominal)		-	-	-	-	-
20	Water: Third party revenue ~ non-household	W9008NHH	£m	3	Outturn (nominal)		-	-	-	-	-
21	Water: Revenue collected from household and non-household	BR589	£m	3	Outturn (nominal)		399.557	408.772	414.395	430.176	447.834
22	Water: Grants and contributions	BC11274	£m	3	Outturn (nominal)		7.345	7.133	8.073	3.036	0.675
23	Water: Revenue recovered	W9014	£m	3	Outturn (nominal)		406.902	415.905	422.468	433.212	448.509

These adjusted inputs have been used within our published WRFIM model, they can be seen on the inputs tab, rows 36 and 37.

WRFIM modelling is calculated using the Ofwat published model, which can be found using the following link:

https://www.ofwat.gov.uk/publication/wrifm-pr14-reconciliation-spreadsheet-2/

Our reported performance for 2015-16, 2016-17 and 2017-18 have been included within our commentary for table 2I within our published APR.

Water		**2015-16**	**2016-17**	**2017-18**
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	6.220	4.204	2.988
% 2dp	% (under) / over recovered versus adjusted allowed revenue	1.55%	1.02%	0.71%

Waste		**2015-16**	**2016-17**	**2017-18**
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	1.182	1.971	(4.584)
% 2dp	% (under) / over recovered versus adjusted allowed revenue	0.24%	0.39%	(0.88%)

The modelling shows the following anticipated performance for 2018-19 and 2019-20.

Water		**2018-19**	**2019-20**
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	(8.750)	(12.402)
% 2dp	% (under) / over recovered versus adjusted allowed revenue	(1.98%)	(2.69%)

Waste		**2018-19**	**2019-20**
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	7.175	(2.112)
% 2dp	% (under) / over recovered versus adjusted allowed revenue	1.32%	(0.37%)

The underperformance within the Water WFRIM for 2018-19 and 2019-20 calculations is due to the anticipated reduction in capital grants and contributions, the model indicates that there should be a £21.5m reward that should be included within the PR19 table WS13.

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PR19 adjustment for WFRIM

As stated above the modelling output from the WRFIM model shows an anticipated reward of £21.5m for wholesale water and a penalty of £5.6m for wastewater. This is based on our current forecast for 2018-19 and 2019-20. These rewards and penalties are due to the forecast grants and contributions for 2018-19 and 2019-20. They are not due to any anticipated under or over recovery on wholesale revenue from household and non-household revenue, which we have forecast to be in line with allowed wholesale revenues.

As changes in grants and contributions are offset by changes within capital expenditure, we have amended the reward and penalty values to zero in WS13. When the model is updated with actual values for 2018-19, we will assess any impact due to actual wholesale revenue from households and non-household's values and adjust this to only reflect this element.

Therefore, the values of the adjustments for PR19 shown within section G of table WS13 only relate to the legacy correction from PR09 RCM and are shown as (£8.4m) for water and (£14.3m) for wastewater.

3.11. WS15 - PR14 wholesale total expenditure outperformance sharing for the water service

This table contains the water service inputs used for populating the totex menu model and the total outperformance / (underperformance) adjustments arising as calculated by the totex menu model. The totex menu model calculates in 2012-13 prices and the adjustments are converted to 2017-18 prices in the revenue adjustments feeder model and the RCV adjustments feeder model.

The submission has been calculated using the model that was provided by Ofwat in line with the PR14 reconciliation rulebook.

Sources of inputs;

- 2014-15, 2015-16, 2016-17 and 2017-18: The actual totex and adjustments to totex values have been taken from our published APR table 4B.

- 2018-19 and 2019-20: The actual totex forecast for these two years have been sourced from PR19 tables WS1(a) and WWS1(a), these are inclusive of the atypical expenditure in section D.

The adjustments to totex are all contained within the total of table WS1(a) and WWS1(a).

Adjustments to sources of inputs for modelling purposes

The actual totex numbers that were reported within table 4B of the APR for 2015-16 and 2016-17 included expenditure that was incurred in relation to the major floods that our region suffered on the 26 December 2016, however we were unable to report the insurance payment that we received in 2015-16 and 2016-17 within the totex tables.

This insurance payment was paid in two instalments, £10m in 2015-16 and £46m in 2016-17, we have included these two payments within the disallowable line within the sewerage inputs for 2015-16 and 2016-17.

	Line description	Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17
14	Sewerage: Disallowables	WWS15014	£m	3	Outturn (nominal)		10.000	46.000

Totex modelling is calculated using the Ofwat published model, which can be found using the following link:

'Totex-Menu-2016-05-17-change-log-removed'.

The forecast outperformance that we have calculated from the model is shown below:

<u>PR19 adjustment for Totex</u>**:** The underperformance in wholesale water results in the following PR19 adjustment:

Totex menu adjustments					
Water: revenue adjustment from totex menu model	WS15024	£m	3	2012-13 FYA (RPI)	3.338
Water: RCV adjustment from totex menu model	WS15025	£m	3	2012-13 FYA (RPI)	32.771
Water: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WS15026	£m	3	2017-18 FYA (CPIH deflated)	3.822
Water: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WS15027	£m	3	2017-18 FYA (CPIH deflated)	37.519

The over performance in wholesale Wastewater results in the following PR19 adjustment.

Totex menu adjustments					
Wastewater: revenue adjustment from totex menu model	WWS15019	£m	3	2012-13 FYA (RPI)	-5.599
Wastewater: RCV adjustment from totex menu model	WWS15020	£m	3	2012-13 FYA (RPI)	-57.505
Wastewater: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WWS15021	£m	3	2017-18 FYA (CPIH deflated)	-6.410
Wastewater: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WWS15022	£m	3	2017-18 FYA (CPIH deflated)	-65.837

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3.12. WS17 - PR14 water trading incentive reconciliation

This table contains the water service inputs used for populating the water trading incentive reconciliation model and the incentive payments arising as calculated by the water trading incentive reconciliation model. The water trading incentive reconciliation model calculates in 2012-13 prices and is converted to 2017-18 prices in the revenue adjustments feeder model.

WS17 is a retrospective view of any new trades that we have put in place during AMP6. During the period, Yorkshire Water did not put any new trades in place and our resources position and forecast does not require any new WR trades. No neighbouring companies are requesting new trades and therefore, there is strong WR justification for not planning any new trades at this stage.

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3.13. WWS13 - PR14 wholesale revenue forecast incentive mechanism for the wastewater service

This table contains the wastewater service inputs used for populating the PR14 WRFIM model and the revenue adjustment arising as calculated by the WFRIM model. The WRFIM model calculates in outturn prices and is converted to 2017-18 prices in the revenue adjustments feeder model.

The submission has been calculated using the model that was provided by Ofwat in line with the PR14 reconciliation rulebook.

Sources of inputs;

- 2015-16, 2016-17 and 2017-18: The total revenue governed by wholesale price control values have been taken from our published APR table 2I.

- 2018-19 and 2019-20: The forecast wholesale revenue recovered from households and non-households has been included in line with the anticipated revenues allowances for these years. Our tariffs for 2018-19 have been set to recover the revenue allowance and we have used 3.12% November RPI forecast for 2019-20, this also includes the wholesale revenue element of the WRFIM adjustment from 2017-18. We have used the forecast values for grants and contributions which are included within PR19 table App28.

    These values are shown within section E of table WWS13.

Adjustments to sources of inputs for modelling purposes.

Adjustments have been made due to inconsistencies between the categories of revenue and capital contributions within the APR table 2I and PR19 tables (WWS13), which we are asked to report by Ofwat, and those which were included within our wholesale revenue price controls at the Final Determination.

This means that we must adjust the input information before it is modelled within the WRFIM calculation.

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The table below shows the adjustments that we have made for table WWS13, this is to remove the s104 third party revenue that was not included within our price control at PR14:

Line description		Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
E	**Revenue recovered**										
15	Wastewater: Unmeasured ~ household	CR881	£m	3	Outturn (nominal)		224.557	219.924	219.099	216.581	213.220
16	Wastewater: Unmeasured ~ non-household	CR883	£m	3	Outturn (nominal)		2.095	2.084	2.390	2.435	2.390
17	Wastewater: Measured ~ household	CR882	£m	3	Outturn (nominal)		151.394	163.965	174.000	193.549	217.583
18	Wastewater: Measured ~ non-household	CR884	£m	3	Outturn (nominal)		110.517	113.406	111.287	123.192	131.671
19	Wastewater: Third party revenue ~ household	S9008HH	£m	3	Outturn (nominal)		-	-		-	-
20	Wastewater: Third party revenue ~ non-household	S9008NHH	£m	3	Outturn (nominal)		-		1.798		
21	Wastewater: Revenue collected from household and non-househ	BR689	£m	3	Outturn (nominal)		488.563	499.379	508.575	535.757	564.863
22	Wastewater: Grants and contributions	BC11374	£m	3	Outturn (nominal)		7.322	8.229	8.104	14.369	5.781
23	Wastewater: Revenue recovered	S9014	£m	3	Outturn (nominal)		495.885	507.608	516.679	550.126	570.644

	Less: third party revenue - non household (s104)						-	-	(1.798)	-	-

Line description		Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
E	**Revenue recovered**										
15	Wastewater: Unmeasured ~ household	CR881	£m	3	Outturn (nominal)		224.557	219.924	219.099	216.581	213.220
16	Wastewater: Unmeasured ~ non-household	CR883	£m	3	Outturn (nominal)		2.095	2.084	2.390	2.435	2.390
17	Wastewater: Measured ~ household	CR882	£m	3	Outturn (nominal)		151.394	163.965	174.000	193.549	217.583
18	Wastewater: Measured ~ non-household	CR884	£m	3	Outturn (nominal)		110.517	113.406	111.287	123.192	131.671
19	Wastewater: Third party revenue ~ household	S9008HH	£m	3	Outturn (nominal)		-	-	-	-	-
20	Wastewater: Third party revenue ~ non-household	S9008NHH	£m	3	Outturn (nominal)		-	-		-	-
21	Wastewater: Revenue collected from household and non-househ	BR689	£m	3	Outturn (nominal)		488.563	499.379	506.777	535.757	564.863
22	Wastewater: Grants and contributions	BC11374	£m	3	Outturn (nominal)		7.322	8.229	8.104	14.369	5.781
23	Wastewater: Revenue recovered	S9014	£m	3	Outturn (nominal)		495.885	507.608	514.881	550.126	570.644

These adjusted inputs have been used within our published WRFIM model, they can be seen on the inputs tab, rows 36 and 37.

WRFIM modelling is calculated using the Ofwat published model, which can be found using the following link:

https://www.ofwat.gov.uk/publication/wrifm-pr14-reconciliation-spreadsheet-2/

Our reported performance for 2015-16, 2016-17 and 2017-18 have been included within our commentary for table 2I within our published APR.

Water		2015-16	2016-17	2017-18
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	6.220	4.204	2.988
% 2dp	% (under) / over recovered versus adjusted allowed revenue	1.55%	1.02%	0.71%

Waste		2015-16	2016-17	2017-18
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	1.182	1.971	(4.584)
% 2dp	% (under) / over recovered versus adjusted allowed revenue	0.24%	0.39%	(0.88%)

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The modelling shows the following anticipated performance for 2018-19 and 2019-20.

Water		2018-19	2019-20
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	(8.750)	(12.402)
% 2dp	% (under) / over recovered versus adjusted allowed revenue	(1.98%)	(2.69%)

Waste		2018-19	2019-20
£m 3dp	Over (+) / Under (-) recovery versus adjusted allowed revenue	7.175	(2.112)
% 2dp	% (under) / over recovered versus adjusted allowed revenue	1.32%	(0.37%)

The overperformance in 2018-19 and underperformance in 2019-20 within the Waste WFRIM calculations is due to the level of anticipated grants and contributions, the model indicates that there should be a £5.6m penalty that should be included within the PR19 table WWS13.

PR19 adjustment for WFRIM

As stated above the modelling output from the WRFIM model shows an anticipated reward of £21.5m for wholesale water and a penalty of £5.6m for wastewater. This is based on our current forecast for 2018-19 and 2019-20. These rewards and penalties are due to the forecast grants and contributions for 2018-19 and 2019-20. They are not due to any anticipated under or over recovery on wholesale revenue from household and non-household revenue, which we have forecast to be in line with allowed wholesale revenues.

As changes in grants and contributions are offset by changes within capital expenditure, we have amended the reward and penalty values to zero in WWS13. When the model is updated with actual values for 2018-19, we will assess any impact due to actual wholesale revenue from households and non-household's values and adjust this to only reflect this element.

Therefore, the values of the adjustments for PR19 shown within section G of table WWS13 only relate to the legacy correction from PR09 RCM and are shown as (£8.4m) for water and (£14.3m) for wastewater.

3.14. WWS13 - PR14 wholesale total expenditure outperformance sharing for the wastewater service

This table contains the wastewater service inputs used for populating the totex menu model and the total outperformance / (underperformance) adjustments arising as calculated by the totex menu model. The totex menu model calculates in 2012-13 prices and the adjustments are converted to 2017-18 prices in the revenue adjustments feeder model and the RCV adjustments feeder model.

The submission has been calculated using the model that was provided by Ofwat in line with the PR14 reconciliation rulebook.

WS15 and WWS15 - sources of inputs;

- 2014-15, 2015-16, 2016-17 and 2017-18: The actual totex and adjustments to totex values have been taken from our published APR table 4B.

- 2018-19 and 2019-20: The actual totex forecast for these two years have been sourced from PR19 tables WS1(a) and WWS1(a), these are inclusive of the atypical expenditure in section D.

The adjustments to totex are all contained within the total of table WS1(a) and WWS1(a).

Adjustments to sources of inputs for modelling purposes

The actual totex numbers that were reported within table 4B of the APR for 2015-16 and 2016-17 included expenditure that was incurred in relation to the major floods that our region suffered on the 26 December 2016, however we were unable to report the insurance payment that we received in 2015-16 and 2016-17 within the totex tables.

This insurance payment was paid in two instalments, £10m in 2015-16 and £46m in 2016-17, we have included these two payments within the disallowable line within the sewerage inputs for 2015-16 and 2016-17

	Line description	Item reference	Units	DPs	Price base	2014-15	2015-16	2016-17
14	Sewerage: Disallowables	WWS15014	£m	3	Outturn (nominal)		10.000	46.000

Totex modelling is calculated using the Ofwat published model, which can be found using the following link:

Totex-Menu-2016-05-17-change-log-removed

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The forecast outperformance that we have calculated from the model is shown below:

<u>PR19 adjustment for Totex</u>

The underperformance in wholesale water results in the following PR19 adjustment:

Totex menu adjustments					
Water: revenue adjustment from totex menu model	WS15024	£m	3	2012-13 FYA (RPI)	3.338
Water: RCV adjustment from totex menu model	WS15025	£m	3	2012-13 FYA (RPI)	32.771
Water: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WS15026	£m	3	2017-18 FYA (CPIH deflated)	3.822
Water: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WS15027	£m	3	2017-18 FYA (CPIH deflated)	37.519

The over performance in wholesale Wastewater results in the following PR19 adjustment:

Totex menu adjustments					
Wastewater: revenue adjustment from totex menu model	WWS15019	£m	3	2012-13 FYA (RPI)	-5.599
Wastewater: RCV adjustment from totex menu model	WWS15020	£m	3	2012-13 FYA (RPI)	-57.505
Wastewater: Totex menu revenue adjustment at 2017-18 FYA CPIH deflated price base	WWS15021	£m	3	2017-18 FYA (CPIH deflated)	-6.410
Wastewater: Totex menu RCV adjustment at 2017-18 FYA CPIH deflated price base	WWS15022	£m	3	2017-18 FYA (CPIH deflated)	-65.837

3.15. R9 - PR14 Reconciliation of household retail revenue

This table contains the inputs used for populating the household retail revenue reconciliation model and the revenue adjustments arising as calculated by the household retail revenue reconciliation model. The household retail revenue reconciliation model calculates in outturn (nominal) prices and is converted to 2017-18 prices in the revenue adjustments feeder model.

The submission has been calculated using the model that was provided by Ofwat in line with the PR14 reconciliation rulebook.

Sources of inputs;

- 2015-16, 2016-17 and 2017-18: Actual customer numbers and retail revenues collected have been sourced from our published APR table 2F. Reforecast customer numbers and the revenue sacrifice inputs have been sourced from our annual tariff setting model.

- 2018-19: Reforecast customer numbers, revenue sacrifice and forecast retail revenues collected have been sourced from our 2018-19 tariff model, which we used to set out 2018-19 tariffs.

- 2019-20: We have used a draft version of the 2019-20 tariff model to provide the reforecast customer numbers, revenue sacrifice and forecast retail revenues collected for 2019-20. This model is in early stages of the tariff setting process and is due to be audited in line with our annual tariff setting process.

No adjustments have been made to the inputs.

Retail household revenue modelling; This has been calculated using the Ofwat published model, which can be found using the following link:

https://www.ofwat.gov.uk/publication/household-retail-pr14-reconciliation-spreadsheet/.

	2015-16	2016-17	2017-18	2018-19	2019-20
Adjusted revenue control	59.25	61.06	62.68	64.54	66.43
Actual revenue	60.89	61.21	64.02	64.63	66.53
(over)/under recovery	(1.63)	(0.15)	(1.34)	(0.09)	(0.10)

The forecast impact of the over recovery in revenue is a penalty of £3.3m.

PR19 adjustment for retail household revenue. The penalty of £3.3m will be phased over the 2020-25 price control within the Retail household price control.

3.16. R10 - PR14 Service incentive mechanism

Ofwat require companies to forecast their SIM score in 2018-19 in their business plans because this impacts on companies' bill forecasts. Final results for 2018-19 will be available during PR19 to inform the application of the SIM high performance payments and poor performance penalties.

Ofwat require companies to forecast their SIM score in 2019-20 as this informs whether they have met their own performance commitments with reputational ODIs. The 2019-20 information will not be used to inform any financial incentives.

Companies are required to provide an estimate of their SIM high performance payment or poor performance penalty in their financial model.

Lines 1 to 8

All the information for these lines are taken from the "Ofwat SIM Calculator spreadsheet" that is used to complete Table 5b & 3D within the Annual Performance Reporting Data. They are then manually input into the relevant line in this table. See Table 5b Annual Performance Report Procedure for a comprehensive process summary of the data used to complete the "Ofwat SIM Calculator spreadsheet".

Block A - Lines 1, 2, 3 and 4

Ofwat's nominated research company and the Household Retail Team within Regulation carry out quality checks on interviews that have taken place to ensure that the answers reflect the customers response and that the interviewer has followed the correct procedure for carrying out and recording the interview. The scores of the respective qualitative survey's for the current reporting year are as provided by Ofwat's nominated research company.

Block A - Line 5

The qualitative score is calculated as follows:

$$[(S - LS) / (HS - LS)] * WS$$
where:

S = qualitative survey annual average score (unrounded).
LS = minimum survey score possible (set at 1).
HS = maximum survey score possible (set at 5).
WS = survey weighting (set at 75)."

Block B - Line 6

The information required for this table is externally assured through the annual reporting process by the technical auditor, currently Halcrow, and signed off by the responsible Tier 2 Data Manager.

The quantitative composite score is calculated as follows:

[(unwanted phone contacts x 1) + (written complaints x 5) + (escalated written complaints x 100) + (CCWater investigated complaints x 1000)] / (connected household properties /1000)"

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Block B - Line 7

The quantitative score is calculated as follows:

$$[1 - [(C - CL) / (CH - CL)]] * WC$$
where:

C = total contact score (see above).
CL = contact score minimum (set at 0).
CH = contact score maximum (set at 500).
WC = contact score weighting (set at 25)."

Block C - Line 8

The total annual SIM score is the addition of R10 lines 5 and 7.

Block D - Line 9

SIM high performance payment / (low performance penalty) revenue adjustment at end of period for retail. Output item from revenue adjustments model. The value entered is prior to profiling.