

IAP Technical Annex 3

Delivering outcomes for customers



1.SRN.OC.A1 – Definitions

Ofwat action	How we have responded
The company should provide further justification for discontinuing its PR14 Value for Money PC (7: Value-for-money). If sufficient justification for dropping the PC cannot be provided, the company should continue its PR14 Value for Money PC. Individual PC actions are set out in table 2.	Accepted: Plan updated

Our detailed response

In response to the Ofwat challenge, we have decided to reinstate the Value for Money PC. However, in order to aid comparability with other companies, we will align the survey methodology with similar surveys conducted by agencies such as the Institute of Customer Service. A full definition and targets for AMP7 are provided below.

We have updated APP1 line 43 to reflect these changes.

Our updated definition: Customer satisfaction with value for money (PR19SRN_RR07)

We make sure our bills are affordable for all our customers

Short definition

The proportion of customers that state they are satisfied with the value for money of water and sewerage services in their area. A measure of the value for money of services provided.

Measurement

The proportion of customers that state either 'very' or 'fairly' satisfied on a 5-point scale, as measured by CC Water's annual tracking report 'Water Matters'.

It combines a mean average score of the ratings:

- Satisfaction with value for money for water services; and
- Satisfaction with value for money for sewerage services

Mitigation / exceptions

There are no mitigations or exceptions.

Any other information relating to the performance commitment

None

Full definition of the performance commitment

Our PC c the proportion of customers who state they are satisfied with the value of money for the water and / or sewerage services in their area. Our measure is for Southern Water customer only.

This PC will be measured through an annual survey of customers that is run by CC Water (Water Matters). CC Water interview customers from across the country. Our measure will be for Southern Water customers only. CC Water currently interview 200 of our customers each year in this survey.

This PC will help us to ensure that we deliver value for money to all our customers across the broad range of services we provide.



Rationale for PC

Value for money is a key priority for our customers and this PC ensures it is a focus and a clear commitment to our customers to focus on the areas of most importance to them.

Our target

Our current performance is 65%, we aim to reach 80% by the end of AMP7 and to maintain that performance thereafter.

As data is due to be released for 2018 in May 2019 by CC Water, we recommend that we should review targets based on this additional data.

Long Term Targets

Our long-term ambition is to ensure that 80% of customers state satisfaction with value for money of their services – to represent a very strong majority and leading scores across WASCs.

Final Target Profile

Our final target profile mirrors our initial target.

	Actual	Forecast						
	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25
Satisfaction with value for money of water services (%)	65	68	72	73	74	75	76	78
Satisfaction with value for money of sewerage services (%)	70	72	74	76	77	78	79	81
	AMP6			AMP7 Targets				
Average satisfaction with Water and Sewerage services (%)	68	70	73	75	76	77	78	80

Outcome delivery incentive

This is a reputational measure with no associated ODI, because:

- It is a wide-ranging measure that is based on customer perceptions, and can be influenced by several external factors (such as industry coverage in the media)

2.SRN.OC.A2 – Performance reporting

Ofwat action	How we have responded
The company should consider what performance reporting it will provide for customers beyond its annual performance report, including providing contextual information, to increase the impact of its Outcome Delivery Incentives (ODIs) on its reputation.	Further information provided

Our detailed response

Currently, our Annual Performance Report is published annually, and we upload a PDF version of the report we submit to Ofwat to our website. In addition, we create an interactive summary which makes information more accessible to our customers and stakeholders - showing simplified performance data that allows users to dive into further detail as required, allowing them to tailor the information to focus on what’s most relevant to them. This interactive summary provides “at a glance” highlights of our performance data and then provides additional contextual information. This contextual information includes campaigns, press releases, how to videos and so on, and can be found at <https://annualreport.southernwater.co.uk/>.

Within the same section of our website, we also provide a direct link to the Discover Water website, which provides interactive reporting and enables customer to look at comparisons across the industry and other water companies.

Our current approach was designed using insight and looking at best in class reporting by water providers.

We believe this current approach already provides significant transparency to customers and presents the information in a very accessible way. We want to build on this and enhance our reporting in AMP7. Our customers have told us that they want us to communicate our performance in a clear, simple way. We are working with customers to co-create our future reporting, recognising that such transparency is key to helping build and maintain the trust of our customers and stakeholders.

Ahead of our 2018-19 annual performance report we will continue to evolve the visualisation and interactive summary to maximise engagement and tailoring of the data to the audience. This will enable us to share ODI performance in a more transparent way, increasing the impact this has on our reputation. We will also continue to clearly signpost Discover Water, so that customers can have easier access to relevant comparative information.

Through 2019, we are working with customers to co-create an online dashboard which provides key information in a clear, timely and transparent way – putting the customer first in allowing them to drive the direction. The content, format and frequency of this will all be co-created through using one of our Customer Action Group panels. *OC.A2.Table 1 – Performance reporting co-creation process* below sets out the process we are going through with customers.

OC.A2.Table 1 – Performance reporting co-creation process

Aspect	Description
Content	<ul style="list-style-type: none"> ■ A group of 25-30 customers from across the region will come together through an online community and review best practice dashboard reporting from within and outside the water sector, as well as reviewing our monthly performance reporting to the Board. These will be used to help customers understand the different data available and co-create the optimum dashboard for them. ■ To bring greater relevance to our customers, this dashboard will also look at bringing other elements we currently provide to customers (such as reservoir, groundwater and rainfall levels, as well as Beach buoy which provides up-to-date information on water quality in our area). This is because we know that many of these areas are of interest to customers, so presenting them in one place provides greater contextual information, higher engagement levels and therefore greater transparency on our performance, which in turn helps to improve our reputation.
Format	<ul style="list-style-type: none"> ■ We will explore with customers the contextual information needed, to ensure that we are communicating simply and clearly what customers want to see. This would include looking at what previous performance data we might provide (such as the previous month / quarter / year’s performance, targets, forecasts) and other information customers see in the review across the industry. ■ Customers will review the proposed structure of the dashboard, including whether it is through an online summary, visual data, tables or graphs to build a best in class format.
Frequency	<ul style="list-style-type: none"> ■ Through our co-creation process, customers will drive the frequency of our updates which could be monthly, quarterly or bi- annually to improve transparency, but created in a way that works for customers.

Towards the end of 2019 our Customer Action Group panel will reconvene to review prototypes of the online dashboard and revisit the 2018-19 interactive performance summary on our website to review and inform the final design before launch.

Throughout this programme we will work with our CCG on the research approach and insight to ensure we deliver enhancements that will provide the insight needed to ensure our dashboard is transparent and helping to increase our reputation with our customers.

3.SRN.OC.A3 – ODI rates

Ofwat action	How we have responded
<p>The company should consider the ODI rates proposed and provide further evidence, either from its own customer base or wider industry studies, to demonstrate that the marginal benefit estimates used are reflective of its customers' preferences and valuations, or conduct further engagement to develop triangulated ODI rates that are based on a broader range of customer evidence.</p> <p>In cases of rejection or revisions to enhancement expenditure or a cost adjustment claim, the company should consider the implications, if any, for the associated level of the PC and ODI incentive rates proposed, and provide evidence to justify any changes to its business plan submission.</p> <p>In cases where a scheme will no longer be undertaken, the company should consider the removal of the associated scheme- specific PC.</p> <p>The company should provide further evidence to detail the estimation of forecast efficient marginal costs within its ODI rate calculations, in line with our PR19 Final Methodology. In particular, the company should provide evidence to demonstrate how these marginal cost estimates relate to the cost adjustment claims or enhancement expenditure proposed by the company.</p>	<p>Accept: Plan updated</p>

Our detailed response

Providing a transparent approach to triangulation

As part of our initial business plan submission we outlined our approach to triangulating data from multiple sources to derive incremental benefits. As we set out in *Technical Appendix 6.1* of our business plan (*BP_Ta6.1_Our Approach to PCs and ODIs_pg. 22*), the ODI research provided a clear view on customers' absolute willingness to pay for ODI outperformance payments (and underperformance payments) (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*).

We acknowledged in *BP_TA 6.1_Our Approach to PCs and ODIs_pg. 22* that taking this data directly led to incentive rates that were out of line with our initial Willingness to Pay (WTP) studies as well as ODI rates from PR14. To ensure we set incentive rates in line with customer preferences and valuations, we considered a range of evidence but ultimately concluded that our ODI research was the most complete and suitable source of data for setting ODI rates. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*)

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions). We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to triangulation of ODIs.

In line with the CCWater guidance we have looked to develop an approach which:

- Is suitably flexible to the different needs of each ODI
- Requires us to be open about contradictions in the data we have used
- Is driven by the data – to avoid confirmation biases

We have also looked to bring greater transparency to our triangulation, and to develop a consistent approach to deliver this transparency. As such, we have outlined our revised our approach in *OC.A3.Figure 1 – Approach to triangulation of customer data and industry benchmarks* below (*OC.A3.Figure 1 - Approach to triangulation of customer data and industry benchmarks*).

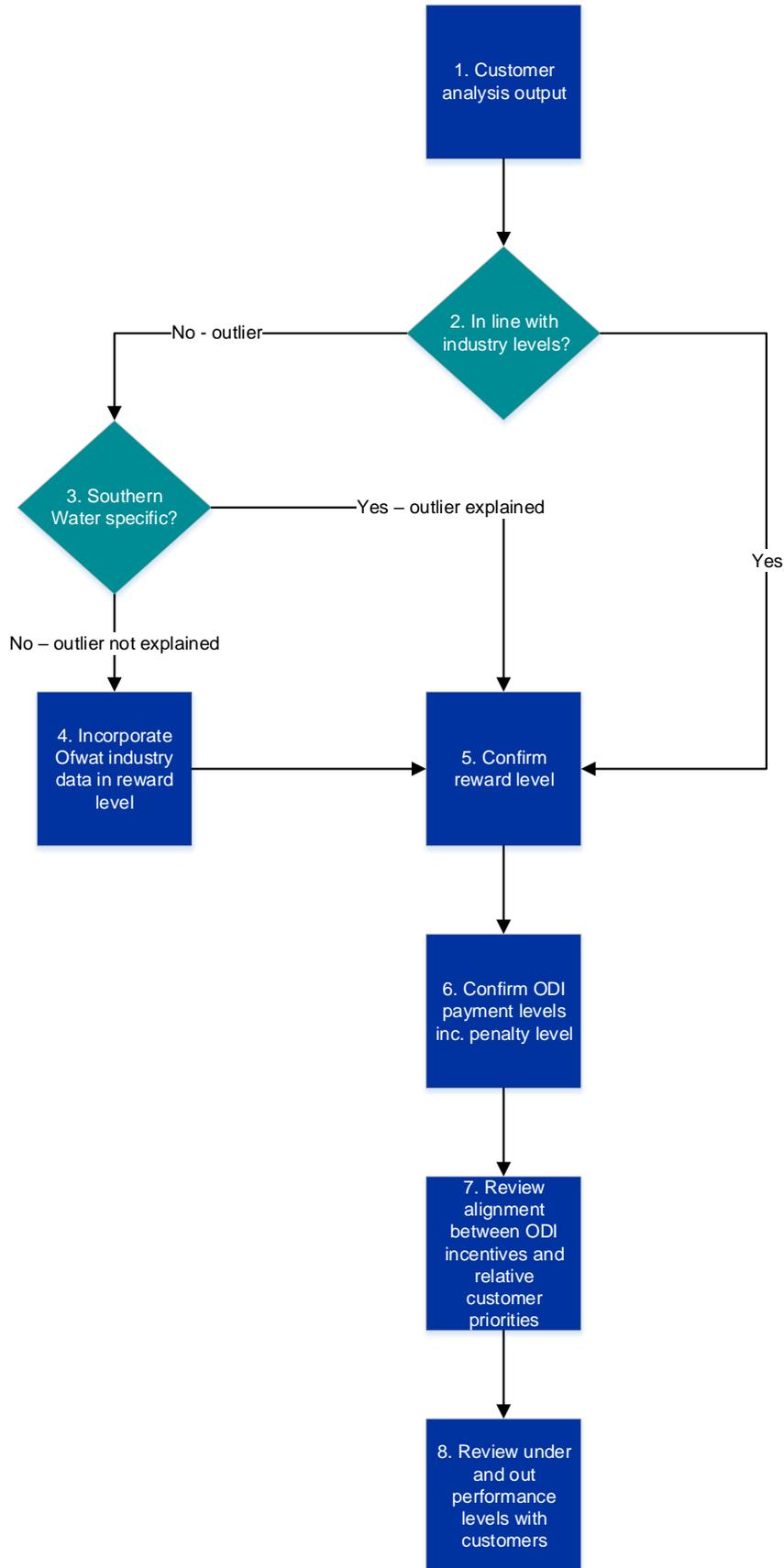
Our objectives in revising our approach were to:

- Create a robust and well evidenced set of ODI incentive rates
- Provide transparency in how we have reached the proposed ODIs
- Develop a set of rates which are clearly driven and supported by our customers' preferences and valuations
- Ensure that our ODI rates can be explained with reference to the rest of the sector (i.e. either our rates are in line with industry evidence, or there is a credible explanation for having significantly different values in our region)
- Follow a best practice approach to triangulation

Triangulation Approach

The approach we developed and have followed is shown in *OC.A3.Figure 1 – Approach to triangulation of customer data and industry benchmarks*. This approach has been followed to identify the incentive rates for all ODIs with a financial outperformance incentive. We have not used this approach to triangulate penalty-only ODIs as the levels are primarily driven by cost rather than customer willingness to pay. For the same reason, we did not apply the framework to ODIs associated with a Cost Adjustment Claim.

OC.A3.Figure 1 - Approach to triangulation of customer data and industry benchmarks



Notes on approach

Step 1: Customer analysis output

Customer valuations were obtained from our ODI customer research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*) and Willingness to Pay studies (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11*). The outputs from these two sources (where both are available) are combined to give a single view of the incentive rate. Where we have combined data from the ODI research and WTP studies we have weighted the ODI data at 66.6% and the WTP data at 33.3% (see box below for rationale).

We note that the WTP research was undertaken at an early stage of our business plan development and did not cover all areas covered by the ODIs. In instances where no WTP data was available, we have taken forward the ODI data alone. There are also two instances where incorporating the WTP data would materially skew the result. In these exceptional circumstances, we have not included the WTP data in our initial rates. (See “Exceptions” below).

Combining our customer research sources.

In our analysis to support our September business plan, we undertook two significant pieces of customer research – the ODI Reward Incentive Rate analysis and the Willingness to pay analysis.

While both pieces of analysis provide clear insight into customers’ willingness to pay, we believe that the ODI research gives a more suitable and robust indication of our customers’ valuations. This is because:

- The ODI data is more recent than the WTP analysis, giving a more accurate representation of our customers’ current viewpoint
- The research was explicitly undertaken to elicit customers’ willingness to pay for under/outperformance of the stretching service levels included within our plan
- The ODI data covered a wider range of the ODIs than was covered in the WTIP analysis, giving greater confidence in the overall suitability of the ODI analysis
- The ODI analysis provided customers with greater clarity on the approach followed; the outputs obtained driving greater understanding than the WTP approach which is more ‘black box’

As part of the first step in the triangulation approach, we have looked to incorporate data from both pieces of research wherever possible. As part of this exercise, we considered a number of different approaches to combine the different data points, including:

- Using absolute Willingness to Pay levels
- Weighting by number of respondents
- Weighting by confidence level

Where multiple data points exist, we pursued the final option – weighting the data based on our relative confidence level. This choice was driven by the greater confidence held in the ODI data. Considering the above, and our experience, we have weighted the ODI data 66.6% and the WTP data 33.3% in order to achieve a single data point to take forward to the 2nd stage of the triangulation approach (comparison against industry levels).

Step 2: In line with industry levels?

The combined customer research is compared with the industry levels provided by Ofwat in *Technical Appendix 1: Delivering outcomes for customers*. In order to provide this comparison, the output provided by Step 1 is converted to an incentive rate, rather than the incremental benefit level. Comparing with industry levels provides an indication of the appropriateness of the proposed incentive rates. Incentive rates which sit within the Ofwat ranges are taken forward. Those which sit outside the Ofwat ranges are considered outliers. If no range exists for the ODI, we move to Step 5.

Step 3: Southern Water specific?

While industry benchmarks provide a clear indication of outliers, it is possible that our customers have different expectations to customers across the country. Where an outlier is driven by such anomalies we need to identify these and explore them. As such, for all ODIs sitting outside the Ofwat ranges we have explored whether there is a clear reason why Southern Water would be likely to be an outlier. We have not identified any such cases.

Step 4: Incorporate Ofwat industry data in outperformance rate

For those ODIs which have outlier outperformance rates which cannot be explained by Southern Water specific reasons we have included the Ofwat median (or mean where no median is given) into our rate. We have included the average level to avoid the risk of distortions from company-specific factors within the data. We have weighted the Ofwat data point at 33.3% of the overall rate, so that the majority of the incentive rate is based on Southern Water customer research.

Step 5: Confirm outperformance rates

Steps 1-4 define the reward level for each ODI. We have made no other adjustments. *OC.A3.Table 2 – Summary of implemented approach to triangulation by ODI and SRN*. *OC.A3.Table 3 – Penalty-only ODIs* below shows the results for each step of the analysis.

Step 6: Confirm ODI levels including underperformance rates

We use the outperformance rates established above in conjunction with our forecast efficient marginal costs to set the underperformance rate, using Ofwat's standard formula.

$$ODI_{underperformance} = Incremental\ benefit^{20} - (incremental\ cost \times p)$$

$$ODI_{outperformance} = Incremental\ benefit \times (1 - p)$$

(Relevant inputs and outputs are provided in App1a table)

Step 7: Review alignment between ODI incentives and relative customer priorities

Once the incentive rates have been calculated, we cross-check the proposed rates against our triangulated relative customer priorities (see BP_Ta4.3 Triangulation of customer priorities for details).

Step 8: Review under and out performance levels with customers

Our final step was to test the revised ODIs with customers and stakeholders to ensure they aligned with their priorities.

Exceptions

CCWater’s document highlighted the importance of having an approach that is able to flex for each ODI. While we tried to follow a consistent approach to triangulation of ODI rates, we have flexed the approach where appropriate. Across the range of ODIs there are two exceptions which are outlined in *OC.A3. Table 1 – Exceptions around use of customer insights* below.

OC.A3. Table 1 – Exceptions around use of customer insights

Exception area	Explanation
Per Capita Consumption (PCC) (PR19SRN_WR01)	The WTP research provided an indicative incentive rate which was four times smaller than the median value for other companies and outside the range published by Ofwat. Its inclusion would have resulted in us having a lower incentive rate (both out- and under-performance) than other companies’ in an area which our customers tell us is important to them. We have not included the WTP research in the calculation of the incentive rate for this ODI.
Renewable Generation (PR19SRN_BIO01)	The WTP research provided an indicative incentive rate which was almost six times higher than that obtained from the ODI research (<i>BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3</i>). This would have resulted in this being one of our largest ODIs (by overall size of penalty/reward) despite it being a ‘Low’ relative customer priority. We have not included the WTP research in the calculation of the incentive rate for this ODI.

OC.A3. Table 2 – Summary of implemented approach to triangulation by ODI shows the application of the triangulation approach to each ODI and the impact on outperformance and underperformance rates.

As noted above, we have not re-triangulated our penalty-only ODIs as the rates are primarily driven by cost rather than customers’ willingness to pay. These are shown in *OC.A3. Table 3 – Penalty-only ODIs* below. ODIs associated with a Cost Adjustment Claim were also not put through the triangulation.

OC.A3.Table 2 – Summary of implemented approach to triangulation by ODI

ODI	Data points included			Outperformance incentive rates			Underperformance incentive rates			Comment
	ODI	WTP	Ofwat	BP	IAP	Within range?	BP	IAP	Within range?	
Leakage	✓	✓	✓	0.177	0.211	Yes	-0.197	-0.265	Yes	ODI and WTP provides outlier – include Ofwat data and output in range
Per capita consumption (PCC)	✓			0.178	0.178	Yes	-0.196	-0.178	Yes	Exception – WTP not used but ODI within range
Drinking water appearance	✓			5.97	5.427	No Range	-11.69	-10.627	No Range	No WTP data or range for comparison
Drinking water taste & odour	✓	✓		12.846	14.579	No Range	-12.846	-15.925	No Range	ODI and WTP combined, no range for comparison
Effluent re-use	✓			0.0002	0.0002	No Range	0	0	No Range	No WTP data, no range for comparison
Renewable generation	✓			22.0963	21.044	No Range	-44.1927	-42.088	No Range	Exception – WTP not used
Abstraction Incentive Mechanism	✓			0.485	0.511	No Range	-0.603	-0.634	No Range	No WTP data or range for comparison
Improve the number of bathing waters to at least “Good”	✓	✓		3.132	2.382	No Range	-2.688	-1.852	No Range	ODI and WTP combined, no range for comparison
Access to daily water consumption data	✓			0.00000 4	0.00000 4	No Range	0	0	No Range	No WTP data or range for comparison
Improving the bathing water at excellent quality	✓	✓		1.566	1.191	No Range	-1.374	-0.683	No Range	ODI and WTP combined, no range for comparison

Response to IAP

Annex 3 – Delivering outcomes for customers

ODI	Data points included			Outperformance incentive rates			Underperformance incentive rates			Comment
	ODI	WTP	Ofwat	BP	IAP	Within range?	BP	IAP	Within range?	
Replace lead customer pipes	✓			0.000025	0.000025	No Range	0	0	No Range	No WTP data or range for comparison
Surface water management	✓			0.000084	0.000084	No Range			No Range	No WTP data or range for comparison
Water supply interruptions	✓	✓	✓	0.068	0.244	Yes	-0.068	-0.336	Yes	ODI and WTP provides outlier – include Ofwat data and output in range
Internal sewer flooding	✓	✓		5.039	5.557	Yes	-5.497	-5.557	Yes	ODI and WTP combined, within range
Pollution incidents (categories 1, 2 and 3)	✓	✓		0.323	0.296	Yes	-0.341	-0.315	Yes	ODI and WTP combined, within range
Asset Health: Mains bursts	✓			0.055	0.055	Yes	-0.078	-0.078	No	No WTP data, ODI within range. Due to the scale of our marginal costs, Ofwat's standard formula provides an under-performance incentive rate which is outside the Ofwat range
External sewer flooding	✓	✓	✓	0.004	0.0045	Yes	-0.008	-0.0068	Yes	ODI and WTP provides outlier – include Ofwat data and output in range
Void properties	✓			30.19	31.78		-30.19	-31.78	No Range	No WTP data or range. ODI research provides appropriate incentive
River water quality	✓			0.0456	0.0456	No Range	-0.3751	-0.3751	No Range	No ODI research data or range. But this IAP incentive rate is for year 3 see SRN.OC.A47 for more information

OC.A3.Table 3 – Penalty-only ODIs

ODI	Data points included			Outperformance incentive rates		Underperformance incentive rates			Comment
	ODI	WTP	Ofwat	BP	IAP	BP	IAP	Within range?	
Water quality compliance (CRI)	✓			-	-	-0.69	-0.628	Yes	Penalty Only – derived from our benefits and costs due to customers importance in this area
Satisfactory bioresources recycling				-	-	-41.667	-41.667	No Range	Penalty Only – cost based
Asset Health: Unplanned outage	✓			-	-	-53.304	-89.558	Slightly outside range	Penalty Only - derived from our benefits and costs due to customers' importance in this area. Changed approach to be closer to Ofwat range . See SRN.OC.A32.
Asset Health: Sewer collapses				-	-	-2.944	-0.741	Yes	Penalty Only – cost based
Asset health: treatment works compliance				-	-	-1640	-1000	Yes	Penalty Only – cost based
Maintain Bathing waters at Excellent				-	-	-0.45	-0.45	No Range	Penalty Only – cost based
Properties at risk of receiving low pressure				-	-	-0.002	-0.002	No Range	Penalty Only – cost based

Cost Adjustment Claims

Our business plan included three cost adjustment claims (CACs) each of which had associated customer protection ODIs.

In this response we have deleted the ODI relating to our Whitfield Growth CAC, which we have removed from our plan. We have two remaining cost adjustment claims, relating to Bathing Waters and Thanet sewers.

The bathing waters CAC has two associated penalty-only ODIs (one for improving five bathing waters to 'Good' and one for improving two further bathing water to 'Excellent'). These are set at £10.6m in total, which represents the half of the value of the CAC which would not be return to customers through the totex sharing mechanism in the event of non-delivery.

With respect to the Thanet sewers CAC, we have identified the need to enhance the customer protection, through Ofwat's IAP feedback Cost Adjustment Claim Feeder Model Southern Water (SRN-WWN802001). As per this feedback we are now mirroring the outcome delivery incentive in AMP6, which protects customers against both non-delivery of and delay to delivery of the project. Details are set out below.

OC.A3.Table 4 – Project delivery

	2020-21	2021-22	2022-23	2023-24	2024-25
C					Delivered
Penalty collar					Not delivered

OC.A3.Table 5 – Incentive type and rates

Incentive type	Incentive rate (£m)
Penalty (non-delivery)	16.474
Penalty (delay)	2.833

Performance will be measured as a pass/fail at the expected scheme completion date of 31/03/2025.

The totex for this scheme is £32.948m. The penalty for non-delivery, following calibration with the totex efficiency sharing rate of 50%, is £16.474m.

We will apply a delay penalty in the event we do not forecast that we will deliver the project by 31/3/2025. This will be based on the WACC and run-off rate applied to the total spend of the project. For each year of delay, the penalty is (£33m * 2.4% (WACC)) + (£33m * 6.2% (run-off rate)) = £2.833m per annum.

If substantive progress towards delivery cannot be demonstrated at the end of AMP7, the full non-delivery penalty will apply. The penalty will be applied as an RCV adjustment, as per AMP6.

Forecast efficient marginal costs

To calculate incentive rates using Ofwat's standard formula, we require an estimate of the efficient marginal costs.

Our forecast efficient marginal costs are based directly on our assured AMP7 planned enhancement expenditure, to ensure they are the most efficient costs available. We first identify the relevant expenditure which is associated with the performance improvements. So, for example we identify those elements of

sewer network expenditure which are associated with the PCs for pollution, flooding and collapses. We then apportion the expenditure over the relevant set of PCs, based on analysis of the relationship between historic expenditure and performance improvements.

Next we divide the allocated expenditure by the assumed asset life of the investment to give an annualised incremental cost for the improvements to each PC. Finally, we divided the incremental cost for each PC by the planned AMP7 service improvement, to produce the marginal costs included in APP1 and used in the calculation of our ODI incentive rates.

For the IAP, we have reviewed the apportionment of our marginal costs for reasonableness. For the four performance commitments where we have changed our target (CRI, supply interruptions, internal flooding, pollution incidents) we have not adjusted our marginal costs, which we believe remain a reasonable estimate given the overall margin of error of these estimates. However, we have made changes to the marginal costs for sewer collapses and external flooding. As we were a significant outlier in our sewer collapses underperformance payment, we have re-allocated a small proportion of expenditure from sewer collapses to external flooding.

Table OC.A3. Table 6 – Marginal cost derivation below shows the derivation of the marginal costs for each of our PCs.

OC.A3. Table 6 – Marginal cost derivation

ODI	Allocated AMP7 costs (£000s)	Total AMP7 service improvement	Incremental costs (£000s)	Costs per household (£000s)	Cost source
Water quality compliance (CRI)	2,380	1.7	1.4	1.313	This is derived from a proportion of our enhancement expenditure attributed to our nitrate programme and our catchment management solutions program.
Leakage	4,968	15.8	0.314	0.295	This is derived from a large proportion of our leakage enhancement spend.
Per capita consumption (PCC)	5,806	11	0.528	0.495	This is derived from a proportion of our supply demand balance enhancement spend.
Drinking water appearance	207	0.456	0.454	0.426	This is derived from a small proportion of our water networks enhancement spend.
Drinking water taste and odour	768	0.029	26.467	24.826	This is derived from a small proportion of our catchment management solutions enhancement spend.
Abstraction Incentive Mechanism	11,612	15	0.77	0.726	This is derived from a proportion of our supply demand balance enhancement spend.
Water supply interruptions	41	0.3	207	0.284	This is derived from a small proportion of our water networks enhancement spend.

Internal sewer flooding	7,066	0.33	21.2	11.130	This is our full internal sewer flooding enhancement spend and a proportion of our outfalls enhancement spend.
Pollution incidents (categories 1, 2 and 3)	4,515	8.3	0.55	0.290	This is our full pollution enhancement spend and our full rising mains enhancement and a proportion of our outfalls enhancement spend.
Asset Health: Mains bursts	2,898	44.34	0.065	0.061	This is derived from a proportion of our water networks enhancement spend.
Asset Health: Unplanned outage	6,986	0.039	179.116	168.014	This is derived from a proportion of our enhancement expenditure attributed to our nitrate programme and our catchment management solutions program.
Asset Health: Sewer collapses	952	0.64	1.48	0.777	This is derived from a large proportion of our collapses spend, as we have now allocated a proportion of this to our external flooding PC.
External sewer flooding	6,226	1419	0.0044	0.002	This is derived from our full external flooding enhancement expenditure and the rest of the collapses enhancement spend.

In a small number of cases, we have derived our marginal costs from the total totex involved in the delivery of the commitment, for example from the costs associated with a Cost Adjustment Claim or from the total costs of the activity the PC is monitoring. This is because the majority of these are scheme based commitments.

OC.A3.Table 7 – Marginal cost derivation from totex

ODI	Total costs (£m)	Incremental costs (£)	Cost source
Maintain Bathing waters at 'Excellent'	31.5	0.9	This is driven from the costs of our AMP6 CAC.
Improve the number of Bathing waters to at least 'Good' (Cost Adjustment Claim)	21.25	3.7	This is derived from our AMP7 CAC for bathing waters, of which £18.251m is allocated for the five named bathing waters.
Improve the bathing waters at 'Excellent' quality (Cost Adjustment Claim)	21.25	1.365	This is derived from our AMP7 CAC for bathing waters, of which £2.730 is allocated for the two named bathing waters.
Thanet Sewers	33	16.5	This is derived from our AMP7 CAC for Thanet sewers.

Long-term supply demand schemes (include interconnectors)	135	1.35	This is a percentage of planned totex requirement. Further detail is provided in SRN.CE.A2
Large new water resources	89	0.89	This is a percentage of planned totex requirement. Further detail is provided in SRN.CE.A3
Satisfactory bioresources recycling	12.5	0.8333 per percentage point	There is no service improvement for AMP7. The MC is based on spend on digester refurbishment. If this is not completed there may be a large deterioration in our quality and thus the potential to dispose of non-compliant sludge.
River water quality	387	£0.750	This is based on the total AMP7 expenditure associated with WINEP, with the total costs being equivalent to £387 million.
Void properties	1.649	285 per percentage point	This is based on our unit cost of £10 for an additional out-of-cycle visit. (i.e. not blended with planned meter read activities). It covers the cost of the visit and back office transactional work.
Asset Health: Treatment works compliance	100	2,000	The incremental cost reflects the bespoke approach to developing the underperformance payment for this ODI, which reflects past performance failures.

Seven of our ODIs have no marginal costs associated with them. This includes all four of our reward-only ODIs, C-MeX and D-MeX, along with renewable generation, where the net costs will be zero, after accounting for energy cost savings.

4.SRN.OC.A4 – ODI deadbands, caps and collars

Ofwat action	How we have responded
<p>The company should provide further ODI- specific evidence to support its individual use of both caps and collars, whilst also considering how its use of these features aligns with its broader approach to customer protection. The company should reconsider its widespread application of collars to financial PCs and it should consider applying these features more selectively.</p> <p>The company's evidence for its individual caps and collars should include justification for the levels at which the cap and/or collar are set, and the company should explain why these levels are appropriate and in its customers' interests.</p>	<p>Accept: Plan updated</p>

Our detailed response

Ofwat expects companies to take steps to protect customers from extreme outcomes. In our September Business Plan, our approach to protection included the use of caps and collars and the implementation of a £5 limit on the change in an average water and sewerage bill due to ODIs between any two years (*BP_CH6_Our Package of PCs and ODIs_Pg79*).

Our overall approach to customer protections was deemed sufficient by Ofwat in the IAP, in particular our approach to smoothing customer bills, where we proposed a £5 limit. Further evidence, however, has been requested that explains the maximum outperformance payments that customers could be exposed to (see response *SRN.OC.A7*). In addition, our widespread use of caps and collars has been challenged by Ofwat.

We consider it important to make consistent decisions on collars and caps to maintain the overall balance of the incentive regime. In this response we first provide an overview of our approach in our September Business Plan to caps and collars, and then outline the process we have undergone in addressing the IAP feedback. We then continue on to consider the approach that we adopt to collars, before considering the implication for caps.

Our rationale for using caps and collars in our initial business plan submission was based on three aspects:

1. "In our ODI research our customers told us there was a maximum amount they were willing to pay on specific ODIs. Given our conclusions on the most appropriate interpretation of the research findings, we felt it would be directly contrary to our customers' preferences to allow for open-ended ODI outperformance payments, which could be well in excess of their willingness to pay. Caps have been applied at the maximum level customers are willing to pay.
2. To cap outperformance payments, but not underperformance payments would have led to a set of financial incentives that were unreasonably skewed to the downside.
3. Our qualitative ODI research clearly indicated that our customers were concerned about the possibility of ODIs leading to large variations in bills year-on-year. Open-ended ODI performance payments could lead to significant swings in bills, both up and down – potentially driven by exogenous factors - which our customers have clearly told us would not be welcome."

(*BP_Ta6.1_Our approach to PCs and ODIs*)

We do, however, recognise that our use of caps and collars in our September Business Plan was more widespread than other companies'.

Following the IAP, we have therefore undertaken further work on our approach to caps and collars, and have reviewed our approach in line with Ofwat’s feedback. We have also used other companies’ submissions to inform the development of our approach. This has enabled us to reduce the application of caps and collars across our ODI package, as per *OC.A4.Table 1 – Number of caps and collars across our ODI package* below.

OC.A4.Table 1 – Number of caps and collars across our ODI package

	September Business Plan	IAP
Number of Caps	20	12
Number of Collars	26	10

In developing our approach to caps and collars, our objective was to align our proposals as far as possible with Ofwat’s guidance, whilst also addressing the views and preferences of our customers. In addition, we wanted to ensure there are appropriate incentives in place to improve performance, whilst also protecting our customers from the consequences of any potential extreme variations in our performance.

We believe that this rigorous, robust approach to applying caps and collars across our ODI package provides a set of caps and collars that achieves our objectives.

Our approach to collars

We have reviewed our position on the widespread application of collars across our ODI package. Based on our review of Ofwat’s IAP documentation, consideration of other business plans and a review of our initial approach, we have developed a systematic approach to assessing the appropriate use of collars across our financial ODI package.

This approach identifies the ODIs with considerable uncertainty around them. This is in line with guidance in Ofwat’s *Technical appendix 1: Delivering outcomes for customers*:

“ We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis, where:

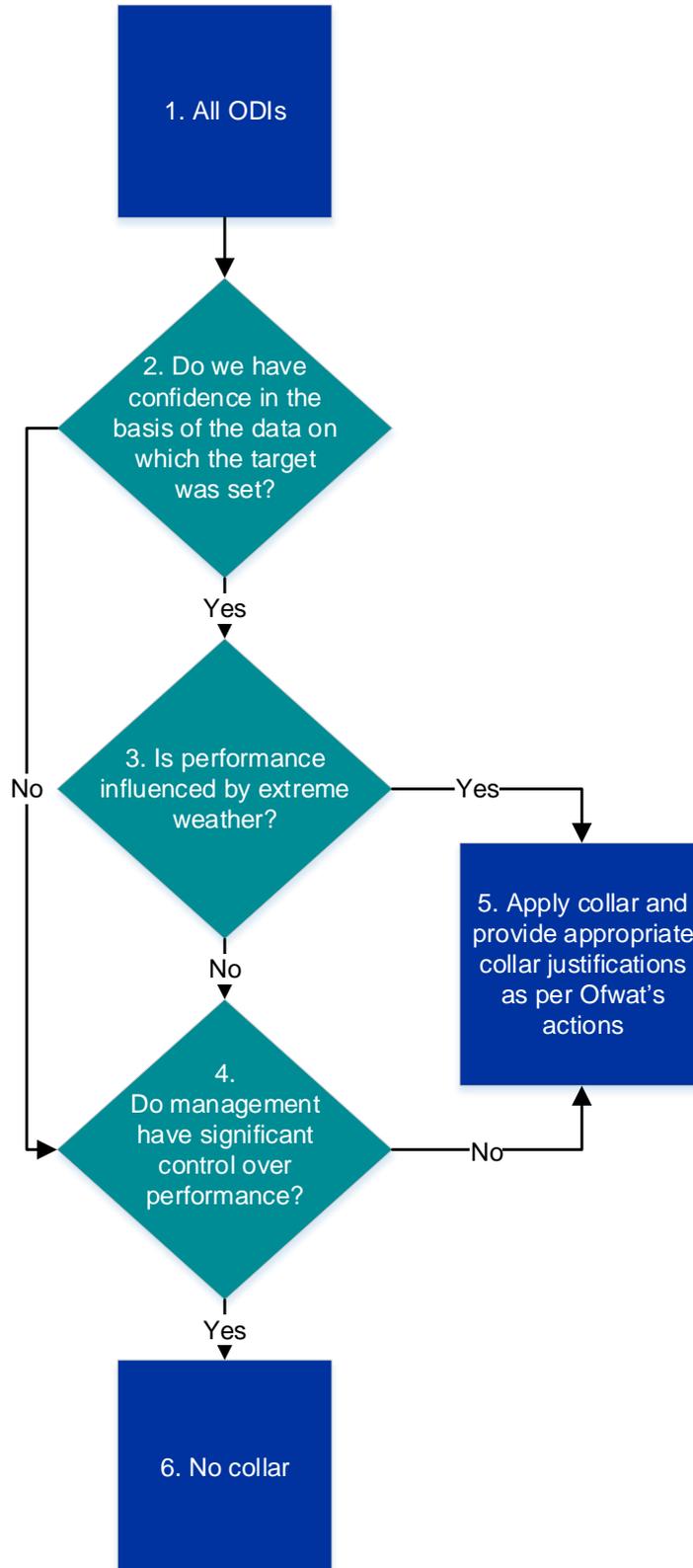
- P90 value is forecast to be at least 10% of the total P90s for either wastewater (wastewater “network plus” activities and bio-resources) or water (water “network plus” activities and water resources); or
- There is considerable uncertainty, e.g. where current industry data is likely to be unreliable or sparse. ”

Uncertainty in our ODI delivery can be driven by three things:

1. Uncertainties within the data on which the performance commitment targets are based, in particular where historic data is unreliable or sparse.
2. Potential variability in performance due to extreme weather events.
3. Degree of management control over performance.

As such, we have developed our assessment framework for ODI collars using these three factors, as illustrated in *OC.A4.Figure 1 – Our approach to assessing collars* below. We believe this approach is broadly in line with the approach taken by other WASCs to determining where to apply collars.

OC.A4.Figure 1 – Our approach to assessing collars



Notes on approach

Step 1. We start with an assumption that no ODI requires a collar, unless they are identified to require one using this assessment framework. As such, we looked to apply the process to all financial ODIs. The only exceptions are ODIs associated with cost adjustment claims (see Exceptions below).

Step 2. This step assesses the level of confidence we can place in the data used to determine the target being set. This could relate, for example, to a lack of robust historical data.

Step 3. This step is designed to determine how variable PC performance could be, due to extreme weather.

Step 4. This step is designed to understand the level of management control over the outcome. For example, where we are dependent on influencing customer behaviour or are dependent on other parties to deliver a PC, we may have less control. A collar should not be applied where management has significant control out of the outcome.

Step 5. For ODIs which have been identified as requiring a collar in line with the above approach we have provided an ODI specific justification to support the use of a collar

Step 6. No collars are applied to ODIs which are not identified by the process as requiring a collar

Exceptions

Cost adjustment claims are excluded from this collar assessment framework, as we need to ensure customers are protected in the event of non-delivery of a CAC. They also have a natural collar based on the value of the CAC.

In addition, we have excluded outperformance-only ODIs from this collar assessment framework, as the nature of these ODIs require the implementation of a cap (at the maximum level that customers are willing to pay).

Our approach to caps

In *Technical Appendix 1: Delivering Outcomes for Customers* Ofwat signalled that companies should put caps on financially significant PCs. As such, we have reviewed the magnitude of the P90 outperformance payments associated with each ODI and its size relative to the P90 outperformance payment estimates of other ODIs for the same price control. If any ODIs have a P90 outperformance payment which is at least 10% of the total P90s for either water or wastewater we have applied a cap.

To ensure that incentives remain balanced, we have removed outperformance caps for all PCs where we have removed underperformance collars (and which are not financially significant). Given our approach to determining whether collars are applicable or not, there is very little risk that this would lead to excessive outperformance payments, since we retain caps and collars for those measures which are most volatile. Furthermore, customers remain protected by the overall £5 cap on the annual bill movement.

As part of our approach to protecting customers from the consequences of any potential extreme variations in our performance, we have included a cap on all outperformance-only ODIs. The level of the cap is set at the P90 level, based on expert judgement and our benefit research, which set the maximum customers would be willing to pay for these ODIs (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*). This protects customers from exceeding the amount they are willing to pay for performance in these areas.

In addition we have assessed the uniqueness of our ODIs, and where ODIs are unique to Southern Water we have applied outperformance caps (see *SRN.OC.A7* for details).

Our responses to Ofwat's specific IAP actions on individual ODI caps are in the PC-specific responses.

Results of our assessment

OC.A4. Table 2 – Cap and collar assessment results below shows the answers to each of the questions illustrated in OC.A4. Figure 1 - Our approach to assessing collars for all eligible ODIs (i.e. excludes ODIs that are not linked to CACs, or only have an outperformance only element). It highlights where the assessment allowed or disallowed the use of a collar for each ODI, thus enabling us to propose a reduced, robustly identified, set of collars.

In line with our approach laid out above, we have included a cap on any ODIs for which the P90 outperformance payment represents at least 10% of the total P90 outperformance payment for the relevant price control (either wastewater or water controls; not retail), as laid out in SRN.OC.A7. We have also included caps on all ODIs which have a collar and have also included a cap on all outperformance-only ODIs as part of our approach to protecting our customers from the consequences of any potential extreme variations in our performance.

A brief comment is included on the outcome to show the key driver behind the application of a collar in the Comments column in OC.A4. Table 2 – Cap and collar assessment results, and further ODI-specific evidence and rationale for the use of collars can be found in the PC-specific responses where the collar remains (see Action reference column to find appropriate response).

We have updated APP1 in line with the below.

OC.A4. Table 2 – Cap and collar assessment results (not including non-financial ODIs, CACs or out-performance-only ODIs)

ODI	Confident about basis of target?	Performance influence by extreme weather?	Within management control?	Financially Significant	Collar/No Collar	Cap/No Cap	Comments	Action reference (where applicable)
Water quality compliance (CRI)	N	N	Y	N	Collar	No cap	Ofwat has specified a common collar for CRI	SRN.OC.A9
Leakage	Y	Y	-	Y	Collar	Cap	Performance is heavily influenced by extreme weather events as evidenced by the freeze / thaw event of 2018.	-
Per capita consumption (PCC)	Y	N	N	N	Collar	Cap	Management control is constrained by the reliance on influencing customer behaviour to deliver the target.	-

ODI	Confident about basis of target?	Performance influence by extreme weather?	Within management control?	Financially Significant	Collar/No Collar	Cap/No Cap	Comments	Action reference (where applicable)
Drinking water appearance	Y	N	Y	N	No collar	No cap	-	-
Drinking water taste & odour	Y	N	Y	Y	No collar	Cap	P90 payment > 10% of water ODIs	-
Renewable generation	Y	N	Y	N	No collar	No cap	-	-
Satisfactory bio-resources recycling	Y	N	Y	N	No collar	No cap	-	-
River water quality	Y	N	Y	Y	No collar	No cap	No cap implemented, as natural cap exists based on WINEP3 programme	SRN.OC.A48
Abstraction Incentive Mechanism	Y	N	Y	N	No collar	No cap	-	-
Maintain Bathing Waters at Excellent	Y	Y	-	N	Collar	No cap	Performance is heavily influenced by extreme weather events such as storms	SRN.OC.A52
Void properties	N	-	Y	N	No collar	No cap	-	-
Water supply interruptions	Y	Y	-	Y	Collar	Cap	Performance is heavily influenced by extreme weather events as evidenced by the freeze / thaw event of 2018.	SRN.OC.A16

ODI	Confident about basis of target?	Performance influence by extreme weather?	Within management control?	Financially Significant	Collar/No Collar	Cap/No Cap	Comments	Action reference (where applicable)
Internal sewer flooding	Y	Y	-	Y	Collar	Cap	Extreme rainfall events can have a significant impact on performance due to overloading of sewers.	SRN.OC.A19
Pollution incidents (categories 1, 2 and 3)	Y	Y	-	Y	Collar	Cap	Extreme rainfall events can have a significant impact on performance due to overloading of sewers.	SRN.OC.A23
Asset Health: Mains bursts	Y	Y	-	Y	Collar	Cap	Performance is heavily influenced by extreme cold weather events, which can result in bursts from ground movements.	SRN.OC.A29
Asset Health: Unplanned outage	N	-	Y	N	No collar	No cap	-	-
Asset Health: Sewer collapses	Y	N	Y	N	No collar	No cap	-	SRN.OC.A34
Asset health: treatment works compliance	Y	Y	-	N	Collar	No cap	Ofwat has specified the level of the collar	SRN.OC.A35
Properties at risk of receiving low pressure	Y	N	Y	N	No collar	No cap	-	-
External sewer flooding	Y	Y	-	Y	Collar	Cap	Extreme rainfall events can have a significant impact on performance due to overloading of sewers.	SRN.OCA76

Revised cap and collar levels

Below, in *OC.A4.Table 3 – Revised caps and collars (for ODIs in OC.A4.Table 2)* and *OC.A4.Table 4 – Revised caps and collars (for out-performance-only ODIs)* are a summary of our revised cap and collar levels for all ODIs. Only ODIs where caps and/or collars remain are included in these tables.

The ODI-specific justifications of the level at which these caps and collars have been set, and the explanation for why these levels are appropriate and in customers' interests, can be found in the responses to the ODI-specific actions, which are referenced in the table (Action reference column).

OC.A4.Table 3 – Revised caps and collars (for ODIs in OC.A4.Table 1)

ODI	Unit	Cap level 2024-25	Collar level 2024-25	Action reference
Water quality compliance (CRI)	CRI score	-	8.95	SRN.OC.A9
Leakage	MI/d	80.6	98.6	-
Per capita consumption (PCC)	l/h/d	119	123	-
Maintain bathing waters at 'Excellent'	Number of bathing waters	-	50	SRN.OC.A52
Drinking water taste & odour	Contacts per 1,000 population	0.15	-	-
Water supply interruptions	Property minutes lost	00:00:00	00:07:35	SRN.OC.A16
Internal sewer flooding	Incidents per 10,000 connected properties	1.04	1.64	SRN.OC.A19
Pollution incidents (categories 1, 2 and 3)	Incidents per 10,000km sewers	13.6	25.4	SRN.OC.A23
Asset Health: Mains bursts	Bursts per 1000km	63	108	SRN.OC.A29
Asset health: treatment works compliance	Performance of sewerage assets	-	97%	SRN.OC.A35
External sewer flooding	External sewage flooding incidents	3171	3879	SRN.OC.A76

OC.A4. Table 4 – Revised caps and collars (for out-performance-only ODIs)

ODI	Unit	Cap level 2024-25	Collar level 2024-25	Action reference
Effluent re-use	Total volume of treated effluent (m3)	5,070	-	-
Access to daily water consumption data	No. of households with devices	17,644	-	-
Replace lead customer pipes	No. of households who receive grants	2,158	-	-
Surface water management	Number of properties disconnected from the combined drainage system within the year	2,842	-	-

5.SRN.OC.A5 – Overall ODI package

Ofwat action	How we have responded
<p>The company should provide further explanation of how its ODI package incentivises it, through better aligning the interests of management and shareholders with customers, to deliver on its PCs to customers.</p> <p>With regards to a balanced package and incentivising the company to meet its own challenges and customer priorities; the company should provide further explanation why some ODIs of medium importance to customers carry significantly higher ODI outperformance payments than those of high customer priority.</p> <p>The company should provide further explanation regarding how it has considered potential double counting across its asset health ODIs.</p>	<p>Further information provided</p>

Our detailed response

How the ODI package incentivises us to deliver on our PCs to customers

As outlined in *Technical Appendix 6.2* of our September Business Plan (*BP_Ta6.2_Our Package of PCs and ODIs*), we have created a set of PCs and ODIs with considerable input from customers and key stakeholders. Attaching material financial incentives to our customers’ priorities provides an important means of aligning customer interests with management and shareholder interests.

A summary of customer priorities was provided in our September Business Plan *BP_TA6.2_Our Package of PCs and ODIs_ Pg 8-11* - the original research is provided in *BP_TA 4.3 Triangulation of customer priorities*.

In the current AMP, performance against our PCs and ODIs is reported to our Executive and Board on a regular basis through a dashboard. Performance against our ODIs is a key component of our staff bonus and senior management and executive reward packages. This means that all staff have a direct incentive to deliver against our ODIs. Furthermore, our CCG reviews the same performance dashboard at each of its meetings and reports on our performance each year, holding us to account for delivery against our customer priorities.

After Ofwat’s challenges in the IAP response, we have revisited our set of Performance Commitments, the ODI types and the ODI rates. Subsequently, we have undertaken further customer engagement to confirm customer and stakeholder satisfaction with our updated ODI levels. Customers and stakeholders have confirmed that they are satisfied with the levels proposed (*IAP_Ta11_OC_ODI research 2019*). Based on the feedback from customers we are comfortable that the overall package reflects our customer and stakeholder interests.

In addition to creating individual ODIs which align with customer and stakeholder interests, we believe that our proposed ODI set clearly incentivises our management to deliver. The overall set of ODIs has a RoRE range of -2.8% to +1%, which is both within the Ofwat indicative range (or $\pm 1\%$ to 3%) and incentivises us beyond the RoRE range approved by Ofwat as part of our PR14 final determination (-2.1% to +0.3%).

Alignment of customer priorities and ODI payments

As outlined in *Technical Appendix 6.2* of our September Business Plan (*BP_Ta6.2_Our Package of PCs and ODIs*), we followed a robust approach, including considerable customer and stakeholder engagement, to generate a coherent set of Performance Commitments.

To generate our set of Performance Commitments, we shared a long-list of potential PCs with our customers. Through this exercise we eliminated 34 PCs, each of which did not score highly on any of the criteria across Customer value, Stakeholder value, Regulatory value and Business objectives. As such, all PCs included within the set taken forward are considered to have a high level of importance across all these dimensions in their own right.

As part of our re-triangulation work (see *SRN.OC.A3*), we included an additional step to test our revised ODIs against the customer relative priority ranking (Step 7: Horizontal review to ensure alignment between ODI incentives and relative customer priorities).

In *OC.A5. Table 1 – Water ODI alignment* and *OC.A5. Table 2 – Wastewater ODI alignment* below we show the alignment between customer priority and absolute ODI value (excluding outperformance only ODIs). We use ODI value rather than ODI rates, as it is the only ‘common currency’ between ODIs. (It is also important to not compare water and waste-water ODI absolute values directly, due to the considerably larger size of our wastewater business. As the wastewater turnover is 3 to 4 times larger than the water turnover, ODIs related to waste-water are highly likely to carry a larger absolute ODI value for the same level of customer value.)

We believe this analysis shows a reasonable degree of alignment, such that we did not feel it was necessary to make further changes to the ODIs at this step of the triangulation.

Water ODI alignment

Our ODIs for water show a good degree of alignment to ranked customer priorities. With the exception of interruptions, all of the ‘High’ priority ODIs have the largest ODI values. Interruptions, carries a smaller ODI value than mains bursts, but we had already significantly increased our ODI rate for interruptions, to reflect wider industry data as part of our re-triangulation. We did not therefore feel it was appropriate to further increase the value.

AIM carries a relatively high ODI value despite being a ‘Low’ customer priority. However, this is a common Ofwat-mandated ODI, which has very high stakeholder support.

Wastewater ODI alignment

In the round, customers place lower value on wastewater activities than water-related activities, hence nearly all are of ‘Medium’ relative importance. Flooding is the one ODI which is of ‘High’ relative priority and this has the second highest ODI value, excluding treatment works compliance, whose ODI value is designed to address past performance issues in this area.

The two lowest priority ODIs carry the smallest penalties, with the exception of sewer collapses. Sewer collapses is of importance to customers mainly as a driver of pollution and flooding (though it is also an important measure of long-term asset health). Both pollution and flooding carry ODI values which are consistent with their relative priority.

OC.A5.Table 1 – Water ODI alignment

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)	Absolute ODI Value (£m)	Priority	Comment
Water quality compliance (CRI)	5.14	-31.13	36.27	High	Water quality is ranked very highly by our customers across CRI, taste and odour and appearance
Water quality: Taste and odour				High	
Water quality: Appearance				High	
Leakage	9.46	-11.88	21.34	High	This is a common PC with high regulatory support and high customer value
Asset Health: Mains bursts	6.21	-8.76	14.97	Medium	This is a common PC with high regulatory support and medium customer value
Water supply interruptions	3.66	-7.70	11.35	High	This is a common PC with high regulatory support and high customer value
Per capita consumption (PCC)	5.36	-5.36	10.71	Medium	This is a common PC with high regulatory support and aligns with the strategic direction of our Target 100 ambition
Abstraction Incentive Mechanism	3.04	-3.77	6.81	Low	This is a mandatory bespoke PC with high stakeholder support
Asset Health: Unplanned outage	0.00	-0.90	0.90	Medium	This is a common PC. This is an underperformance-only ODI with the level in line with Ofwat’s industry range
Properties at risk of receiving low pressure	0.00	-0.69	0.69	Low	This was an AMP6 PC which customers said they did not want us to drop. The limited absolute value aligns with low customer value

OC.A5.Table 2 – Wastewater ODI alignment

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)	Absolute ODI Value (£m)	Priority	Comment
Asset Health: Treatment works compliance	0.00	-100.00	100.00	Medium	The overall size of this penalty is due to this PC's wider social and environmental importance and our historical performance challenges in this area. This is also an underperformance only ODI
External sewer flooding	7.95	-12.02	36.39	Medium	This is an AMP6 PC which is highly valued by stakeholders. The combined sewer flooding ODI incentives align with the overall high customer support to reduce sewer flooding
Internal sewer flooding	8.21	-8.21		High	This is a common ODI. The combined sewer flooding ODI incentives align with the overall high customer support to reduce sewer flooding
River water quality	9.81	-20.15	29.96	Medium	This value of this ODI is based on the successful delivery of the £500m WINEP programme in line with EA expectations rather than customer willingness to pay. The scale of the WINEP has resulted in large penalties for this ODI
Improve the number of Bathing waters to at least 'Good' (Cost Adjustment Claim).	11.91	-9.26	24.92	Medium	This PC relates to bathing water schemes for which we have submitted a CAC. In addition to medium customer support there is high stakeholder support for this ODI
Improve the bathing waters at 'Excellent' quality (Cost Adjustment Claim).	2.38	-1.37		Medium	This PC relates to bathing water schemes for which we have submitted a CAC. There is high stakeholder support for this ODI in addition to medium customer support
Pollution incidents (categories 1, 2 and 3)	8.78	-9.34	18.12	Medium	This is a common PC with high regulatory support and high stakeholder support in addition to medium customer value
Maintain Bathing waters at 'Excellent'.	0.00	-15.75	15.75	Medium	This is an AMP6 PC that is highly valued by customers. This is also an underperformance only ODI

Response to IAP

Annex 3 – Delivering outcomes for customers

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)	Absolute ODI Value (£m)	Priority	Comment
Thanet Sewers (Cost adjustment claim)	0.00	-16.47	16.47	Medium	This ODI protects customers against non-delivery of schemes for which we have submitted a CAC. This is also an underperformance only ODI.
Renewable Generation	3.15	-6.29	9.44	Low	This is an AMP6 PC which is valued by stakeholders and our CCG but has a relatively moderate absolute incentive level.
Asset Health: Sewer collapses	0.00	-3.30	3.30	Medium	This is a common PC with medium customer support and low stakeholder value
Satisfactory bio-resources recycling	0.00	-2.08	2.08	Low	This PC has low customer support in line with the absolute ODI level

Consideration of potential double counting across asset health ODIs

In line with Ofwat’s guidance, and with considerable customer and stakeholder engagement, we developed a set of Performance Commitments which include a set of asset health ODIs. Based on Ofwat’s Final Methodology, our asset health ODIs include four common ODIs and four ODIs taken from Ofwat’s long list of asset health metrics with standard definitions (provided in Appendix 2 of Ofwat’s Final Methodology). In total, we have eight asset health ODIs. We do not believe there is any material double counting between these ODIs.

Our list of asset health ODIs, and their source, is provided in the table below.

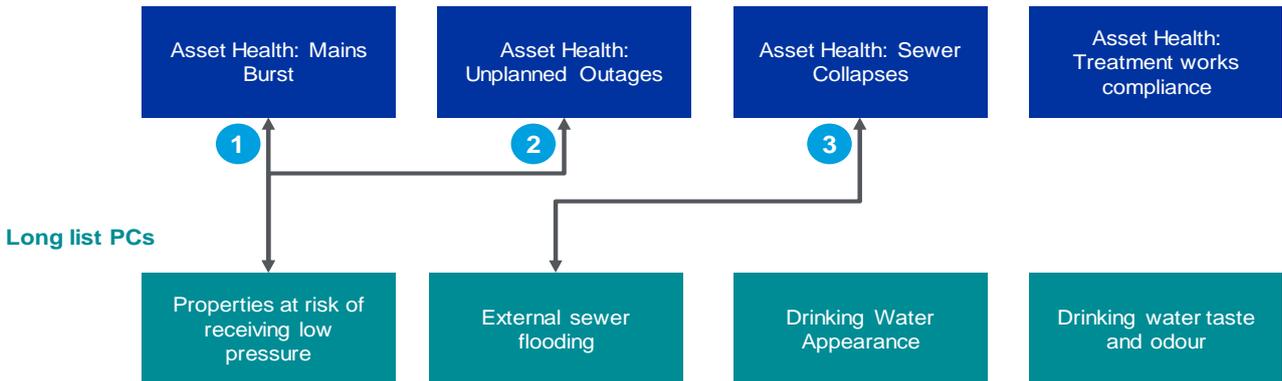
OC.A5.Table 3 – Asset health ODIs

Performance Commitment	Source	Definition
Asset Health: Mains Burst	Common PC	https://www.ofwat.gov.uk/wp-content/uploads/2018/03/Reporting-guidance-mains-repairs-per-1000km.pdf
Asset Health: Unplanned Outages	Common PC	https://www.ofwat.gov.uk/wp-content/uploads/2018/03/Reporting-guidance-unplanned-outage.pdf
Asset Health: Sewer Collapses	Common PC	https://www.ofwat.gov.uk/wp-content/uploads/2018/03/Reporting-guidance-sewer-collapses-per-1000km.pdf
Asset Health: Treatment works compliance	Common PC	https://www.ofwat.gov.uk/wp-content/uploads/2017/12/WatCoPerfEPAmethodology_v3-Nov-2017-Final.pdf
Properties at risk of receiving low pressure	Ofwat’s long list of asset health metrics with standard definitions	https://www.ofwat.gov.uk/wp-content/uploads/2017/12/Properties-at-risk-of-receiving-low-pressure.pdf
External sewer flooding	Ofwat’s long list of asset health metrics with standard definitions	https://www.ofwat.gov.uk/wp-content/uploads/2018/03/Reporting-guidance-sewer-flooding-updated-April-2018.pdf
Drinking water appearance	Ofwat’s long list of asset health metrics with standard definitions	http://dwi.defra.gov.uk/stakeholders/information-letters/2006/01_2006.pdf
Drinking water taste and odour	Ofwat’s long list of asset health metrics with standard definitions	http://dwi.defra.gov.uk/stakeholders/information-letters/2006/01_2006.pdf

As these incentives are all related to overall asset health it is inevitable that there is some overlap between the ODIs. *OC.A5.Figure 1 – Interactions between Asset Health ODIs* shows the interactions and overlaps between the ODIs. However, as outlined below we do not believe that any of these overlaps result in a material double counting between asset health ODIs.

OC.A5.Figure 1 – Interactions between Asset Health ODIs

Common PCs



OC.A5.Table 4 – Overlap between ODIs

Performance Commitment Overlap	Double Counting?	Commentary
1) Asset Health: Mains Bursts and Properties at risk of receiving low pressure	No	In the definition for Properties at risk of receiving low pressure Ofwat states that low pressure caused by mains burst should be excluded from the reported figure, provided this problem does not affect a specific property frequently. As one off mains burst can be excluded and there is no significant incidence of mains burst frequently impacting the water pressure at specific properties we do not believe the interaction of these ODIs represents a double count.
2) Asset Health: Unplanned Outages and Properties at risk of receiving low pressure	No	In the definition for Properties at risk of receiving low pressure Ofwat states that “Properties affected by low pressures which only occur for a short period, and for which there is evidence that incidents of a longer duration would not occur during the course of the year, may be excluded from the reported figures”. Although unplanned outages cause short term loss of pressure, they are very unlikely to be the cause of long duration outages. As such, we do not believe the interaction of these ODIs represents a double count.
3) Asset Health: Sewer Collapses and External Sewer Flooding	Not material	These two ODIs are clearly linked however our analysis of historic performance indicates that the inclusion of both ODIs does not represent a material double count. Over the last 8 years, only 1% of external sewer flooding incidents have been caused by sewer collapses. Given that the reverse is not an issue (external flooding causing sewer collapses) it is reasonable to assume that any double count between these ODIs is not material.

6.SRN.OC.A6 – Asset health ODI package

Ofwat action	How we have responded
<p>The company should provide sufficient evidence that its customers support its proposed asset health outperformance payments. If it cannot do this, the company should remove the outperformance payments.</p> <p>The company should provide a clear list of what it considers to be its asset health PCs, and state its P10 underperformance payments and P90 outperformance payments for each of its asset health ODIs in £m and as a percentage of RoRE.</p>	<p>Further information provided</p>

Our detailed response

Through all our research, customers were clear that they wanted us to **effectively** deliver the basics and be ready for the future, but recognised that sometimes the service that goes on behind the scenes can be taken for granted. **Doing no harm to the environment** has been outlined as a minimum expectation, but customers also want us to look after and **enhance** our **natural environment**. As a result, asset health is a high priority for our customers because it enables us to deliver across all four of their expectations. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 2*, 11). A summary of customer priorities was provided in our September Business Plan *BP_TA6.2_Our Package of PCs and ODIs_Pg 8-11* - the original research is provided in *BP_TA 4.3 Triangulation of customer priorities*.

Customers are concerned that in the future an increase in rainfall due to climate change, combined with the level of population growth in our region, will mean the current sewer network will not be able to cope. They want us to ensure that future generations have access to the same level of wastewater and water services as we do today, by being ready for the future and by being willing to invest now to ensure that there is no deterioration in services in the future. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 2*, 5, 7, 9, 11, 13).

Of the eight ODIs that we consider to be related to asset health (see *OC.A6.Table 1 – Asset health ODIs*), four have outperformance payments associated with them (mains bursts, external sewer flooding, drinking water appearance and drinking water taste and odour). Each of these four was included in our ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*) and our customers expressed a positive willingness to pay for improvements in these attributes, reflecting the importance they place on ensuring that our assets remain fit for the future. In addition, the targets associated with all four ODIs were deemed sufficiently stretching by Ofwat in the IAP.

List of asset health ODIs

In line with Ofwat’s guidance, and with considerable customer and stakeholder engagement, we developed a set of PCs, which include a set of asset-health ODIs. Based on Ofwat’s Final Methodology, our asset health ODIs include four common ODIs and four ODIs taken from Ofwat’s long list of asset health metrics with standard definitions (provided in Appendix 2 of Ofwat’s Final Methodology). In total, we have eight ODIs that can be considered asset health ODIs.

Our list of asset health ODIs, their P10 underperformance payments and P90 outperformance payments are provided in *OC.A6.Table 1 – Asset health ODIs* below.

OC.A6.Table 1 – Asset health ODIs

Performance Commitment	P10 underperformance		P90 outperformance	
	£m	% RoRE	£m	% RoRE
Asset Health: Mains Burst	-8.76	0.35	6.21	0.25
Asset Health: Unplanned Outages	-0.90	0.04	0	-
Asset Health: Sewer Collapses	-3.3	0.04	0	-
Asset Health: Treatment works compliance	-100	1.29	0	-
Properties at risk of receiving low pressure	-0.69	0.03	0	-
External sewer flooding	-12.02	0.16	7.95	0.10
Drinking water appearance	-0.94	0.04	0.48	0.02
Drinking water taste and odour	-5.09	0.21	4.66	0.19

7.SRN.OC.A7 – Customer protection

Ofwat action	How we have responded
The company should provide further evidence that explains the maximum outperformance payments that customers could be exposed to and what mitigations are proposed to protect against this outcome. The company should refer to the customer protection measures outlined in Technical appendix 1: Delivering outcomes for customers.	Further information provided

Our detailed response

OC.A7.Table 1 – Water maximum outperformance payments, OC.A7.Table 2 – Wastewater maximum outperformance payments, OC.A7.Table 3 – Retail PCs below show the maximum outperformance payments that customers could be exposed to and the ODIs for which we have put in place caps to protect customers against unreasonable out-performance payments.

The decision on whether to include a collar and cap on individual ODIs is outlined in our response to action SRN.OC.A4. Briefly, we use caps and collars in circumstances where performance is subject to significant uncertainty, either because they are significantly impacted by weather events or third party actions or there is limited historical data. This means that customer bills will not be impacted by extreme events, outside of management control, that might result in significant out or underperformance payments in any year. Additionally, we use caps where ODIs are financially significant (i.e. the P90 value is over 10% of the total P90 value for all ODIs in that price control). This is as per Ofwat’s expectations, set out in Technical Appendix 1: Delivering outcomes for customers.

In addition to the caps applied to specific ODIs, we have also committed to a £5 limit on the change in an average water and sewerage bill due to ODIs between any two years, as a part of our approach to customer protections. This protects customers against the potential for significant bill changes resulting from a combination of ODIs.

OC.A7.Table 1 – Water maximum outperformance payments

PC	ODI type	Maximum outperformance payment (£m)	Cap in place?
Leakage	Out & under	9.46	Yes
Asset Health: Mains bursts	Out & under	6.21	Yes
Per capita consumption (PCC)	Out & under	5.36	Yes
Drinking water taste and odour	Out & under	4.66	Yes
Water supply interruptions	Out & under	3.66	Yes
Abstraction Incentive Mechanism	Out & under	3.04	No
Drinking water appearance	Out & under	0.48	No
Replace lead customer pipes	Outperformance only	0.27	Yes

Total		33.13	
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OC.A7.Table 2 – Wastewater maximum outperformance payments

PC	ODI type	Maximum outperformance payment (£m)	Cap in place?
Improve the number of Bathing waters to at least 'Good' (Cost Adjustment Claim).	Out & under	11.91	No
River water quality	Out & under	9.81	No
External sewer flooding	Out & under	7.95	Yes
Pollution incidents (categories 1, 2 and 3)	Out & under	8.78	Yes
Internal sewer flooding	Out & under	8.21	Yes
Effluent re-use	Outperformance only	5.10	Yes
Renewable Generation	Out & under	3.15	No
Improve the bathing waters at 'Excellent' quality (Cost Adjustment Claim).	Out & under	2.38	No
Surface water management	Outperformance only	1.19	Yes
Total		58.49	

OC.A7.Table 3 – Retail PCs

PC	ODI type	Maximum outperformance payment (£m)	Cap in place?
Access to daily water consumption data	Outperformance only	0.32	Yes
Void properties	Out & under	0.33	No
Total		0.65	

Customer protection measures outlines in Technical Appendix 1

We have also incorporated some of the responses to the challenges laid out in *Technical Appendix 1: Delivering Outcomes for Customers* in OC.A7.Table 5 – Water P90 outperformance payments, OC.A7.Table 6 - Wastewater P90 outperformance payments and OC.A7.Table 7 – Retail P90 outperformance payments as outlined in OC.A7.Table 4 – Response to request for Technical Appendix 1 information.

OC.A7.Table 4 – Response to request for Technical Appendix 1 information

Technical Appendix 1 Challenge	Response
<p>The magnitude of the P90 outperformance payments associated with each ODI, and its size relative to P90 payment estimates of other ODIs proposed by the company. We consider that outperformance caps are particularly important for ODIs with large P90 outperformance payments.</p>	<p>Our response is provided below in <i>OC.A7.Table 5 - Water P90 outperformance payments</i>, <i>OC.A7.Table 6 - Wastewater P90 outperformance payments</i> and <i>OC.A7.Table 7 - Retail P90 outperformance payments</i>, which shows that the ODIs with the largest outperformance payments all have either caps or are subject to a natural cap (e.g. a maximum performance level).</p>
<p>The potential for outperformance beyond the P90 performance level. There may be certain cases where there are natural limits to outperformance, which limit the maximum possible outperformance payments that can be achieved. There is less of a need for the company to apply outperformance caps in these cases.</p>	<p>Where there is a risk that performance could move beyond the P90 performance level, e.g. because of weather impacts, we have retained caps and collars to protect customers. We have removed caps and collars where outcomes are not subject to weather effects, are within management control and not dependent on action by others. This should mean the chances of performance beyond the P90 level are minimised. A detailed explanation of our revised approach to caps and collars is provided in SRN.AC.04.</p>
<p>The level of certainty associated with the company’s forecast future performance for each ODI. If there is considerable uncertainty about the trajectory of future performance relative to current performance levels, then the company should consider setting an outperformance cap to protect customers from very large outperformance payments that exceed P90 estimates. We consider that factors affecting uncertainty include the availability of historical data for an ODI, as well as the existence of a robust baseline performance estimate for the start of the 2020-25 period.</p>	<p>We have considered certainty relating to performance in the approach to caps and collars provided in <i>SRN.OC.A4</i>. As outlined in <i>SRN.OC.A4</i>, we have included a cap on all ODIs which have a collar and an out-performance payment associated to them. As such, we have implemented a cap on all ODIs which have a high levels of uncertainty associated with them.</p> <p>Additional information related to the caps (and collars) is provided in the response to <i>SRN.OC.A4</i> and supplemented by the relevant ODI specific actions.</p>
<p>The uniqueness of each of the company’s ODIs, and the extent to which other companies have proposed similar ODIs. The company should examine the PCs proposed by other companies, and assess whether there are any benchmarks against which to evaluate its projections of future performance. In cases where ODIs are unique to the company, we would expect the company to consider applying outperformance caps or otherwise justify why it has not done so</p>	<p>We have reviewed the APP1 tables submitted by all other WASCs and WOCs and have identified which of our PCs appear to be unique across all submissions. We have laid out these unique PCs, and associated commentary in <i>OC.A7.Table 8 – Unique ODI P90 outperformance payments</i>.</p>

OC.A7.Table 5 – Water P90 outperformance payments, *OC.A7.Table 6 – Wastewater P90 outperformance payments* and *OC.A7.Table 7 – Retail P90 outperformance payments* below show our ODIs sorted by size of outperformance payment (in absolute and % terms) and indicate whether we have applied a cap in each case.

OC.A7.Table 5 – Water P90 outperformance payments

PC	ODI type	P90 outperformance payments (£m)	% of total P90 for water ODIs	Cap/Natural Cap
Leakage	Out & under	9.46	29	Cap applied
Asset Health: Mains bursts	Out & under	6.21	19	Cap applied
Per capita consumption (PCC)	Out & under	5.36	16	Cap applied
Drinking water taste and odour	Out & under	4.66	14	Cap applied due to relative size of P90 payment
Water supply interruptions	Out & under	3.66	11	Cap applied
Abstraction Incentive Mechanism	Out & under	3.04	9	No
Drinking water appearance	Out & under	0.48	1	No
Replace lead customer pipes	Outperformance only	0.27	1	Cap applied

OC.A7.Table 6 – Wastewater P90 outperformance payments

PC	ODI type	P90 outperformance payments (£m)	% of total P90 for water ODIs	Cap/Natural Cap
Improve the number of Bathing waters to at least 'Good' (Cost Adjustment Claim).	Out & under	11.91	20	Natural cap as only applies to 5 bathing waters defined in the PC
River water quality	Out & under	9.81	17	Natural cap due to WINEP
Pollution incidents (categories 1, 2 and 3)	Out & under	8.78	15	Cap applied
Internal sewer flooding	Out & under	8.21	14	Cap applied
External sewer flooding	Out & under	7.95	14	Cap applied

Effluent re-use	Outperformance only	5.10	9	Cap applied
Renewable Generation	Out & under	3.15	5	No
Improve the bathing waters at 'Excellent' quality (Cost Adjustment Claim).	Out & under	2.38	4	Natural Cap
Surface water management	Outperformance only	1.19	2	Cap

OC.A7.Table 7 – Retail P90 outperformance payments

PC	ODI type	P90 outperformance payments (£m)	% of total P90 for water ODIs	Cap/Natural Cap
Void properties	Out & under	0.33	51	No
Access to daily water consumption data	Outperformance only	0.32	49	No

Unique ODIs

Ofwat suggests that where ODIs are unique to a company, they should consider applying outperformance caps to these ODIs. We have reviewed the APP1 tables provided by other companies and have analysed the comparability of their performance commitments and our final set of PCs. This has allowed us to identify three ODIs which are unique. Of these three, only one – Effluent re-use - has an out-performance element to it. This ODI is outperformance only and has a cap applied to it.

OC.A7.Table 8 – Unique ODI P90 outperformance payments

PC	ODI type	P90 outperformance payments (£m)	Cap/Natural Cap	Comment
Effluent re-use	Outperformance only	5.10	Cap applied	Customer is protected through use of cap
Growth (Cost adjustment claim)	Underperformance only	0	No requirement for protection for underperformance only ODIs	
Thanet Sewers	Underperformance only	0		

8.SRN.OC.A8 – Water quality compliance (CRI): ODI rate

Ofwat action	How we have responded
<p>Water quality compliance (CRI) PC: The company should explain and evidence how its proposed ODI rate for CRI is coherent with the rates proposed for other asset health PCs and any PCs relating to the associated customer facing-impacts of the asset failure and demonstrate how the package of ODIs across the relevant group of PCs appropriately incentivises performance in the long and short-term.</p> <p>The company should provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODI rates for water quality compliance (CRI) and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p>	Further information provided

Our detailed response

Coherence of PCs

OC.A8.Table 1 – Water asset health maximum incentive payments below shows the maximum out and under-performance payments for the suite of asset health PCs and any PCs relating to the associated customer facing-impacts of the asset failure. As ODI rates for different PCs are not directly comparable, we have based our analysis on the maximum out and underperformance payments, rather than the rates (as requested by Ofwat) to provide a clear view of relative size.

OC.A8.Table 1 – Water asset health maximum incentive payments

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)
Water quality compliance (CRI)	0.00	-25.10
Asset Health: Mains bursts	6.21	-8.76
Asset Health: Unplanned outage	0.00	-0.90
Water supply interruptions	3.66	-7.70
Taste and Odour	4.66	-5.09
Appearance	0.48	-0.94

CRI has the largest underperformance penalty of our water ODIs. This is consistent with its importance to customers, who regard safe drinking water as their number one priority. Mains bursts and interruptions carry the next largest underperformance payments, consistent with customer preferences, reflecting the impact of

interruptions on customers and the importance to customers of maintaining the health of our network assets so that they can cope with future demands in a region of high growth.

Customers expect their drinking water to be safe to drink at all times and so an outperformance payment for CRI would not be appropriate. This is in contrast to other areas of service, such as interruptions, where customers understand that there will be a level of failure but expect us to strive to minimise this.

Long term and short term incentivisation across relevant ODIs

It is difficult to design a package of PCs which will perfectly balance short term and long term incentives. However, we believe that the combination of the level of stretch in our PC targets and the balanced package of ODIs means that our incentives are not skewed to delivery of short-term performance only.

Across all the key water supply PCs we are committing to delivering significant improvements in short-term performance. We cannot deliver these improvements through operational interventions alone. We will only deliver them through investment in our asset base which will deliver long-term benefits for customers and the environment. For example, to support our interruptions target we will need to significantly increase the rate of mains replacement (our AMP7 programme is the largest in 20 years) and leverage of emerging smart technologies. These deliver long-term benefits as well as short-term performance improvements. Combined with operational improvements, this will mean the customers will see immediate benefits in performance in AMP7, while also delivering long-term improvements in the health and resilience of our water network.

OC.A8. Table 2 – Short and long-term water service initiatives below sets out some of the key short and long term initiatives within our plan which will deliver these objectives.

OC.A8. Table 2 – Short and long-term water service initiatives

Performance Commitment	Comment on long and short term incentivisation
Water quality compliance (CRI)	Our current performance on CRI is the worst in the sector. The large value of the potential underperformance payments in AMP7 gives us a strong incentive to deliver on our performance improvement plan, Water First. In the longer term, we are completing a major upgrade of all of our water treatment works to ensure we can sustain performance at the upper quartile level that we will reach by 2024-25.
Asset Health: Mains bursts	We have set a challenging target, this is only possible through the deployment of emerging smart technologies. This will mean the customers will see the immediate benefit in the short term. In parallel with this, we are investing in our largest asset replacement program in 20 years to ensure long-term performance improvement of the asset base. The coherence with the other PCs and total impact of not performing on mains bursts will heavily incentivise us to ensure our performance is to a good standard.
Asset Health: Unplanned outage	We have an outage recovery plan to improve our performance in the short-term. Further reduction in unplanned outage is part of our WRMP outage target, thus we will ensure our performance is sustained in the long-term. We do not have a collar for this ODI, in line with our robust approach outlined in SRN, OC.A4.

Taste and Odour	Through AMP6 we have invested in granular activated carbon (GAC) at our Brede and Beauport works, where we have experienced taste and odour issues. Our programme of treatment works refurbishment will enable us to sustainably maintain performance.
Appearance	In the short term we are completing phase 2 of our major investment at Woolmans Wood, to address discolouration performance. We are also trialling smart network technology, which enables us to more closely monitor the network in real time, with multiple benefits, including for discolouration. We will be rolling out these smart network improvements across the asset base in AMP7, delivering both in-period and long-term benefits.
Water supply interruptions	In the short term we are investing in transient monitoring and control through our smart networks programme. In the long term we will be carrying out asset replacement to control remaining transients.

Additional information from Technical Appendix 1

The incentive rate for this ODI is based on a combination of ODI research and marginal cost analysis. We have removed manual adjustments that we applied to some ODIs in our September Business Plan, and revisited our triangulation, as per action SRN.OC.A3. This has led to a change in the incentive rates, as shown in OC.A8.Table 3 – Incentive rates.

OC.A8.Table 3 – Incentive rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0.00	-0.69	0.00	-0.628

Our underperformance incentive rate now falls within the normalised ranges provided by Ofwat in *Technical Appendix 1*. We have included our normalised rates and Ofwat’s ranges for comparison.

OC.A8.Table 4 – Normalised incentive rates

	Underperformance incentive rates	
	Ofwat	IAP (normalised)
Lower Bound	-0.373	-0.582
Higher Bound	-0.791	

OC.A8.Table 5 – Response to request for Technical Appendix 1 information

Question	Answer
<p>The performance increments / decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company’s business plan.</p>	<p>In our ODI-specific research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) we set our performance at 0.98 and asked customers to move the slider for outperformance from this target. The maximum possible movement of the slider equated to 0.69. These increments are consistent with the plausible range of performance given our stretch target is 0.98 by 2024-25.</p> <p>Our WTP-DCO research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11) was conducted in 2017. At that point in time we did not have clarity on the full suite of ODI. As such, this research did not provide a comparable output for the ODIs.</p>
<p>The basis on which unit willingness to pay (WTP) values are calculated from the result of the company’s customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).</p>	<p>As described in our T.A 6.1 – Our approach to PCs and ODIs, we used absolute willingness to pay levels from our ODI research (i.e. the total bill impact customers were willing to pay for better performance for each PC).</p> <p>The customer research data points were calculated across performance increments only.</p>
<p>Whether any scaling is applied to valuations for individual service attributes (for example to account for package effects) and if so to provide information on the associated packages.</p>	<p>We have applied no scaling for this ODI</p>

9.SRN.OC.A9 – Water quality compliance (CRI): caps, collars and deadbands

Ofwat action	How we have responded
Water quality compliance (CRI) PC: We propose to intervene to ensure companies perform to the regulatory requirement of 100% compliance against drinking water standards. As set out in the methodology we noted a deadband may be appropriate. It is important that the range of underperformance to the collar is adequate to provide clear incentives for companies to deliver statutory requirements. The company should set a deadband at 1.50 and collar at 9.5 for 2020-25.	Partially accepted: Plan updated

Our detailed response

Ofwat’s proposed target of 0 (i.e. 100%) is in line with our own business plan target. However, we know that our current performance on the new CRI measure is behind the rest of the sector and this will take time to address. This was recognised in the improvement profile that we included in our September business plan, which would have delivered upper quartile performance by 2025.

Our current performance is, to a very large degree, attributable to a single large treatment works, ██████████ in Hampshire, which is subject to an improvement programme under notice from the Drinking Water Inspectorate (DWI). These works will complete in phases, and will deliver progressive improvements in our CRI performance over the course of AMP7. The timeline for these works has been accepted by the DWI and is reflected in the relevant DWI notice SRN 3911 (<http://www.dwi.gov.uk/stakeholders/improvement-programmes/srn/SRN3911.pdf>).

As a result of these necessary improvement works, we cannot accept the deadbands proposed in the IAP as we could not physically deliver performance at a level that would avoid a significant underperformance penalty. The deadbands, as proposed, would therefore represent a de facto financial penalty, rather than an incentive to deliver good performance for customers.

Recognising this, we have proposed deadbands that would require us to deliver at the upper quartile performance for all works except ██████████. As such, we would be penalised under the ODI for either not meeting the DWI requirements at ██████████ or not meeting the upper quartile performance across our other sites.

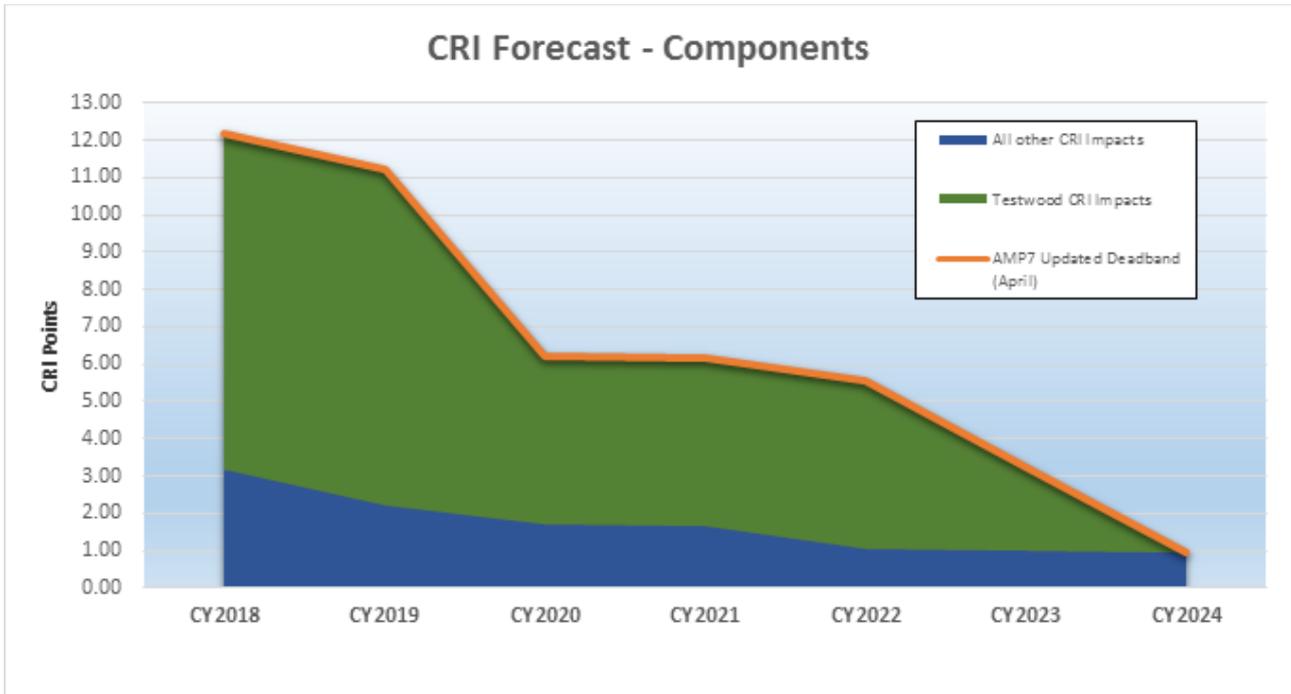
Our proposed deadbands and collars are shown in *OC.A9.Table 1 – Proposed deadbands and collars for AMP7*. These deliver performance that is better than the Ofwat proposal by calendar year 2024. The collars are set 8.0 below the deadband, in line with Ofwat’s proposals, ensuring that we are exposed to the same level of risk as other companies.

OC.A9.Table 1 – Proposed deadbands and collars for AMP7

	2020	2021	2022	2023	2024
Deadband	6.2	6.2	5.6	3.2	1.0
Collar	14.2	14.2	13.6	11.2	9.0

The chart below illustrates the proposed deadbands and the impact of ██████████ on the reported metric. As can be seen, our proposals represent a stretching performance relative to our current position.

OC.A9.Figure1 – CRI glidepath



OC.A9.Table 2 – Deadbands and collar – excluding [redacted] below represents our deadband and collar excluding [redacted].

OC.A9.Table 2 – Deadbands and collar – excluding [redacted]

	2020	2021	2022	2023	2024
Deadband	1.7	1.7	1.1	1.0	1.0
Collar	9.7	9.7	9.1	9.0	9.0

In summary, we cannot accept Ofwat’s proposed deadbands which, due to the DWI-approved timeline to complete necessary improvement works at [redacted], would result in an immediate and unavoidable financial penalty. Our alternative proposal delivers progressive improvements for customers over the course of AMP7, is realistically deliverable and will result in performance by the end of AMP7 which will be better than under Ofwat’s proposals. We therefore believe they are more in customers’ interests.

10. SRN.OC.A10 – Leakage: ODI type

Ofwat action	How we have responded
Leakage PC: The company should provide further evidence to justify the use of an outperformance payment for this PC, including evidence of customer support.	Further information provided

Our detailed response

Leakage is one of Ofwat’s 14 mandatory common PCs, with a common definition. It is a PR14 ODI for Southern Water, with both outperformance and underperformance payments associated with it.

We have set a stretching target which requires us to reduce leakage by 15% by the end of AMP7. This is from a starting position where we are amongst the best performers on leakage in the sector. If we do not deliver these performance improvements, we will incur significant penalties. Outperformance payments will only be available if we deliver performance which is amongst the best in the sector.

Our customers demonstrated a willingness to pay for reductions in leakage in both of our customer valuation exercises (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3, 11*). Customers were willing to pay between £321k and £329k each year per MI / d reduction in leakage. Our ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11*) was designed explicitly to elicit customers’ willingness to pay for improvements beyond the level included in our business plan, so provides strong evidence of support for outperformance payments.

Our customers’ priority is to improve rather than maintain performance on this PC. Key insights from our customer research include:

- Through all our customer engagement leakage was highlighted as a high relative priority for improvement. This is consistent across all customer types and is rated as a priority both spontaneously and when prompted. It is mentioned consistently because it delivers on three of our customer core expectations: that we deliver the basics; that we are ready for the future; and that we take care of water.
- Customers understand they need to play their part, but say that we need to take the lead in reducing leakage. This is because leakage is seen as wasteful and a key deliverable needed to demonstrate credibly that we are taking the lead in using water wisely (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Documents 1, 2, 3, 8, 96*).

In our latest research performed in March 2019 (*IAP_Ta11_OC_ODI research 2019*), customers demonstrated strong customer support for leakage, noting the scale of the issue, which is seen as a good rationale for incentivisation. Customers said they would be willing to pay a little extra to improve leakage as it benefits the majority and more importantly future generations.

11. SRN.OC.A11 – Leakage: ODI rate

Ofwat action	How we have responded
<p>Leakage PC: The company should provide further evidence to justify the appropriateness of the proposed adjustment to the ODI rate or remove the adjustment.</p> <p>The company should explain why its proposed rate differs from our assessment of the reasonable range around the industry average that we set out in Technical appendix 1: Delivering outcomes for customers and demonstrate that this variation is consistent with customers' underlying preferences and priorities for service improvements in leakage.</p> <p>The company should also provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODI rates for leakage and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p>	Further information provided

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which were not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology, as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

We have removed the manual adjustments, and revisited at our triangulation as per action *SRN.OC.A3*. This has led to a change in the incentive rates, as seen in *OC.A11. Table 1 – Incentive Rates*.

OC.A11. Table 1 – Incentive Rates

Business Plan		IAP Response	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0.177	-0.197	0.211	-0.265

Our incentive rates now fall within the normalised ranges provided by Ofwat in Technical Appendix 1, for both the underperformance and outperformance incentive rates. We have included our normalised rates and Ofwat's ranges for comparison in *OC.A11. Table 2 – Normalised incentive rate ranges*.

OC.A11. Table 2 – Normalised incentive rate ranges

	Underperformance incentive rates		Outperformance incentive rates	
	Ofwat	IAP (normalised)	Ofwat	IAP (normalised)
Lower Bound	-0.993	-1.268	0.849	1.010
Upper Bound	-2.369		2.113	

OC.A11.Table 3 - Response to request for Technical Appendix 1 information

Question	Answer
<p>The performance increments/decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company's business plan.</p>	<p>In our ODI-specific customer research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) we set our performance at 93.6 MI/d and asked customers to move the “slider” for outperformance from this target. The maximum possible movement of the slider equated to 87.9 MI/d.</p> <p>These decrements are consistent with the plausible range of performance given our historic performance of 107.2 in 2018-19(f) and stretch target of 89.6 by 2024-25.</p> <p>In our WTP–DCE research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11), which was conducted in 2017, the performance increments/decrements were in the old metric for leakage. Expressed in terms of the new metric, the starting position (S0) was 97 MI/d with a single increment in performance (S1) being equivalent to 88 MI/d.</p> <p>The levels set out in both pieces of research were based on management judgement of the plausible AMP7 reduction when the research was conducted in 2017.</p>
<p>The basis on which unit willingness to pay (WTP) values are calculated from the result of the company's customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).</p>	<p>As described in our T.A 6.1 – Our approach to PCs and ODIs, we used absolute willingness to pay levels from our ODI research (i.e. the total bill impact customers were willing to pay for better performance for each PC).</p> <p>For our WTP –DCE research the unit willingness to pay was generated by dividing the customer bill impact by the change in performance from our starting level of service (S0) to the performance improvement level (S1).</p> <p>The customer research data points were calculated across performance increments only.</p>
<p>Whether any scaling is applied to valuations for individual service attributes (for example to account for package effects) and if so to provide information on the associated packages.</p>	<p>We have applied no scaling for this ODI</p>

12. SRN.OC.A12 – Per capita consumption: ODI type

Ofwat action	How we have responded
Per capita consumption PC: The company should provide further evidence to justify the use of an outperformance payment for this PC, including evidence of customer support.	Further information provided

Our detailed response

Per Capita Consumption is a common Performance Commitment which aligns with our ambition to reduce consumption to 100 l/p/d by 2040 (i.e. “Target 100” - PR19SRN_WR03), and has both under and outperformance payments associated with it.

In our triangulated customer research, which incorporated all of our PR19 and business-as-usual engagement, reducing consumption was a medium priority for our customers (see *BP_Chapter 4 Customer and Stakeholder Engagement and Participation_Page 55*).

In our ODI customer valuation exercise, which was specifically designed to elicit customers’ willingness to pay for outperformance, our customers were willing to pay £356k each year per litre reduction in per capita consumption over and above our target.

Customers understand the role they have to play in reducing consumption and want us to take care of water by working together with them to help them to reduce their consumption through providing information and advice. Customers are supportive of rewards to encourage behavioural change and feel using technology better will play a role here (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 8, 9, 11*).

13. SRN.OC.A13 – Per capita consumption: ODI rate

Ofwat action	How we have responded
<p>The company should provide further evidence to justify the appropriateness of the proposed adjustment to the ODI rate or remove the adjustment.</p> <p>The company should also provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODI rates for per capita consumption and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p> <p>The company should also reflect any amendments to its standard incentives rates within its enhanced ODI incentive rates, consistent with its existing multiplier of 2 applied to its standard rate, or provide evidence to justify why this is not appropriate.</p>	Further information provided

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which were not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

We have removed the adjustments, and re looked at our triangulation as per action *SRN.OC.A3*. This has led to a change in the incentive rates. We have also adjusted our enhanced incentive rates to reflect this change, as shown in *OC.A13.Table 1 – Standard and enhanced incentive rates*.

OC.A13.Table 1 – Standard and enhanced incentive rates

Business Plan		IAP Response	
Standard outperformance incentive rates	Standard underperformance incentive rates	Standard outperformance incentive rates	Standard underperformance incentive rates
0.178	-0.196	0.178	-0.178
Enhanced outperformance incentive rates	Enhanced underperformance incentive rates	Enhanced outperformance incentive rates	Enhanced underperformance incentive rates
0.356	-0.392	0.356	-0.356

The underperformance rates have reduced because we have removed the manual percentage adjustments.

Our standard incentive rates now fall within the normalised ranges provided by Ofwat in Technical Appendix 1, for both the underperformance and outperformance incentive rates.

OC.A13.Table 2 – Response to request for Technical Appendix 1 information

Question	Answer
<p>The performance increments/decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company’s business plan.</p>	<p>In our ODI-specific research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) we set our performance at 120 l/h/d and asked customers to move the slider for outperformance from this target. The maximum possible movement of the slider equated to 113 l/h/d.</p> <p>These increments are consistent with the plausible range of performance given our historic performance of 130 in 2018-19(f) and stretch target is 121 by 2024-25.</p> <p>Our WTP–DCE research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11), was conducted in 2017. At that point we did not have clarity on the full suite of ODIs. As such, this research did not provide a comparable output for this ODI.</p>
<p>The basis on which unit willingness to pay (WTP) values are calculated from the result of the company’s customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).</p>	<p>As described in our T.A 6.1 – Our approach to PCs and ODIs, we used absolute willingness to pay levels from our ODI research (i.e. the total bill impact customers were willing to pay for better performance for each PC).</p> <p>The customer research data points were calculated across performance increments only.</p>
<p>Whether any scaling is applied to valuations for individual service attributes (for example to account for package effects) and if so to provide information on the associated packages.</p>	<p>We have applied no scaling for this ODI</p>

14. SRN.OC.A14 – Interruptions: ODI stretch

Ofwat action	How we have responded
Water supply interruptions PC: For this common PC we expect all companies' service levels to reflect the values we have calculated for each year of the 2020 to 2025 period.	Partially accepted: Plan updated

Our detailed response

The common target proposed by Ofwat is 04:17 minutes by 2020-21, reducing to 03:00 minutes by 2024-25.

Having considered this in the context of our plan, we do not believe that the reduction required to meet the 2020-21 common target is realistically achievable, given our current performance. For the reporting year 2018-19 we expect to achieve performance of 06:21, which is close to our best ever performance, and significantly better than our AMP6 ODI target of 9:00 minutes. By the end of AMP6 we forecast to be at 6:11, which is almost 50% better than our current target.

Given this starting point, the proposed target is not technically feasible and would therefore represent a de facto penalty on the company, despite our delivering performance well ahead of our regulatory target in AMP6.

For this reason we are proposing a glide path to meeting the common 2024-25 target of 03:00 minutes, as shown in *OC.A14.Table 1 – Proposed interruptions glide path* below. These are more stretching than the targets proposed in our September Business Plan. The rate of deliverable improvement is based on our smart networks improvement plan and this is reflected in our glide path.

OC.A14.Table 1 – Proposed interruptions glide path

	2020-21	2021-22	2022-23	2023-24	2024-25
Performance Commitment Target Levels	06:11	05:24	04:38	03:47	03:00

The proposed glide path will allow time for the implementation of our smart networks programme, which is essential for us to be able to deliver the target of 03:00 minutes. This programme involves the installation of ~13,500 sensors in our network, along with an intelligent control system. The programme will be completed by 2023-24, allowing time for full integration and the ability to reach the common target by 2024-25.

We have updated our long term forecast performance to reflect the above changes.

15. SRN.OC.A15 – Interruptions: ODI rate

Ofwat action	How we have responded
<p>Water supply interruptions PC: The company should explain why its proposed rates differ from our assessment of the reasonable range around the industry average as set out in</p> <p>Technical appendix 1: Delivering outcomes for customers and demonstrate that this variation is consistent with customers' underlying preferences and priorities for service improvements in water supply interruptions.</p> <p>The company should provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODI rates for water supply interruptions and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p>	Accept: Plan updated

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

We have removed the adjustments, and revisited our triangulation as per action *SRN.OC.A3*. This has led to a significant change in the incentive rates, due to our original incentive rates being so far from the rest of the industry. Our updated incentive rates can be seen in *OC.A15.Table 1 – Incentive rates*.

OC.A15.Table 1 – Incentive rates

Business Plan		IAP Response	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0.068	-0.068	0.244	-0.336

Our incentive rates now fall within the normalised ranges provided by Ofwat in *Technical Appendix 1*, for both the underperformance and outperformance incentive rates. We have included our normalised rates and Ofwat's ranges for comparison in *OC.A15.Table 2 – Normalised incentive rate ranges*.

OC.A15.Table 2 – Normalised incentive rate ranges

	Underperformance incentive rates		Outperformance incentive rates	
	Ofwat	IAP (normalised)	Ofwat	IAP (normalised)
Lower Bound	-0.236	-0.312	0.184	0.226
Upper Bound	-0.778		0.536	

OC.A15.Table 3 - Response to request for Technical Appendix 1 information

Question	Answer
<p>The performance increments/decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company's business plan.</p>	<p>In our ODI-specific research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) we set our performance at 5 minutes and asked customers to move the slider for outperformance from this target. The maximum possible movement of the slider equated to 3 minutes, 30 seconds. These decrements are consistent with the plausible range of performance given our 2018-19 (F) performance of 6 minutes 21 seconds and our stretch target is 3 minutes by 2024-25.</p> <p>In our WTP–DCE research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11), which was conducted in 2017, the performance increments/decrements were in the old metric for water supply interruptions. Expressed in terms of the new metric, the starting position (S0) was 12 minutes lost/property/year with a single increment in performance (S1) being equivalent to 11 minutes lost/property/year. These were based on management judgement of the plausible AMP7 reduction when the research was conducted in 2017.</p>
<p>The basis on which unit willingness to pay (WTP) values are calculated from the result of the company's customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).</p>	<p>As described in our T.A 6.1 – Our approach to PCs and ODISs, we used absolute willingness to pay levels from our ODI research (i.e. the total bill impact customers were willing to pay for better performance for each PC).</p> <p>For our WTP –DCE research the unit willingness to pay was generated by dividing the customer bill impact by the change in performance from our starting level of service (S0) to the performance improvement level S1.</p> <p>Both customer research data points were calculated across performance increments only.</p>
<p>Whether any scaling is applied to valuations for individual service attributes (for example to account for package effects) and if so to provide information on the associated packages.</p>	<p>We have applied no scaling for this ODI</p>

16. SRN.OC.A16 – Interruptions: caps, collars and deadbands

Ofwat action	How we have responded
<p>Water supply interruptions PC: The company should provide further ODI-specific evidence to support its use of a cap and a collar, whilst also considering how its use of these features aligns with its broader approach to customer protection. The company’s evidence should include justification for the levels at which the cap and collar are set, and the company should explain why these levels are appropriate and in customers’ interests.</p>	<p>Further information provided</p>

Our detailed response

Based on feedback provided in Ofwat’s IAP, we have undertaken further work on our approach to caps and collars, and have reconsidered our position on the widespread use of caps and collars in line with both Ofwat’s feedback and other companies’ submissions. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A16* in line with the response provided in *SRN.OC.A4*.

Our updated approach is laid out in *SRN.OC.A4*. In summary, we have applied collars to financial ODIs which are financially significant or have considerable uncertainty.

Using the approach set out in *SRN.OC.A4*, we have completed a robust assessment of the ODI-specific factors that contribute to uncertainty in our ODI delivery. We have included a cap on any ODIs for which the P90 outperformance payment represents at least 10% of the total P90 outperformance payment for the relevant price control (as laid out in *SRN.OC.A7*). As explained in *SRN.OC.A4*, we also believe that all non-financially significant ODIs that have a collar, and an outperformance element, should have a cap. This is in line with Ofwat’s guidance that all financially significant or uncertain PCs should be capped, in addition to meeting our customers’ expectations around not exceeding the maximum level they are willing to pay and their aversion to large bill variations. The inclusion of caps on ODIs with collars avoids an unbalanced incentive package.

ODI-Specific Evidence

Extreme weather events can cause significant variation in water supply interruptions performance. We recently experienced such a situation, the freeze-thaw event in February-March 2018 (known as the “Beast from the East”).

We learned important lessons from this freeze-thaw incident and have taken responsible steps to perform at the required level (*IAP_TA 6_Accounting for past delivery_PD.A8*). We have demonstrated improvements in our emergency planning procedures and forecasting and monitoring capabilities, which enabled us to successfully maintain supply during a period of extreme demand during a serious warehouse fire. We are also making long-term plans; we have committed to submitting a systems-based approach to resilience to Ofwat by August 2019.

Despite these improvements, we believe that extreme weather continues to play a significant role in performance for this PC. The unpredictable and uncontrollable nature of these extreme weather events have the potential to lead to extreme outcomes which are not within reasonable management control. As such, this supports the use of a collar for this PC. Based on our collar assessment for the water supply interruptions PC, we believe it is appropriate to set a collar at the P10 performance level, due to the impact of extreme weather on performance in this area. The collar is set at the P10 level in line with Ofwat’s

expectation for PCs with considerable uncertainty (as outlined in *Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments*).

For the same reasons, we deem it appropriate to use a cap for water supply interruptions (in line with our cap approach outlined in *SRN.OC.A4*). We are applying caps where collars are in place and there is an outperformance element for the ODI, to protect customers from excessive outperformance payments due to potentially volatile performance. This supports our broader approach to customer protection and is in line with our customers' preferences around bill volatility.

Customer protections

Ofwat expects companies to take steps to protect customers from extreme outcomes, and our overall approach to customer protection was deemed sufficient by Ofwat in the IAP.

We use the cap mechanism to limit the possibility of very high bills, in line with our customers' requirements. Given this position on caps, we use collars to prevent a material downward skew in our incentives, and we use caps and collars together to minimise large bill variations, again in line with our customers' preferences.

Our approach to determining the appropriate use for collars was developed based on the principles of our broader approach to customer protections, as explained in *SRN.OC.A4*. As such, by applying this framework to the water supply interruptions PC, the use of a cap and collar in this specific instance is aligned with our broader approach to customer protections.

Cap & Collar levels

We have set our caps and collars at the P10 and P90 performance levels on an annual performance basis, as per Ofwat's expectations as laid out in *Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments*:

"We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis, where... there is considerable uncertainty"

The associated out and underperformance payments are based on our triangulated incentive rates (see *SRN.OC.A3*). For water supply interruptions this rate is based on ODI research, willingness to pay research and Ofwat data, thus the payment associated with cap and collar levels are aligned with customer preferences.

The levels and associated out / under performance payments for the water supply interruptions PC at the level of the cap and collar are shown in *OC.A16. Table 1* below. Units are property minutes lost, unless specified otherwise. These levels have changed from our initial submission based on our updated performance commitment levels outlined in *SRN.OC.A14*. As a result, the associated P10/P90 levels have also been updated to align with these new levels.

OC.A16.Table 1 – Water supply interruptions caps and collars

Measurement		2020-21	2021-22	2022-23	2023-24	2024-25
Cap	Performance level	00:03:11	00:02:24	00:01:38	00:00:47	00:00:00
	Outperformance payment (£m)	0.731	0.731	0.731	0.731	0.731
Performance Commitment Target Level		00:06:11	00:05:24	00:04:38	00:03:47	00:03:00
Collar	Performance level	00:10:46	00:09:59	00:09:13	00:08:22	00:07:35
	Underperformance payment (£m)	-1.540	-1.540	-1.540	-1.540	-1.540

17. SRN.OC.A17 – Internal sewer flooding: ODI stretch

Ofwat action	How we have responded
For this common PC we expect all companies' service levels to reflect the values we have calculated for each year of the 2020 to 2025 period.	Accept: Plan updated

Our detailed response

We have updated data table APP1 – line 27 to reflect the values calculated by Ofwat. This performance measure is now expressed in terms of number of internal sewer floods per 10,000 connected properties to aid comparability between companies. We have amended our cap and collar to keep the difference consistent with our original service levels.

We have also updated our long term forecast performance in line with the above changes.

18. SRN.OC.A18 – Internal sewer flooding: ODI rate

Ofwat action	How we have responded
<p>The company should provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODI rates for internal sewer flooding and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p> <p>The company should explain and evidence how its proposed ODI rate for this PC is coherent with the rates proposed for all other sewerage PCs (including Sewer collapses, Pollution incidents, External sewer flooding) and demonstrate how the package of ODIs across the relevant group of PCs appropriately incentivises performance in the long and short-term.</p>	Further information provided

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

We have removed the manual adjustments, and revisited our triangulation as per action *SRN.OC.A3*. This has led to a change in the incentive rates for this ODI shown in *OC.A18. Table 1 – Incentive Rates*.

OC.A18. Table 1 – Incentive Rates

Business Plan		IAP Response	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
5.0385	-5.4966	5.5567	-5.5567

Our incentive rates now fall within the normalised ranges provided by Ofwat in *Technical Appendix 1*, for both the underperformance and outperformance incentive rates. We have included our normalised rates and Ofwat's ranges for comparison. This is shown in *OC.A18. Table 2 – Normalised incentive rates*.

OC.A18. Table 2 – Normalised incentive rates

	Underperformance incentive rates		Outperformance incentive rates	
	Ofwat	IAP (normalised)	Ofwat	IAP (normalised)
Lower Bound	-2.745	-2.871	2.133	2.871
Upper Bound	-7.445		4.865	

We have provided information related to the request relating to Technical Appendix 1 in OC.A18.Table 3 - Response to request for Technical Appendix 1 information.

OC.A18.Table 3 – Response to request for Technical Appendix 1 information

Question	Answer
<p>The performance increments/decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company’s business plan.</p>	<p>In our ODI-specific research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) we set our performance at 331 properties internally flooded annually (c. 1.68 per 10,000 connected properties) and asked customers to move the slider for outperformance from this target. The maximum possible movement of the slider equated to 281 properties internally flooded annually. These increments are consistent with the plausible range of performance given our 2017-18 (f) performance is 2.05 per 10,000 connected properties and our stretch target is 1.34 per 10,000 connected properties internally flooded by 2024-25.</p> <p>In our WTP–DCE research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11), which was conducted in 2017. The starting position (S0) was 1.9 Cases/year/10,000 customers with a single increment in performance (S1) being equivalent to 1.7 Cases/year/10,000 customers. These were based on management judgement of the plausible AMP7 reduction when the research was conducted in 2017.</p>
<p>The basis on which unit willingness to pay (WTP) values are calculated from the result of the company’s customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).</p>	<p>As described in our T.A 6.1 – Our approach to PCs and ODIs, we used absolute willingness to pay levels from our ODI research (i.e. the total bill impact customers were willing to pay for better performance for each PC).</p> <p>For our WTP –DCE research the unit willingness to pay was generated by dividing the customer bill impact by the change in performance from our starting level of service (S0) to the performance improvement level S1. The customer research data points were calculated across performance increments only.</p>
<p>Whether any scaling is applied to valuations for individual service attributes (for example to account for package effects) and if so to provide information on the associated packages.</p>	<p>We have applied no scaling for this ODI</p>

Coherence of sewerage PCs

We believe the package of ODIs across the associated sewer network PCs demonstrates a reasonable balance and coherence as shown by examination of the maximum available under and outperformance payments shown in OC.A18.Table 4– Sewerage ODIs below. As ODI rates for different PCs are not directly comparable, we have based our analysis on the maximum out and underperformance payments, rather than the rates (as requested by Ofwat) to provide a clear view of relative size.

OC.A18.Table 4 – Sewerage ODIs

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)
Pollution incidents (categories 1, 2 and 3)	8.78	-9.34
Internal sewer flooding	8.21	-8.21
External sewer flooding	7.95	-12.02
Asset Health: Sewer collapses	0.00	-3.30
Surface Water Management	1.19	0.00

Internal and external sewer flooding and reducing pollution incidents all carry a similar level of maximum outperformance payment. These are key deliverables for customers and they want us to make improvements in all of these areas. The three are linked because network interventions have the potential to deliver multiple benefits and the root causes of incidents are related. Broadly similar levels of maximum outperformance payments ensure that we are not unduly skewed towards outperformance on any of these individual PCs. Sewer collapses does not carry an outperformance reward because, except in respect of its limited influence on flooding and pollution, it is not a PC that delivers direct customer benefits. It is designed to ensure we are incentivised to maintain the long term health of the network alongside delivering short term performance improvements, and is therefore a vital component of the package of incentives. External sewer flooding carries a larger underperformance penalty, reflecting the larger number of external flooding incidents, and therefore the potential penalty range as compared with internal flooding and pollution incidents, which have similar levels of maximum underperformance payment.

Long term and short term incentivisation

It is difficult to design a package of PCs which will perfectly balance short term and long term incentives. However, we believe that the combination of the level of stretch in our PC targets and the balanced package of ODIs means that our incentives are not skewed to delivery of short term performance only. Conversely, the significant level of underperformance payments for failing to deliver short term flooding and pollution reductions means we are strongly incentivised to ensure that we deliver for customers in AMP7. To deliver the degree of performance stretch in our plan in this area will require us to fundamentally change the way that we invest in, manage and operate the network, requiring us to invest in network rehabilitation as well as new technologies which will deliver longer-term network benefits. OC.A18.Table 5 - Long and short term incentivisation below sets out some of the key short and long term initiatives within our plan which will deliver these objectives.

OC.A18. Table 5 - Long and short term incentivisation

Performance Commitment	Comment on long and short term incentivisation
Pollution incidents (categories 1, 2 and 3)	In the short term we will identify high risk locations (improve our root cause analysis by using CAST (Causal Analysis using System Theory) on critical sites, greater use of leading performance indicators and use of predictive analytics). This will enable us to focus our maintenance on critical sites, improve monitoring and develop our mitigation plans. In the long term we are developing innovative flow management using catchment first principles / SUDS to enable us to sustain our performance improvement.
Internal sewer flooding	In the short term we are installing non-return valves, flood barriers and other flood mitigation activities. We are also funding a dedicated team to analyse external flooding data to identify optimal interventions from lessons learnt in our AMP6 zero Internal flooding zones project. We are also trialling an innovative customer-led surface water reduction programme to remove surface water from sewers, with both short and long-term benefits. In the longer term, we are investing more in our sewer replacement, and improving our monitoring on key parts of the network, further we are improving our IT and GIS models and our hydraulic models to more accurately identify flood risk. We are also stepping up our education programme aimed at changing long term customer behaviours in relation to unflushables.
External sewer flooding	
Asset Health: Sewer collapses	Performance is already at a low level and in the short term we will continue to improve our performance through improved data collection, management and analysis to better identify high risk sewers and optimise our interventions. In the longer term we are developing smart sewer networks, with enhanced levels of automation and real-time monitoring, with benefits across all of this group of PCs.

19. SRN.OC.A19 – Internal sewer flooding: caps, collars and deadbands

Ofwat action	How we have responded
The company should provide further ODI- specific evidence to support its use of a cap and a collar, whilst also considering how its use of these features aligns with its broader approach to customer protection. The company’s evidence should include justification for the levels at which the cap and collar are set, and the company should explain why these levels are appropriate and in customers’ interests.	Further information provided

Our detailed response

Based on feedback provided in Ofwat’s IAP, we have undertaken further work on our approach to caps and collars, and have reconsidered our position on the widespread use of caps and collars in line with both Ofwat’s feedback and other companies’ submissions. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A19* in line with the response provided in *SRN.OC.A4*.

Our updated approach is laid out in *SRN.OC.A4*. In summary, we have applied collars to financial ODIs which are financially significant or have considerable uncertainty. We have then applied caps to the subset of these PCs which include an outperformance payment.

Using the approach set out in *SRN.OC.A4*, we have completed a robust assessment of the ODI-specific factors that contribute to uncertainty in our ODI delivery. We have included a cap on any ODIs for which the P90 outperformance payment represents at least 10% of the total P90 outperformance payment for the relevant price control (as laid out in *SRN.OC.A7*). As explained in *SRN.OC.A4*, we also believe that all non-financially significant ODIs that have a collar, and an outperformance element, should have a cap. *SRN.OC.A4*, we believe that all ODIs that have a collar, and an outperformance element, should have a cap. This is in line with Ofwat’s guidance that all financially significant or uncertain PCs should be capped, in addition to meeting our customers’ expectations around not exceeding the maximum level they are willing to pay and their aversion to large bill variations. The inclusion of caps on ODIs with collars avoids an unbalanced incentive package.

ODI-Specific Evidence

Based on our collar assessment for the internal sewer flooding PC, we believe it is appropriate to set a collar at the P10 performance level due to the impact of extreme weather on performance in this area. The collar is set at the P10 level in line with Ofwat’s expectation for PCs with considerable uncertainty (as outlined in *Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments*).

Extreme rainfall events can have a significant influence on sewer capacity, and can result in overloading of sewers. The unpredictable and uncontrollable nature of such events has the potential to lead to extreme outcomes which are not within reasonable management control. This supports the use of a collar for this PC.

For the same reasons, we deem it appropriate to use a cap for internal sewer flooding (in line with our cap approach outlined in *SRN.OC.A4*). We are applying caps where collars are in place and there is an outperformance element for the ODI, to protect customers from excessive outperformance payments due to potentially volatile performance. This supports our broader approach to customer protection, and is in line with our customers’ preferences around bill volatility.

Customer protections

Ofwat expects companies to take steps to protect customers from extreme outcomes, and our overall approach to customer protections was deemed sufficient by Ofwat in the IAP.

We use the cap mechanism to limit the possibility of very high bills, in line with our customers' requirements. Given this position on caps, we use collars to prevent a material downward skew in incentives, and we use caps and collars together to minimise large bill variations, again in line with our customers' preferences.

Our approach to determining the appropriate use for collars was developed based on the principles of our broader approach to customer protections, as explained in *SRN.OC.A4*. As such, by applying this framework to the internal sewer flooding PC, the use of a cap and collar in this specific instance is aligned with our broader approach to customer protections.

Cap & Collar levels

We have set our caps and collars at the P10 and P90 performance levels on an annual performance basis, as per Ofwat's expectations in Technical Appendix 1: Delivering outcomes for customers (Section 6: Customer protection against unexpectedly high outperformance payments):

"We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis, where... there is considerable uncertainty"

The associated out and underperformance payments are based on our triangulated incentive rates (see *SRN.OC.A3*). For internal sewer flooding this rate is based on ODI research and willingness to pay research, thus the payments associated with cap and collar levels are aligned with customer preferences.

The levels and associated out / under performance payments for the internal sewer flooding PC at the level of the cap and collar are shown in *OC.A19. Table 1 - Internal sewer flooding caps and collars* below. Units are number of incidents per 10,000 connected properties, unless specified otherwise.

OC.A19. Table 1 – Internal sewer flooding caps and collars

Measurement		2020-21	2021-22	2022-23	2023-24	2024-25
Cap	Performance level	1.38	1.33	1.28	1.14	1.04
	Outperformance payment (£m)	1.642	1.642	1.642	1.642	1.642
Performance Commitment Target Level		1.68	1.63	1.58	1.44	1.34
Collar	Performance level	1.98	1.93	1.88	1.74	1.64
	Underperformance payment (£m)	-1.642	-1.642	-1.642	-1.642	-1.642

20. SRN.OC.A20 – Pollution incidents: ODI stretch

Ofwat action	How we have responded
For this common PC we expect all companies' service levels to reflect the values we have calculated for each year of the 2020 to 2025 period.	Accept: Plan updated

Our detailed response

We have updated data table APP1 – line 28 to reflect the values calculated by Ofwat. This performance measure is now expressed in terms of normalised values to aid comparability between companies. We have amended our cap and collar to keep the difference consistent with our original service levels.

We have also updated our long term forecast performance in line with the above changes.

We have also updated WWS18 – line 3 'Number of category 3 pollution incidents' for all five years.

21. SRN.OC.A21 – Pollution incidents: ODI type

Ofwat action	How we have responded
Pollution incidents PC: The company should provide a rationale that sufficiently justifies the inclusion of an outperformance payment for this PC and provide evidence of customer support.	Further information provided

Our detailed response

Pollution incidents is one of Ofwat’s 14 mandatory common PCs, with a common definition. We have set a stretching target in line with our assessment of the upper quartile for the sector, and which will require us to improve performance by over the Environment Agency’s 40% requirement. Thus any outperformance payments will only be attainable for performance that is at the level of the best in the sector. If we do not deliver performance improvements, we will incur significant penalties.

Our customers have demonstrated a strong willingness to pay for reductions in pollution incidents. In both of our customer valuation exercises (ODI research and willingness to pay studies), customers were willing to reward us between £587k and £601k for each reduction in pollution incidents each year. Our ODI research was designed explicitly to elicit customers’ willingness to pay for improvements beyond the level included in our business plan (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3, 11*)

More generally, our customers have been very clear that looking after and protecting our environment is a key priority for them. They want services to be delivered in a way that looks after and protects the environment now and in the future. Customers are supportive of activity that would enhance the environment for nature and wildlife (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Documents 2, 5, 13, 21, 23*).

In our latest research performed in March 2019 (*IAP_Ta11_OC_ODI research 2019*), customers demonstrated strong customer support for a reduction in pollution incidents and are willing to pay Southern Water for performing beyond our stretch target. This feedback was provided after the customers were shown our proposed maximum bill impact for this ODI. Customers said reducing the number of pollution incidents needs to be a priority. They felt Southern Water need to take this seriously and are pleased that we are doing so.

22. SRN.OC.A22 – Pollution incidents: ODI rate

Ofwat action	How we have responded
<p>Pollution incidents PC: The company should provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODI rates for pollution incidents and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p> <p>The company should explain and evidence how its proposed ODI rate for this PC is coherent with the rates proposed for all other sewerage PCs (including Internal sewer flooding, Sewer collapses, External sewer flooding) and demonstrate how the package of ODIs across the relevant group of PCs appropriately incentivises performance in the long and short-term.</p>	Further information provided

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

We have removed the manual adjustments, and revisited our triangulation as per action *SRN.OC.A3*. This has led to a change in the incentive rates for this ODI, as shown in *OC.A22.Table 1 – Incentive rates*.

OC.A22.Table 1 – Incentive rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0.323	-0.341	0.296	-0.315

Our incentive rates now fall within the normalised ranges provided by Ofwat in *Technical Appendix 1*, for both the underperformance and outperformance incentive rates. We have included our normalised rates and Ofwat's ranges in *OC.A22.Table 2 – Normalised incentive rates* for comparison.

OC.A22.Table 2 – Normalised incentive rates

	Underperformance incentive rates		Outperformance incentive rates	
	Ofwat	IAP (normalised)	Ofwat	IAP (normalised)
Lower Bound	-0.159	-0.163	0.131	0.153
Upper Bound	-0.309		0.253	

OC.A22.Table 3 - Response to request for Technical Appendix 1 information

Question	Answer
<p>The performance increments/decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company’s business plan.</p>	<p>In our ODI-specific research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) we set our performance at 92 incidents (c.23 incidents per 10,000 km sewers) and asked customers to move the slider for outperformance from this target. The maximum possible movement of the slider equated to 64 incidents (c.16 incidents per 10,000 km sewers). These increments are consistent with the plausible range of performance given our 2017-18(f) performance is 31.1 incidents per 10,000 km sewers and our stretch target is 19.5 incidents per 10,000 km sewers by 2024-25.</p> <p>In our WTP–DCE research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11), which was conducted in 2017, the performance increments/decrements were in the old metric for pollution incidents. Expressed in terms of the new metric, the starting position (S0) was 75 per year with a single increment in performance (S1) being equivalent to 68 per year. These were based on management judgement of the plausible AMP7 reduction when the research was conducted in 2017.</p>
<p>The basis on which unit willingness to pay (WTP) values are calculated from the result of the company’s customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).</p>	<p>As described in our T.A 6.1 – Our approach to PCs and ODIs, we used absolute willingness to pay levels from our ODI research (i.e. the total bill impact customers were willing to pay for better performance for each PC).</p> <p>For our WTP –DCE research the unit willingness to pay was generated by dividing the customer bill impact by the change in performance from our starting level of service (S0) to the performance improvement level S1. The customer research data points were calculated across performance increments only.</p>
<p>Whether any scaling is applied to valuations for individual service attributes (for example to account for package effects) and if so to provide information on the associated packages.</p>	<p>We have applied no scaling for this ODI</p>

Coherence of sewerage PCs

We believe the package of ODIs across the associated sewer network PCs demonstrates a reasonable balance and coherence as shown by examination of the maximum available under and outperformance payments shown in *OC.A22.Table 4 - Sewerage ODIs* below. As ODI rates for different PCs are not directly comparable, we have based our analysis on the maximum out and under payments, rather than the rates (as requested by Ofwat) to provide a clear view of relative size.



OC.A22.Table 4 – Sewerage ODIs

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)
Pollution incidents (categories 1, 2 and 3)	8.78	-9.34
Internal sewer flooding	8.21	-8.21
External sewer flooding	7.95	-12.02
Asset Health: Sewer collapses	0.00	-3.30

In our March 2019 customer research (*IAP_Ta11_OC_ODI research 2019*), customers told us that they are supportive of outperformance payment on PCs for which negative outcomes would be hugely detrimental to customers and are therefore important to mitigate against. Internal and external sewer flooding and reducing pollution incidents are key deliverables for customers and they want us to make improvements in all of these areas. As such, all carry a similar level of maximum outperformance payment.

The three are linked because network interventions have the potential to deliver multiple benefits and the root causes of incidents are related. Broadly similar levels of maximum outperformance payments ensure that we are not unduly skewed towards outperformance on any of these individual PCs. Sewer collapses does not carry an outperformance reward because, except in respect of its limited influence on flooding and pollution, it is not a PC that delivers direct customer benefits. It is designed to ensure we are incentivised to maintain the long term health of the network alongside delivering short term performance improvements, and is therefore a vital component of the package of incentives. External sewer flooding carries a larger underperformance penalty, reflecting the larger number of external flooding incidents, and therefore the potential penalty range as compared with internal flooding and pollution incidents, which have similar levels of maximum underperformance payment.

Long term and short term incentivisation

It is difficult to design a package of PCs which will perfectly balance short term and long term incentives. However, we believe that the combination of the level of stretch in our PC targets and the balanced package of ODIs means that our incentives are not skewed to delivery of short term performance only. Conversely, the significant level of underperformance payments for failing to deliver short term flooding and pollution reductions means we are strongly incentivised to ensure that we deliver for customers in AMP7. To deliver the degree of performance stretch in our plan in this area will require us to fundamentally change the way that we invest in, manage and operate the network, requiring us to invest in network rehabilitation as well as new technologies which will deliver longer-term network benefits. *OC.A22.Table 5 – Long and short term incentivisation* below sets out some of the key short and long term initiatives within our plan which will deliver these objectives.

OC.A22.Table 5 – Long and short term incentivisation

Performance Commitment	Comment on long and short term incentivisation
Pollution incidents (categories 1, 2 and 3)	In the short term we will identify high risk locations (improve our root cause analysis by using CAST (Causal Analysis using System Theory) on critical sites, greater use of leading performance indicators and use of predictive analytics). This will enable to focus our maintenance on critical sites, improve monitoring and develop our mitigation plans. In the long term we are developing innovative flow management using catchment first principles / SUDS to enable us to sustain our performance improvement.
Internal sewer flooding	In the short term we are installing non-return valves, flood barriers and other flood mitigation activities. We are also funding a dedicated team to analyse external flooding data to identify optimal interventions from lessons learnt in our AMP6 zero Internal flooding zones project. We are also trialling an innovative customer-led surface water reduction programme to remove surface water from sewers, with both short and long-term benefits.
External sewer flooding	In the longer term, we are investing more in our sewer replacement, and improving our monitoring on key parts of the network, further we are improving our IT and GIS models and our hydraulic models to more accurately identify flood risk. We are also stepping up our education programme aimed at changing long term customer behaviours in relation to unflushables.
Asset Health: Sewer collapses	Performance is currently at a low level, however we have a strategy to driver performance improvements in both the short term and long term. We are continuing to improve our performance through improved data collection, management and analysis to better identify high risk sewers and optimise our interventions. In the longer term we are developing smart sewer networks, with enhanced levels of automation and real-time monitoring, which will result in benefits across all of this group of PCs.

23. SRN.OC.A23 – Pollution incidents: caps, collars and deadbands

Ofwat action	How we have responded
<p>Pollution incidents PC: The company should provide further ODI-specific evidence to support its use of a cap and a collar, whilst also considering how its use of these features aligns with its broader approach to customer protection. The company's evidence should include justification for the levels at which the cap and collar are set, and the company should explain why these levels are appropriate and in customers' interests. The company should consider extending the performance range over which incentive payments apply, by reducing the level of the cap and increasing the level of the collar.</p>	<p>Further information provided</p>

Our detailed response

Based on feedback provided in Ofwat's IAP, we have undertaken further work on our approach to caps and collars, and have reconsidered our position on the widespread use of caps and collars in line with both Ofwat's feedback and other companies' submissions. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A23* in line with the response provided in *SRN.OC.A4*.

Our updated approach is laid out in *SRN.OC.A4*. In summary, we have applied collars to financial ODIs which are financially significant or have considerable uncertainty.

Using the approach set out in *SRN.OC.A4*, we have completed a robust assessment of the ODI-specific factors that contribute to uncertainty in our ODI delivery. We have included a cap on any ODIs for which the P90 outperformance payment represents at least 10% of the total P90 outperformance payment for the relevant price control (as laid out in *SRN.OC.A7*). As explained in *SRN.OC.A4*, we also believe that all non-financially significant ODIs that have a collar, and an outperformance element, should have a cap. This is in line with Ofwat's guidance that all financially significant or uncertain PCs should be capped, in addition to meeting our customers' expectations around not exceeding the maximum level they are willing to pay and their aversion to large bill variations. The inclusion of caps on ODIs with collars avoids an unbalanced incentive package.

ODI-Specific Evidence

Based on our collar assessment for the pollution incidents PC, we believe it is appropriate to set a collar at the P10 performance level due to the impact of extreme weather on performance in this area. The collar is set at the P10 level in line with Ofwat's expectation for PCs with considerable uncertainty (as outlined in *Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments*).

Extreme rainfall events can have a significant influence on sewer capacity and can result in overloading of sewers. Extreme cold or dry weather can lead to sewer collapses as a result of ground movement. These occurrences can lead to Pollution incidents. The unpredictable and uncontrollable nature of such events has the potential to lead to extreme outcomes which are not within reasonable management control. This supports the use of a collar for this PC.

Another key cause of pollution incidents is sewer blockages, largely due to sewer misuse by customers. We are able to influence customer behaviour to some degree around the correct use of sewers, however this is not entirely within management control. This further supports the adoption of a collar for this PC.

Through AMP6, we have increased investment in reducing blockages in two ways (further detail in Appendix PD1):

- Improving education around sewer misuse (£261k p.a.)
- Jetting of sewers (£2.7m in 2018)

This increased spend illustrates our commitment to taking all responsible steps to ensure we can retain an acceptable level of management control over performance in this area. Our approach to education around sewer misuse has won awards and we also set up an industry review forum to share good practice on network protection.

For the same reasons, we consider it appropriate to use a cap for pollution incidents (in line with our cap approach outlined in *SRN.OC.A4*). We are applying caps where collars are in place and there is an outperformance element for the ODI, to prevent excessive outperformance payments as a result of potentially volatile performance which would, in turn, lead to excessively volatile customer bills. This supports our broader approach to customer protection, and is in line with our customers' preferences around bill volatility.

Based on the potential volatility of performance for pollution incidents due to extreme rainfall and sewer misuse, we deem it appropriate to provide protections in both directions in the form of caps and collars.

Customer protections

Ofwat expects companies to take steps to protect customers from extreme outcomes, and our overall approach to customer protections was deemed sufficient by Ofwat in the IAP.

We use the cap mechanism to limit the possibility of very high bills, in line with our customers' requirements. Given this position on caps, we use collars to prevent a material downward skew in incentives, and we use caps and collars together to minimise large bill variations, again in line with our customers' preferences.

Our approach to determining the appropriate use for collars was developed based on the principles of our broader approach to customer protections, as explained in *SRN.OC.A4*. As such, by applying this framework to the pollution incidents PC, the use of a cap and collar in this specific instance is aligned with our broader approach to customer protections.

Cap & Collar levels

We have considered Ofwat's challenge to extend the performance range over which incentive payments apply, and we accept this.

The performance ranges in our September Business Plan were based on expert judgement, because we had no data relating to performance at our target level, which is well below the range of historic performance (*BP_TA6.2_Our Package of PCs and ODIs*).

We reviewed other companies' performance ranges, and identified variation between our performance and others. We have accordingly revised our approach to determining our performance range. To bring our performance range more into line with other companies we have now included historic performance, as well as expert judgement, within the calculation.

This has extended our performance range by reducing the level of the cap and increasing the level of the collar, as per OC.A23. Table 1 – Revised caps and collars below (in number of pollution incidents in a calendar year per 10,000km sewers).

OC.A23. Table 1 – Revised caps and collars

Measurement		2020-21	2021-22	2022-23	2023-24	2024-25
Cap	September Business Plan	25.4	24.0	22.1	20.4	17.6
	IAP revised	18.6	17.8	17.1	16.5	13.6
Collar	September Business Plan	30.2	28.8	27.0	25.2	22.4
	IAP revised	30.4	29.7	28.9	28.3	25.4

As in our September Business Plan, we have set our caps and collars at our reassessed P10 and P90 performance levels on an annual performance basis, based on this extended performance range, as per Ofwat's expectations as laid out in *Technical Appendix 1: Delivering outcomes for customers (Section 6: Customer protection against unexpectedly high outperformance payments)*:

“We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis, where... there is considerable uncertainty”

The associated out and underperformance payments are based on our triangulated incentive rates (see SRN.OC.A3). For pollution incidents this rate is based on ODI research and willingness to pay research, thus the payment associated with cap and collar levels are aligned with customer preferences.

The levels and associated out / under performance payments for the pollution incidents PC at the level of the cap and collar are shown in OC.A23. Table 2 – Pollution incidents caps and collars below. Units are the total number of pollution incidents (categories 1 to 3) in a calendar year per 10,000km sewers.

OC.A23. Table 2 - Pollution incidents caps and collars

Measurement		2020-21	2021-22	2022-23	2023-24	2024-25
Cap	Performance level	18.6	17.8	17.1	16.5	13.6
	Outperformance payment (£m)	1.756	1.756	1.756	1.756	1.756
Performance Commitment Target Level		24.5	23.7	23.0	22.4	19.5
Collar	Performance level	30.4	29.7	28.9	28.3	25.4
	Underperformance payment (£m)	-1.868	-1.868	-1.868	-1.868	-1.868

24. SRN.OC.A24 – Drought restrictions: definition

Ofwat action	How we have responded
The company should explain its level of stretch and submit the intermediate calculation outputs as shown in the common definition guidance published on our website for the drought resilience metric.	Further information provided

Our detailed response

We believe we have applied the guidance correctly.

The guidance states that the overall metric will be, on a company basis, the percentage of customer population at risk of experiencing severe restrictions (for example, standpipes or rota cuts as part of Emergency Drought Orders) in a 1-in-200 year drought, on average, over 25 years. The guidance also states that companies' forecasts should include the impacts of less severe restrictions, e.g. temporary use bans or non-essential use bans, on the SDB input components (i.e. supply or demand) at a frequency stated in their WRMPs, when calculating this measure. This may include drought orders and permits where these are likely to be permitted (consistent with a company's WRMP) and where the benefits reflect those that would be considered reasonable in a 1-in-200 year drought.

The level of stretch is set at 0%, the maximum possible level as our WRMP already solves the company deficit to a 1:200 level. This reflects the preferences of our customers and the fact that we operate in a water stressed area. While this represents maintaining our current level of performance, it nonetheless requires us to deliver the WRMP, including the stretching PCC and leakage targets as well as significant investment in new water supplies.

The key assumptions used in the calculation of the metric are set out below:

- The number of customers, which is assumed to be total household population.
- The baseline forecast is synonymous with our WRMP baseline forecast; this assumes all customers in a zone are at risk when the zone has a deficit.
- Commitment is synonymous with WRMP final plan forecast i.e. it includes all WRMP selected options.

The intermediate calculations are set out in the supporting document *IAP_TA11_OC_Intermediate Calculations*.

The baseline forecast, showing the risk associated with not delivering the schemes in our WRMP, shows at least 50% of customers are at risk throughout each year. When the WRMP schemes are taken account of, this risk reduces to 0% customers at risk through a combination of supply schemes, efficiencies and lesser drought permits/orders. This means that no customers will be at risk of severe restrictions if we deliver our WRMP.

OC.A24. Table 1 – Baseline performance (absolute, %), customers at risk (absolute, %) below shows the 25-year number and % of customers at risk in the baseline and WRMP scenarios, as per Table 5 in the Ofwat drought resilience metric guidance.

OC.A24. Table 1 – Baseline performance (absolute, %), customers at risk (absolute, %)

	AMP7					Long-term	
	2020-21	2021-22	2022-23	2023-24	2024-25	2029-30	2039-40
Baseline performance Total company pop at risk	1,661,593	1,303,542	1,342,905	1,355,134	1,366,679	2,157,841	2,660,799
Baseline performance % of company customers at risk	65	52	52	52	52	79	92
PR19 commitment – Total company pop at risk	0	0	0	0	0	0	0
PR19 commitment - % of company customers at risk	0	0	0	0	0	0	0

25. SRN.OC.A25 – Flooding risk: definition

Ofwat action	How we have responded
The company should adopt the standard definition in full, providing full details of any assumptions in its measurement and reporting methodology, including all the information set out in section 3.6 of Developing and Trialling Wastewater Resilience Metrics, Atkins.	Further information provided

Our detailed response

Use of the standard definition

We believe that we have adopted the standard definition in full, as provided in the IAP_TA11_OC_Developing and Trialling Wastewater Resilience Metrics, Atkins. The metric we are measuring against is the hybrid metric as per Atkins' guidance. *"A hybrid metric has been developed that makes use of both the principles developed for Options 1a and 1b (i.e. a mix of engineering judgement and modelled outputs)."*

This revised/hybrid metric and the stages and process set out in Section 3 of the report we been followed. This allowed for use of:

- A 1 in 50 year storm network model simulations and predictions of flooding to assess and report population at risk of flooding in sewerage catchments which have been modelled.
- An engineering judgement for assessment and reporting of flooding risk in extreme rainfall events in sewerage catchments that do not have models.

In general, because modelling and Option 1b has been used to assess the flooding risk for most of the Southern Water population then this is an assessment of hydraulic overload flooding risk rather than other causes of flooding risk. Adopting the Atkins approach in Option 1b of creating buffer circles for model predicted flooding volumes and counting address-points within the circles for Option 1b means that internal and external flooding risk is not defined or excluded.

Reporting methodology

The methodology applied to calculate our overall risk metric can be divided into two basic components:

- For the catchments that have not been modelled we apply a Stage 2 vulnerability assessment and a Stage 4 - Option 1a assessment. Unmodelled catchments represent 268 of Southern Water's 379 foul/combined sewerage catchments but cover only 6.3% of the served population. The approach essentially requires assessing a Vulnerability Risk Grade for each unmodelled catchment. The Vulnerability Grades range from 1 to 5 with the grade being based on criteria given for each grade in the Atkins report. The grade is then applied to the population of the catchment in order to calculate the population with Vulnerability Risk of High, Medium, or Low. The population associated with catchments of Vulnerability Risk Grade 5 are summarised as High Risk.
- For modelled catchments, we apply Stage 5 - Option 1b of the Atkins methodology. Modelled catchments represent 111 of Southern Water's 379 foul/combined sewerage catchments but cover 94% of the served population. The 50 year storm model predictions of flooding at nodes/manholes are used to identify the population at risk. The catchments are also assessed for a Vulnerability Risk Grade. The population identified as at risk from the predicted flooding and associated with catchments of Vulnerability Risk Grade 5 are categorised as High Risk.

OC.A25. Table 1 – Risk assessment outputs below provides a summary of the outputs from the hybrid solution.

OC.A25. Table 1 – Risk assessment outputs

Stage	Number of Catchments	Population represented	Is External flooding Included?	How is Flooding Other causes treated	Separate Vulnerability Risk Grade			Hybrid Vulnerability Risk Grade		
					Low %	Medium %	High %	Low %	Medium %	High %
2. Non-modelled. Vulnerability Grade 1 & 2	69	0.25%	Yes, external flood risk is accounted for as well as internal. These catchments had no sewer flooding risk from historic hydraulic overload incidents as evidenced by no External and Internal DG5 at risk properties/areas	These catchments had no repeated blockage risk or flooding risk evidence from historic incidents as evidenced by a lack of MSTs (Multiple Scheduled Tasks) to address repeat blockage or flooding risk.	0.25	-	-			
4. Non-modelled. Option 1a	199	6.07%	Yes. A high percentage of these catchments or functional areas had Medium Risk Vulnerability Grading due to sewer flooding risk from historic hydraulic overload incidents as evidenced by External and Internal DG5 at risk properties/areas	A high percentage of these catchments or functional areas had Medium Risk Vulnerability Grading due to repeated blockage risk or flooding risk evidence from historic incidents (potentially including external flooding) as evidenced by MSTs (Multiple Scheduled Tasks) to address repeat blockage or flooding risk.	0	4.81	1.26	87.57%	4.82%	7.61%
5. Modelled. Option 1b	111	93.71%	External flooding isn't explicitly included as determined by model predictions although the process of Vulnerability Grading of a catchment accounts for external flooding risk. The Atkins guidance (which was followed) is simply to include all address-points that fall within a circle radiating from the model predicted flooding node/manhole – the circle radius being dependent only on the volume of flooding and as per the guidelines given.	Flooding other causes is not applicable when the at risk flooding locations are being determined by network model predictions. However the process of Vulnerability Grading of a catchment accounts for flooding other cause risk.	87.32	0.10	6.35			
Total	379	100%								

Treatment of flooding within metric

The analysis for catchments without a model (Option 1a) accounts for all flooding (external flooding and internal flooding risk). Our Vulnerability Grading assessment includes external flooding risk for Vulnerability Grades 3 or 4 “Sewer flooding risk from historic reported incidents” and “Repeated blockage risk from historic reported incidents”. Flooding due to other causes is also considered in the Vulnerability category “Repeated blockage risk from historic reported incidents”. Catchments with these Vulnerability Grades will then have whole catchment populations as Medium risk.

For those catchments with a model (Option 1b) the population at risk is identified by all address-points within the circle radiating from the manhole predicted to flood by the model. This means that internal and external flooding risk is not defined or excluded. These models focus on hydraulic overload, therefore flooding from other causes are excluded from these calculations. However, because of the Vulnerability Grading assessment does take account of external flooding and other causes flooding, there is potential for the flooding to be given Medium risk. Of the 111 modelled catchments, all were considered at least Medium risk from this Vulnerability Grading. However, 109 of the 111 were identified as Grade 5 through other aspects of the Vulnerability Grading and hence High risk.

Overall, this means that external flooding and other cause flooding had a very small bearing on defining whether the model predicted flooding was categorised Low, Medium, or High risk.

Further details of how we calculated the risk for the hybrid approach are set out in the following supporting spreadsheets.

- **IAP_TA11_OC_Option 1a Summary and Results.** This file gives details of how catchments and populations were derived and which data-sets were used in the Vulnerability Grading assessments. The

assessments and populations were then used to populate the summary Tables 4, Table 6, and 7 as required by the Atkins guidance report are shown below.

- *IAP_TA11_OC_Flooding Resilience Guidance Note*. This provides details on our selection of the 111 catchment models for the Option 1b process. Unverified models or part catchment models were not selected and were subject to the Option 1a process for unmodelled catchments.
- *IAP_TA11_OC_Model Confidence Assessment*. This provides details of our model confidence grading and details of the methodology applied for the confidence grading.
- *IAP_TA11_OC_Table 9 Outputs*. This provides the summary Table 9, which is the final high level summary and includes a summary of results from both the unmodelled and modelled catchment approaches.

These files show the analysis used to calculate the outputs required in section 3.6 of the Atkins guidance (see below).

Information set out in section 3.6 of *IAP_TA11_OC_Developing and Trialling Wastewater Resilience Metrics, Atkins*

Versions of the output tables *Atkins.Tables 6-9*, as required by section 3.6 of the Atkins guidance, are included below.

Atkins.Table 6 – Detailed reporting – metric coverage

Detailed reporting - metric coverage						
Total pe served	Total pe in excluded	Percentage of total pe in excluded catchments	Total pe Option 1a	Percentage of total pe Option 1a Total pe	Total pe Option 1b	Percentage of total pe Option 1b
4,840,575	0	0%	297,757	6%	4,542,818	94%

Atkins.Table 7 – Detailed reporting – option 1a collated

Detailed reporting - Option 1a collated				
	Detailed vulnerability grade	Number of catchments or 'functional areas'	Total pe in catchments or 'functional areas' at vulnerability risk	Percentage of total Option 1a pe
	5	54	59,468	20%
	4	111	194,377	65%
	3	55	33,680	11%
	2	10	1,599	1%
	1	59	8,634	3%
Totals	-	289	297,757	100%

Atkins.Table 8 – Detailed reporting – option 1b collated

High-level Vulnerability Grade	Total Number of Catchments	Total Number of Modelled Nodes	Total Number of Nodes Predicted to Flood	% of Nodes Predicted to Flood	Total PE in Modelled Catchments at Vulnerability Risk Grade	Total PE Associated with Flooding Nodes	PE associated with Flooding Nodes as a % of Total Modelled PE	Assessed Overall Model Confidence Grade
5	109	240,220	38,995	16%	4434218	301176	7%	A5
4	2	369	4	1%	4559	22	0%	A5
3	0	0	0	0%	0	0	0%	
2	0	0	0	0%	0	0	0%	
1	0	0	0	0%	0	0	0%	

Atkins.Table 9 – Summary reporting table

Vulnerability Risk Grade	Percentage of Total Population Served
L	88%
M	5%
H	8%

26. SRN.OC.A26 – Flooding risk: stretch

Ofwat action	How we have responded
The company should provide more evidence that it has followed the guidance and calculated the risk accurately	Further information provided

Our detailed response

Our response to *SRN.OC.A25* above confirms that we have followed the Atkins guidance for a hybrid metric. Calculation sheets showing our analysis have been provided as supporting documents to *SRN.OC.A25*.

27. SRN.OC.A27 – Main bursts: ODI type

Ofwat action	How we have responded
The company should provide a rationale that sufficiently justifies the inclusion of an outperformance payment for this ODI and evidence of customer support. The company should demonstrate how this ODI will benefit its customers. If the company cannot do this, it should remove the outperformance payment.	Further information provided

Our detailed response

Mains bursts is one of Ofwat’s 14 mandatory common PCs, with a common definition. It is a PR14 ODI for Southern Water, but with underperformance payments only.

We have set a stretching target which requires us to reduce the level of mains bursts per 1,000km by 44 per year by the end of AMP7. If we do not deliver these stretching performance improvements, we will incur significant penalties. Outperformance payments will only be available if we deliver performance which is amongst the best in the sector (better than upper quartile performance).

Our customers expressed a willingness to pay for reductions in mains bursts beyond the level included in our business plan in our ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*). Customers were willing to pay £1.81 a year per reduction in bursts per 1,000km. Our ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*) was designed explicitly to elicit customers’ willingness to pay for improvements beyond the level included in our business plan, so provides strong evidence of support for outperformance payments.

Our customers understand the importance of resilient water supply infrastructure. They want us to ensure that future generations have access to the same level of wastewater and water services as we do today by being ready for the future and they are willing to invest now to ensure this (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Documents 2, 11*). It’s therefore important for both our customers and for us to build a supply network which will remain, fit for purpose into the future. Reducing mains bursts also delivers shorter term customer benefits in terms of reduced incidence of interruptions and low pressure.

Outperformance against this ODI will therefore deliver not only improvements in the long-term health of our network, an objective strongly supported by our customers, but also short-term benefits to customers in terms of fewer interruptions and low-pressure problems.

In our latest research performed in March 2019 (*IAP_Ta11_OC_ODI research 2019*), customers demonstrated strong customer support for a reduction in mains bursts. They believe it is a key priority and it is important to invest in these areas to help prevent future instances.

28. SRN.OC.A28 – Main bursts: ODI rate

Ofwat action	How we have responded
<p>The company should explain and evidence how its proposed ODI rates for mains bursts are coherent with the rates proposed for PCs relating to the associated customer facing-impacts of the asset failure (including leakage, supply interruptions and low pressure) and demonstrate how the package of ODIs across the relevant group of PCs appropriately incentivises performance in the long and short-term.</p> <p>The company should also provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODIs rate for mains bursts and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p>	Further information provided

Our detailed response

Coherence of PCs

OC.A28. Table 1 – Coherence shows the maximum out and under-performance payments for the PCs related to the customer facing impacts of water supply asset failure. As ODI rates for different PCs are not directly comparable, we have based our analysis on the maximum out and under payments, rather than the rates (as requested by Ofwat) to provide a clear view of relative size.

OC.A28. Table 1 – Coherence

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)
Asset Health: Mains bursts	6.21	-8.76
Leakage	9.46	-11.88
Water supply interruptions	3.66	-7.70
Properties at risk of receiving low pressure	0.00	-0.69

The maximum underperformance payments for each of mains bursts, leakage and interruptions are all at a broadly similar level, with leakage being the highest, in line with customer priorities.

Leakage carries the largest available outperformance payments, reflecting the fact that this is one of our customers' highest priorities (See BP_Ta6.2_Our Package of PCs and ODIs). The potential outperformance payment for reducing bursts is high, reflecting its importance as both a root cause of customer interruptions and leakage and as a measure of the long-term health of the network. It ensures we are incentivised to maintain long-term network stability as well as deliver short-term customer improvements.

The maximum potential outperformance payments for interruptions are smaller, despite this being a high priority for customers. (This is even after a significant increase in the incentive rate within this submission.)

This largely reflects the very limited scope for us to improve performance beyond the target level which is already extremely stretching.

Low pressure was not a customer priority for improvement and therefore carries no outperformance payments (See *BP_Ta6.2_Our Package of PCs and ODIs where we identify that customers see Low Pressure as a Low priority*). Given it was a low priority, we initially proposed to discontinue this PC, but when this was tested with customers there was concern that this may lead to a deterioration in performance. This ODI is therefore retained as a safeguard for customers. The relatively modest (P10) underperformance payment reflects the much lower customer valuation of this attribute. There is no cap applied to this ODI, hence we have a strong incentive to maintain performance.

Long term and short term incentivisation

It is difficult to design a package of PCs which will perfectly balance short term and long term incentives. However, we believe that the combination of the level of stretch in our PC targets and the balanced package of ODIs means that our incentives are not skewed to delivery of short term performance only.

Across all the key water supply PCs we are committing to delivering significant improvements in performance. We will only be able to deliver through increases in the rate of mains replacement (our AMP7 programme is the largest in 20 years) and through the leverage of emerging smart technologies. Combined with operational improvements, this will mean that customers will see immediate benefits in performance in AMP7, while also delivering long-term improvements in the health and resilience of our water network.

OC.A28.Table 2 – Long and short term incentivisation

Performance Commitment	Comment on long and short term incentivisation
Mains Bursts	As with leakage, we have set a challenging target, this is only possible through the leverage of emerging smart technologies. This will mean that customers will see the immediate benefit in the short term. In parallel to this we are investing in our largest asset replacement program in 20 years to ensure long term performance improvement of the asset base. The coherence with the other PCs and total impact of not performing on mains bursts will heavily incentivise us to ensure our performance is to a good standard.
Low pressure	Low pressure is a low priority for our customers, we therefore plan to continue with current levels of investment in both the short term and long term. This will maintain performance in this area.
Water supply interruptions	In the short term we are investing in transient monitoring and control through our smart networks programme. In the long term we will be carrying out asset replacements to control remaining transients.
Leakage	As with mains bursts, we have set a challenging target, this is only possible through the leverage of emerging smart technologies. This will mean that customers will see the immediate benefit in the short term. In parallel to this we are investing in our largest asset replacement program in 20 years to ensure long term performance improvement of the asset base. The coherence with the other PCs and total impact of not performing on leakage will heavily incentivise us to ensure our performance is to a good standard.

Additional information from Technical Appendix 1

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies’ PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with

our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

In line with our updated approach to triangulation as per action *SRN.OC.A3*, we have revisited the incentive rates for this ODI. There has been no change in the incentive rates from this exercise. As such our rates remain as per our September Business Plan.

OC.A28.Table 3 – Incentive rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0.055	-0.078	0.055	-0.078

The outperformance rate has been calculated from the ODI-specific research, while the underperformance rate has been calculated using Ofwat’s recommended formula. As the marginal benefit is bigger than the marginal cost, the underperformance payment for this ODI is larger than the outperformance payment.

Our outperformance rates are in line with the median published in *Technical Appendix 1: Delivering outcomes for customers*. The underperformance rates are above the median value, but are below the upper quartile level which Ofwat has said it expects companies’ underperformance rates to be compared with.

OC.A28.Table 4 – Response to request for Technical Appendix 1 information

Question	Answer
The performance increments/decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company’s business plan.	In our ODI-specific research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) we set our performance at 86.4 bursts per 1,000km mains and asked customers to move the slider for outperformance from this target. The maximum possible movement of the slider equated to 73.4 bursts per 1,000km mains. These decrements are consistent with the plausible range of performance given our 2017-18 performance is 129 bursts per 1,000km mains and our stretch target is 85.6 bursts per 1,000 km mains by 2024-25. Our WTP–DCE research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11), was conducted in 2017. At that point we did not have clarity on the full suite of ODIs. As such, this research did not provide a comparable output for this ODI.
The basis on which unit willingness to pay (WTP) values are calculated from the result of the company’s customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).	As described in our T.A 6.1 – Our approach to PCs and ODIs, we used absolute willingness to pay levels from our ODI research (BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3) (i.e. the total bill impact customers were willing to pay for better performance for each PC). The customer research data points were calculated across performance increments only.
Whether any scaling is applied to valuations for individual service attributes (for example to account for package	We have applied no scaling for this ODI

effects) and if so to provide information on the associated packages.

29. SRN.OC.A29 – Main bursts: caps, collars and deadbands

Ofwat action	How we have responded
<p>The company should either remove the proposed underperformance deadband from this PC or provide convincing evidence to explain why this deadband is appropriate and in customers' interests. The company should reconsider whether to apply an underperformance collar to this PC, taking account of its broader approach to customer protection. If the company decides to retain the collar, it should provide a convincing, ODI-specific justification for this decision. This should include justification for the level at which the collar is set, with an explanation of how this compensates customers adequately for poor service performance.</p> <p>The company should consider increasing performance, thereby extending the performance range over which underperformance payments apply. As part of this process, the company should reconsider the level of its P10 performance estimates. Regardless of the decisions taken with regards to the underperformance collar, we expect the company to either revise its P10 estimates upwards or otherwise provide compelling evidence for the level at which they are currently set.</p>	<p>Partially accepted. Plan updated</p>

Our detailed response

Based on feedback provided in Ofwat's IAP, we have undertaken further work on our approach to caps and collars, and have reconsidered our position on the widespread use of caps and collars in line with both Ofwat's feedback and other companies' submissions. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A29* in line with the response provided in *SRN.OC.A4*.

Our updated approach is laid out in *SRN.OC.A4*. In summary, we have applied collars to financial ODIs which are financially significant or have considerable uncertainty.

Using the approach set out in *SRN.OC.A4*, we have completed a robust assessment of the ODI-specific factors that contribute to uncertainty in our ODI delivery. We have included a cap on any ODIs for which the P90 outperformance payment represents at least 10% of the total P90 outperformance payment for the relevant price control (as laid out in *SRN.OC.A7*). As explained in *SRN.OC.A4*, we also believe that all non-financially significant ODIs that have a collar, and an outperformance element, should have a cap. This is in line with Ofwat's guidance that all financially significant or uncertain PCs should be capped, in addition to meeting our customers' expectations around not exceeding the maximum level they are willing to pay and their aversion to large bill variations. The inclusion of caps on ODIs with collars avoids an unbalanced incentive package.

ODI-Specific Evidence

Based on our collar assessment for the mains bursts PC, we believe it is appropriate to set a collar at the P10 performance level due to the impact of extreme weather on performance in this area. The collar is set at the P10 level in line with Ofwat's expectation for PCs with considerable uncertainty (as outlined in *Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments*).

ODI-Specific Evidence

Based on our collar assessment for the mains burst PC, we believe it is appropriate to set a collar, due to the impact of extreme cold weather on performance in this area.

During extreme cold weather events, there is increased potential for mains to burst as a result of ground movements. The unpredictable and uncontrollable nature of such events has the potential to lead to extreme outcomes which are not within reasonable management control. This supports the use of a collar for this PC.

To ensure that incentives remain balanced, we deem it appropriate to use a cap for mains bursts (in line with our cap approach outlined in *SRN.OC.A4*). We are applying caps where collars are in place and there is an outperformance element for the ODI, to protect customers from excessive outperformance payments due to potentially volatile performance. This supports our broader approach to customer protection and is in line with our customers' preferences around bill volatility.

Customer protection

Ofwat expects companies to take steps to protect customers from extreme outcomes, and our overall approach to customer protection was deemed sufficient by Ofwat in the IAP.

We use the cap mechanism to limit the possibility of very high bills, in line with our customers' requirements. Given this position on caps, we use collars to prevent a material downward skew in our incentives, and we use caps and collars together to minimise large bill variations, again in line with our customers' preferences.

Our approach to determining the appropriate use for collars was developed based on the principles of our broader approach to customer protection, as explained in *SRN.OC.A4*. As such, by applying this framework to the mains burst PC, the use of a cap and collar in this specific instance is aligned with our broader approach to customer protections.

Deadbands

We have considered Ofwat's challenge to remove the proposed underperformance deadband from this PC, and we accept this challenge. We have removed the deadband from this ODI meaning out and underperformance payments will apply for any deviation from the target level.

Caps and collar levels

We have also considered Ofwat's challenge to increase our collar to a level consistent with recent historical performance. We have increased our P10 and P90 range based on recent industry performance and set our cap and collar at these levels.

OC.A29. Table 1 – Mains bursts per 1,000km performance for all companies below shows the industry data we have used to set our cap and collar levels. Years 2012-13 to 2014-15 are sourced from company Annual Performance Reports. Data for 2015-16 and 2016-17 are sourced from Discover Water. 2017-18 is from company business plan APP1 tables. For Bournemouth, we have assumed the same values for 2017-18 as 2016-17, as no separate data exists for that year.

OC.A29. Table 1 – Mains bursts per 10,000km performance for all companies

Company	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Sutton & East Surrey	66.00	57.00	64.00	61.00	67.34	60.80
Dee Valley	128.00	101.00	124.00	85.00	104.77	110.41
Portsmouth	79.00	69.00	89.00	66.00	73.40	70.10
Bournemouth	104.00	112.00	103.00	92.00	98.98	98.98

Southern	109.94	109.00	129.00	96.00	145.00	133.00
United Utilities	107.00	118.00	122.00	114.00	109.26	106.50
Severn Trent	122.19	134.00	134.00	102.00	109.93	121.15
Anglian	131.19	129.00	128.00	117.00	137.45	129.20
South West	146.30	164.00	174.00	147.00	102.36	102.36
Dŵr Cymru Welsh Water	129.00	140.00	129.00	110.00	133.47	151.50
South Staffs incorporating Cambridge	142.00	136.00	132.00	107.00	120.12	127.00
Wessex	152.00	153.00	162.00	141.00	156.63	161.00
Bristol	122.00	131.00	145.00	113.00	152.77	179.00
Northumbrian	154.74	151.00	158.00	148.00	165.54	162.60
Affinity	137.00	143.00	152.00	132.00	184.95	175.20
Yorkshire	163.52	169.00	188.00	159.00	181.11	216.00
South East	167.00	145.00	164.00	159.00	208.28	186.20
Thames	232.57	297.00	283.00	201.00	265.38	272.00

Using this performance data, we calculated the change in performance each year and these are set out in OC.A29. Table 2- Annual mains burst variances by company below.

OC.A29. Table 2- Annual mains burst variances by company

Company	2013-14	2014-15	2015-16	2016-17	2017-18
Sutton & East Surrey	-9.00	7.00	-3.00	6.34	-6.54
Dee Valley	-27.00	23.00	-39.00	19.77	5.64
Portsmouth	-10.00	20.00	-23.00	7.40	-3.30
Bournemouth	8.00	-9.00	-11.00	6.98	0.00
Southern	-0.94	20.00	-33.00	49.00	-12.00
United Utilities	11.00	4.00	-8.00	-4.74	-2.76
Severn Trent	11.81	0.00	-32.00	7.93	11.22
Anglian	-2.19	-1.00	-11.00	20.45	-8.25
South West	17.70	10.00	-27.00	-44.64	0.00
Dŵr Cymru Welsh Water	11.00	-11.00	-19.00	23.47	18.03
South Staffs incorporating Cambridge	-6.00	-4.00	-25.00	13.12	6.88
Wessex	1.00	9.00	-21.00	15.63	4.37
Bristol	9.00	14.00	-32.00	39.77	26.23
Northumbrian	-3.74	7.00	-10.00	17.54	-2.94
Affinity	6.00	9.00	-20.00	52.95	-9.75
Yorkshire	5.48	19.00	-29.00	22.11	34.89
South East	-22.00	19.00	-5.00	49.28	-22.08

Thames	64.43	-14.00	-82.00	64.38	6.62
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OC.A29. Table 3 – Summary of annual mains burst variances

	2013-14	2014-15	2015-16	2016-17	2017-18
Mean	3.59	6.78	-23.89	20.38	2.57
Upper Quartile	-5.43	-0.75	-31.25	7.53	-5.73
Lower Quartile	10.50	17.75	-11.00	35.70	6.81
Standard Deviation	19.22	11.40	17.95	25.07	13.81

From these variances we calculated the average standard deviation to be 17.49. Based on our 2024-25 target of 85.6 bursts per 10,000km, this equates to P90 and P10 rates of 63.2 and 108.0. We have set our caps and collars at these P10 and P90 performance levels, consistent with Ofwat's guidance in *Technical Appendix 1: Delivering outcomes for customers*.

These changes have extended our performance range by increasing the level of the collar, as per OC.A29. *Table 4 – Revised ODI caps and collars below (in number of bursts per 1,000km).*

OC.A29. Table 4 – Revised ODI caps and collars

	Submission	2020-21	2021-22	2022-23	2023-24	2024-25
Cap	September Business Plan	99.9	91.4	82.9	74.4	65.9
	IAP revised	97.2	88.7	80.2	71.7	63.2
Collar	September Business Plan	139.3	130.8	122.3	113.8	105.3
	IAP revised	142.0	133.5	125.0	116.5	108.0

Customers are often impacted indirectly through mains bursts and with the collar set at this level this is equivalent to a max penalty of £8.8m. This is our third highest penalty in the water price control, behind only CRI and Leakage (see *SRN.OC.A5*). These levels and associated out / under performance payments for the mains bursts PC at the level of the cap and collar are shown in *OC.A29. Table 5 - Maximum outperformance and underperformance payments below*. Units are number of bursts per 1,000km, unless specified otherwise.

OC.A29. Table 5 – Maximum outperformance and underperformance payments

Measurement		2020-21	2021-22	2022-23	2023-24	2024-25
Cap	Performance level	97.2	88.7	80.2	71.7	63.2
	Outperformance payment (£m)	1.243	1.243	1.243	1.243	1.243
Performance Commitment Target Level		119.6	111.1	102.6	94.1	85.6
Collar	Performance level	142.0	133.5	125.0	116.5	108.0
	Underperformance payment (£m)	-1.753	-1.753	-1.753	-1.753	-1.753

30. SRN.OC.A30 – Unplanned outage: ODI definition

Ofwat action	How we have responded
The company should provide details on the actions needed to comply with the standard definition of this common performance metric and its timetable for completing them (where there is a sub- component rated Amber or Red in table 3S of the 2018 APR submission).	Further information provided

Our detailed response

For the 2017-18 APR, of the 12 sub-components of this measure, eight were assessed as ‘Amber’, with the remaining four being ‘Green’.

We are in the process of updating our internal processes and we will have a fully compliant process in place from the end of April 2019. This will enable us to run this new process in parallel to the existing process until it is fully established. This will ensure we are able to report the RAG status in APR20 as ‘Green’ for all measures.

Note that this timing means that, with the exception of water quality operating bands component, there will be no change in the RAG status for the 2018-19 APR.

OC.A30. Table 1 – Compliance related changes below provides details of the changes that have been made to our internal process to ensure compliance.

OC.A30. Table 1 – Compliance related changes

Sub-Component	2018 APR rating	Changes in place/planned	Date
1.a Peak Week Production Capacity (PWPC) annual review	Amber	The updated PWPC has now been incorporated into the annual review of asset data in order to populate lines in Table 4.P of the Ofwat APR. We have incorporated this review into our existing business process, and have included the value in our asset database.	April 2019
1.b PWPC by production site	Amber	The above update will allow us to report PWPC by site from April 2019.	April 2019
1.c PWPC by water resource zone	Amber	The above update will allow us to report PWPC by WRZ from April 2019.	April 2019
2.a Asset failure / unplanned outage (source data)	Amber	Source data for planned and unplanned outage will be taken directly from SCADA and telemetry data, and validated from flow data, making us fully compliant with the guidance.	April 2019
5.a Reduction in capacity (reduced capacity)	Amber	Due to the above changes moving from flow to telemetry as the primary data source we will be fully compliant with this part of the guidance.	April 2019
5.b Reduction in capacity (total outage)	Amber	Due to the above changes moving from flow to telemetry as the primary data source we will be fully compliant with this part of the guidance.	April 2019
6.a Exclusions (normal water quality operating bands)	Amber	Normal water quality operating bands are now fully documented. This part of the measure will be compliant for the 2018-19 APR.	April 2019
6.b Exclusions (evidence of water quality events)	Amber	In combination with 6.a, our process for recording water quality events is being improved and will be fully compliant by mid-2019.	September 2019

31. SRN.OC.A31 – Unplanned outage bursts: stretch

Ofwat action	How we have responded
<p>The company is required to provide fully audited 2018-19 performance data by 15 May 2019. This should take the form of an early APR submission, but only for unplanned outage. Board assured data can be provided with the main APR in July 2019, and any changes will be taken into account for the final determination.</p> <p>Based on the latest performance and updated methodologies, the company should resubmit its 2019-20 to 2024-25 forecast data in the May submission. The company should also report its current and forecast company level peak week production capacity (PWPC) (Ml/d), unplanned outage (Ml/d) and planned outage (Ml/d) in its commentary for the May 2019 submission.</p>	<p>Accepted: Plan not updated</p>

Our detailed response

We confirm that the 2018-19 APR process for Unplanned Outage and the associated audit will be accelerated to enable submission by the 15th May 2019.

32. SRN.OC.A32 – Unplanned outage: ODI rate

Ofwat action	How we have responded
<p>The company should explain and evidence how its proposed ODI rate for unplanned outages is coherent with the rates proposed for PCs relating to the associated customer facing-impacts of the asset failure and demonstrate how the package of ODIs across the relevant group of PCs appropriately incentivises performance in the long and short-term. The company should also provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODIs rate for unplanned outages and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p> <p>Coherence of unplanned outage ODI and PCs relating to the associated customer-facing impacts</p>	Further information provided

Our detailed response

OC.A32. Table 1 – Customer facing impacts shows the maximum out and under-performance payments for the PCs related to the customer facing impacts of water supply asset failure. As ODI rates for different PCs are not directly comparable, we have based our analysis on the maximum out and under payments, rather than the rates (as requested by Ofwat) to provide a clear view of relative size.

OC.A32. Table 1 – Customer facing impacts

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)
Asset Health: Unplanned outage	0.00	-0.90
Water supply interruptions	3.66	-7.70
Properties at risk of receiving low pressure	0.00	-0.69

The principal customer-facing impact of asset failure in respect of unplanned outages is an increased risk of interruptions and potentially low pressure. Avoiding water supply interruptions is a high customer priority and carries significant financial incentives. Low pressure was not a priority for improvement and therefore carries no outperformance payment potential. We initially proposed to discontinue this PC, but when this was tested with customers there was concern that it may lead to a deterioration in performance. This ODI is therefore retained as a safeguard for customers. The relatively modest (P10) underperformance payment reflects the much lower customer valuation of this attribute. There is no cap applied to this ODI, hence we have a strong incentive to ensure there is no deterioration.

Unplanned outage similarly is not a customer priority for improvement, and thus carries relatively modest underperformance payments, though these are uncapped, so a material decline in performance would result in more significant underperformance payments than the P10 level shown here. Taken as a whole, we believe this package of ODIs, with a strong emphasis on interruptions (and leakage) appropriately reflects our customers' relative priorities.

Long term and short term incentivisation across relevant ODIs

It is difficult to design a package of PCs which will perfectly balance short term and long term incentives. However, we believe that the combination of the level of stretch in our PC targets and the balanced package of ODIs means that our incentives are not skewed to delivery of short term performance only.

Across all the key water supply PCs we are making a commitment to deliver significant improvements in performance. We will only be able to deliver through increases in the rate of mains replacement and investment in the long-term resilience of the processes at our treatment works.

OC.A32. Table 2 – Long and short term incentivisation below sets out some of the key short and long term initiatives within our plan which will deliver these objectives.

OC.A32. Table 2 – Long and short term incentivisation

Performance Commitment	Comment on long and short term incentivisation
Asset Health: Unplanned outage	We have a plan to improve our performance in the short term, further outage recovery is part of our WRMP outage target, and thus we will ensure our performance is sustained in the long term. We do not have a collar for this ODI, this will ensure we keep performance to a good standard.
Water supply interruptions	In the short term we are investing in transient monitoring and control through our smart networks programme. In the long term we will be carrying out asset replacements to control remaining transients.
Low pressure	Low pressure is a low priority for our customers, we therefore plan to continue with current levels of investment in both the short term and long term. This will maintain performance in this area.

Additional information from Technical Appendix 1

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in SRN.OC.A3. Please read this response in line with the response provided to SRN.OC.A3. The approach laid out in SRN.OC.A3 directly impacts our response to this question.

In our September business plan submission we calculated ODI incentive rates based on specific customer research. In *Technical Appendix 1: Delivering Outcomes for Customers*, Ofwat identified that our under-performance rate was considerably below the lower bound underperformance rate.

Given the size of the difference between the rate we proposed in our September Business Plan and the Ofwat Upper Quartile (target underperformance rate) we have revisited our approach to determining the levels for this ODI. While our September Business Plan was based on willingness-to-pay evidence (as outlined in *BP_Ta6.2_Our package of PCs and ODIs* in our September Business Plan). We have adapted our approach to set the level based on an incremental cost approach rather than on customer research.

The costs are derived from a proportion of our enhancement expenditure in our catchment solutions programme and our nitrate programme. Further information is provided in SRN.OC.A3.

Using the willingness-to-pay evidence provides a level which is driven by customers, however, we believe the refreshed approach is more suitable (and conservative) as it provides a larger underperformance rate, which is much closer aligned to Ofwat’s target range. The revised ODI incentive rates are shown below (compared against our September Business Plan levels) in *OC.A32. Table 3 – Incentive Rates*.

OC.A32. Table 3 - Incentive Rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0.000	-53.304	0.000	-89.558

Given this change in approach (such that customer research is not embedded in this calculation) we have not included the further information requested related to *Technical Appendix 1*, except to confirm that no scaling has been applied to the levels.

33. SRN.OC.A33 – Sewer collapses: ODI rate

Ofwat action	How we have responded
<p>The company should explain and evidence how its proposed ODI rate for this PC is coherent with the rates proposed for all other sewerage PCs (including Internal sewer flooding, Pollution incidents, External sewer flooding) and demonstrate how the package of ODIs across the relevant group of PCs appropriately incentivises performance in the long and short-term.</p> <p>The company should also provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODIs rate for sewer collapses and assess the appropriateness of the company’s customer valuation evidence supporting its ODI.</p>	Further information provided

Our detailed response

We believe the package of ODIs across the associated sewer network PCs demonstrates a reasonable balance and coherence as shown by examination of the maximum available under and outperformance payments shown in *OC.A33.Table 1 – Sewerage ODIs* below. As ODI rates for different PCs are not directly comparable, we have based our analysis on the maximum out and under performance payments, rather than the rates (as requested by Ofwat) to provide a clear view of relative size.

OC.A33.Table 1 – Sewerage ODIs

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)
Pollution incidents (categories 1, 2 and 3)	8.78	-9.34
Internal sewer flooding	8.21	-8.21
External sewer flooding	7.95	-12.02
Asset Health: Sewer collapses	0.00	-3.30
Surface Water Management	1.19	0.00

Sewer collapses does not carry an outperformance reward because, except in respect of its limited influence on flooding and pollution, it is not a PC that delivers direct customer benefits. The lack of outperformance payment is in line with Ofwat’s guidance in *Technical Appendix 1: Delivering Outcomes for customers*. It is designed to ensure we are incentivised to maintain the long term health of the network alongside delivering short term performance improvements, and is therefore a vital component of the package of incentives.

External sewer flooding carries a larger underperformance penalty, reflecting the larger number of external flooding incidents, and therefore the potential penalty range as compared with internal flooding and pollution incidents, which have similar levels of maximum underperformance payment.

Long term and short term incentivisation

It is difficult to design a package of PCs which will perfectly balance short term and long-term incentives. However, we believe that the combination of the level of stretch in our PC targets and the balanced package of ODIs means that our incentives are not skewed to delivery of short-term performance only. Conversely, the significant level of underperformance payments for failing to deliver short term flooding and pollution reductions means we are strongly incentivised to ensure that we deliver for customers in AMP7. To deliver the degree of improvement in performance will require us to fundamentally change the way that we invest in, manage and operate the network, requiring us to invest in network rehabilitation as well as new technologies which will deliver longer-term network benefits. *OC.A33. Table 3 – Long and short-term incentivisation* below sets out some of the key short and long-term initiatives within our plan which will deliver these objectives.

OC.A33. Table 3 – Long and short-term incentivisation

Performance Commitment	Comment on long and short term incentivisation
Pollution incidents (categories 1, 2 and 3)	In the short term we will identify high risk locations (improve our root cause analysis by using CAST (Causal Analysis using System Theory) on critical sites, greater use of leading performance indicators and use of predictive analytics). This will enable us to focus our maintenance on critical sites, improve monitoring and develop our mitigation plans. In the long term we are developing innovative flow management using catchment first principles / SUDS to enable us to sustain our performance improvement.
Internal sewer flooding	In the short term we are installing non-return valves, flood barriers and other flood mitigation activities. We are also funding a dedicated team to analyse external flooding data to identify optimal interventions from lessons learnt in the AMP6 zero Internal flooding zones project. We are trialling an innovative customer-led surface water reduction programme to remove surface water from sewers, with both short and long-term benefits.
External sewer flooding	In the longer term, we are investing more in our sewer replacement, and improving our monitoring on key parts of the network, further we are improving our IT and GIS models and our hydraulic models to more accurately identify flood risk. We are also stepping up our education programme aimed at changing long term customer behaviours in relation to unflushables.
Asset Health: Sewer collapses	Performance is already at a low level and in the short term we will continue to improve our performance through improved data collection, management and analysis to better identify high risk sewers and optimise our interventions. In the longer term we are developing smart sewer networks, with enhanced levels of automation and real-time monitoring, with benefits across all of this group of PCs.

Additional information from Technical Appendix 1

In our September Business Plan we calculated our ODI rates based on specific customer research to understand the value customers place on a range of performance improvements, including for reducing

sewer collapses. In *Technical Appendix 1: Delivering Outcomes for Customers* Ofwat identified that our under-performance rate was considerably above the lower bound underperformance rate.

Given the size of the difference between the incentive rate we proposed in our September Business Plan and the Ofwat upper quartile (the target underperformance rate) we have revisited our approach to determining the incentive rate for this ODI.

For this submission, we have changed our approach to set the level based on the relevant marginal costs, rather than our customer research. We have also reviewed our marginal costs, which were based on an allocation of costs between closely associated PCs. We have increased the allocation of costs to our external flooding PC. This is set out in more detail in our response to *SRN.OC.A3*, where we explain how we developed our forecast efficient marginal costs.

These changes have resulted in a significant reduction in the underperformance incentive rate, as seen in *OC.A33. Table 4 – Incentive rates*.

OC.A33. Table 4 – Incentive rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0	-2.944	0	-0.741

These changes bring our incentive rate more closely in to line with (but still above) the upper quartile of the incentive rate range shown in *Technical Appendix 1*.

Given this change in approach we have not included the further information requested related to Ofwat’s *Technical Appendix 1: Delivering outcomes for customers*, except to confirm that no scaling has been applied to the levels

34. SRN.OC.A34 – Sewer collapses: caps, collars and deadbands

Ofwat action	How we have responded
<p>The company should either remove the proposed underperformance deadband from this PC or provide convincing evidence to explain why this deadband is appropriate and in customers' interests.</p> <p>The company should reconsider whether to apply an underperformance collar to this PC, taking account of its broader approach to customer protection. If the company decides to retain the collar, it should provide a convincing ODI-specific justification for this decision. This should include justification for the level at which the collar is set, and an explanation of how this sufficiently protects customers from poor service performance.</p>	<p>Accepted: Plan updated</p>

Our detailed response

We have reviewed our approach to caps and collars in light of Ofwat's feedback on our business plan. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A34* together with the response provided in *SRN.OC.A4*. As a result we have removed the underperformance collar that was attached to this PC in our September Business Plan.

We have also decided to remove the underperformance deadband from this ODI. As such, we have not responded further to any additional comments in action *SRN.OC.A34*, which relate to the collar and/or deadband.

We have updated APP1 to reflect these changes.

35. SRN.OC.A35 – Treatment works compliance: Caps, Collars and Deadbands

Ofwat action	How we have responded
The company should consider changing its underperformance collar to 97% in each year which is roughly in line with its worst recent performance. It should also change its deadband to 99%, consistent with other companies.	Accepted: Plan updated

Our detailed response

We confirm that we have changed our underperformance collar to 97% in each year and our deadband to 99% in each year as requested. We have updated APP1 to reflect this change.

Based on this change, we have also updated our incentive rate in APP1 in order to keep the maximum underperformance payment at £100m. The rationale and evidence for the £100m maximum underperformance payment is set out in detail in *BP_Ta6.2_Our Package of PCs and ODIs*.

A deadband of 99% equates to three failed works. The collar of 97% equates to (just under) nine failed works. So, penalties apply for four or more failures, up to nine failed works.

This results in an annual penalty for the numeric compliance element of this ODI of £1.67m per failed works (Annual maximum penalty for numeric compliance of £10m, divided by 6 works = £1.67m). This accounts for 50% of the maximum underperformance payment against this ODI.

We have not changed the population equivalent (PE) element of this ODI which accounts for the remaining 50% of the maximum underperformance payment (previously described in *BP_TA6.2_Our Package of PCs and ODIs*, p. 111 – 114).

36. SRN.OC.A36 – Low pressure: stretch

Ofwat action	How we have responded
The company should provide sufficient evidence that its proposed targets are stretching. The company should clearly set out the evidence and rationale for its proposed targets. If it does not do this then the company should change its targets to make them stretching	Further information provided

Our detailed response

In all our research for PR19, and in our business as usual activity, low water pressure did not emerge as a high priority for improvement. As outlined in *BP_Ta6.1_Our approach to PCs_pgs 8– 11*, customers and stakeholders both rated low pressure as a Low Priority PC.

On the basis of this research, we initially planned to discontinue low pressure as a PC for PR19. However, when we tested this with customers, alongside other measures we were proposing to discontinue, they were concerned that if we did so, performance might deteriorate. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 8*). We therefore retained this as a penalty only PC, with a target to ensure that performance did not deteriorate.

The targets we have set are to maintain performance at the current level. This is consistent with both our PR14 performance commitment for low pressure and customer preferences. Our target of 257 properties represents just 0.02% of our customers. Our plan does not include any totex to reduce low pressure problems.

As customers do not make this PC a priority, but would not accept a deterioration in performance, we have created a PC which maintains current performance (and protects customers from the risk of deteriorating performance).

37. SRN.OC.A37 – Excellent bathing waters: definition

Ofwat action	How we have responded
The company should revise the definition of the PC to include a commitment to the use of official samples taken by the Environment Agency. It should also revise its definition in line with our July 2018 feedback.	Accepted: Plan updated

Our detailed response

Ofwat’s July feedback asked us to clarify our position regarding:

- “The timing of measurement of this commitment (end of period or in-period) should be explained
- We also note that the Environment Agency’s Pollution Risk Forecasting may be used in discounting of wet weather affected samples. You should consider referencing this as the means of defining exemptions.”
- The timing of the measurement is end of period, as this is a cost adjustment claim, thus the work will be completed and reviewed by the end of the AMP. We have already referenced the Environment Agency guidance relating to wet weather waivers in the definition in our business plan submission.

We confirm that our intention was to use official EA samples, but we agree that this was not clear in the definition. We propose to modify the definition as follows to clarify this.

Replace:

“The relevant assessment period is a single year of assessment from the Environment Agency, which differs from the standard 4-year average. Measurement of performance will be in line with the official samples taken as part of the revised Bathing Water Directive which is published by Defra.”

With

“The relevant assessment period is a single bathing water season in 2025 at the end of the commitment period. This differs from the standard 4-year assessment. Official samples taken by the Environment Agency in fulfilment of the Bathing Water Regulations 2013 will be used.”

The revised definition is set out below. Changes are identified by red text in italics and strikeouts. The original definition can be found in *BP_TA6.2_Our package of PCs and ODIs_ Pg 56*.

Our updated definition: Improve the number of bathing waters at ‘Excellent’ quality (Cost Adjustment Claim)

Short definition

To bring at least two from four named bathing waters to ‘Excellent’ water quality classification

Measurement

Number of the specified four bathing waters at ‘Excellent’ after the relevant assessment period

Mitigation / exceptions

As this PC is based on a single year of performance in 2024-25, if the year is classified as an ‘abnormal’ wet weather year then performance assessment would be deferred to the following year. Based on previous guidance from the Environment Agency relating to wet weather waivers, a season is classed as ‘abnormal’ when there are a number of samples two standard deviations away from the typical wet weather affected samples.

Any other information relating to the performance commitment

None

Full definition of the performance commitment

Two from four named bathing waters will be selected for improvement by 2025 to ‘Excellent’ status.

~~The relevant assessment period is a single year of assessment from the Environment Agency, which differs from the standard 4-year average. Measurement of performance will be in line with the official samples taken as part of the revised Bathing Water Directive which is published by Defra.~~ ***The relevant assessment period is a single bathing water season in 2025 at the end of the commitment period. This differs from the standard four-year assessment. Official samples taken by the Environment Agency in fulfilment of the Bathing Water Regulations 2013 will be used.*** In the revised Bathing Water Directive applied by the Environment Agency - ‘Excellent’ is defined as EC: ≤250 cfu/100ml and IE: ≤100 cfu/100ml with 95th percentile confidence level for coastal bathing waters.
(<https://environment.data.gov.uk/bwq/profiles/help-understanding-data.html>)

Two from the following four bathing waters will be improved to ‘Excellent’ classification:

- Gurnard
- Seagrove
- Ramsgate Sands
- Pevensey Bay

The PC is designed to ensure if we do not deliver at least two of the four named bathing waters to Excellent, the money associated with the non-delivery of the improvements will be returned to customers.

Further details of this PC are detailed within our Cost Adjustment Claim (CAC) submission. In the case of the CAC not being accepted this would no longer be a PC.

38. SRN.OC.A38 – Excellent bathing waters: ODI type

Ofwat action	How we have responded
The company should provide evidence to demonstrate customer support for outperformance payments on this ODI.	Further information provided

Our detailed response

Improving bathing waters was a key priority for customers in AMP6 and this is reflected in our Bathing Water Improvement Programme, which will deliver an additional seven bathing waters to the highest 'Excellent' status. It is an AMP6 ODI which has both under and outperformance penalties associated with it. Support for improving bathing waters remains strong amongst our customers.

Our customers have demonstrated a strong willingness to pay for improvements in bathing waters. In both of our main customer valuation exercises (ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*) and willingness to pay studies (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11*)), customers were willing to pay between £3.1 million and £880k for improving each bathing water to excellent over and above our target.

Our customers want us to look after and protect the natural environment of our region including maintaining and improving bathing waters. Customers and visitors to the region, and business customers in the local area, value and want bathing waters that are at the highest water quality level. Stakeholders view bathing waters as an even higher priority, citing the Government's 25-year Environment Plan which includes clear goals on bathing water improvements. Regulators and stakeholders are keen for bathing waters to be of high quality, with many councillors linking this to support for local tourism. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 46, 58, 67*).

The cost adjustment claim for bathing waters had strong support, with customers feeling that any potential bill increases were sufficiently low that customers almost universally accept them. The consensus across customers was that these claims demonstrate we are working together and portray a water provider that is acting responsibly and taking customer priorities seriously. Those who feel particularly strongly in favour of this potential claim tend to be those who live nearer to the coast and who feel the indirect effects of polluted/clean bathing waters (e.g. impact on the economy) (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 46, 58, 67*).

In our latest research performed in March 2019 (*IAP_Ta11_OC_ODI research 2019*), customers demonstrated strong customer support for the improvement of bathing waters, and they realise Southern Water are going above and beyond their statutory duties and would be willing to pay a little bit extra for the additional improvement of bathing waters. This feedback was provided after the customers were shown our proposed maximum bill impact for this ODI.

39. SRN.OC.A39 – Excellent bathing waters: ODI rate

Ofwat action	How we have responded
The company should provide further evidence to justify the higher outperformance incentive rate relative to the underperformance standard incentive rate, or revise its outperformance payment such that this is no higher than the level of underperformance standard incentive rate proposed.	Further information provided

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

We have revisited our triangulation of ODI rates, as per action *SRN.OC.A3*. This has led to a change in our outperformance incentive rates for this ODI. We have also updated the cost adjustment claim associated with this ODI which has reduced the underperformance incentive rate, as seen in *OC.A39.Table 1 – Incentive rates*

OC.A39.Table 1 – Incentive rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
1.566	-1.374	1.191	-0.683

While our outperformance incentive rate has reduced as a result of the re-triangulation, it remains higher than the underperformance incentive rate. This is because our underperformance rate is based on the value of our cost adjustment claim (CAC), while the outperformance rate is based on customer valuation. The outperformance rate was generated based on the information obtained from our WTP and ODI research.

Since submission of our September Business Plan, the value of our CAC has reduced, thus the incentive rate has in turn reduced as shown in *OC.A39.Table 2 – Value of CAC and incentive rate calculation* below.

OC.A39.Table 2 – Value of CAC and incentive rate calculation

Improve the bathing waters at excellent	Value (£m)
Total value of the CAC for bathing waters	21.251
Element of the claim relating to improving two bathing waters to 'Excellent'	2.730
Maximum underperformance penalty (50% of CAC value)	-1.365
Underperformance incentive rate per bathing water	-0.683

The outperformance incentive rate is derived independently of the CAC value and is based on our ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*) and customer willingness to pay studies (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11*). The value has reduced as a result of the updated approach to triangulation set out in *SRN.OC.A3*.

40. SRN.OC.A40 – Excellent bathing waters: caps, collars and deadbands

Ofwat action	How we have responded
The company should provide further ODI-specific evidence to support its use of a cap, whilst also considering how its use of this feature aligns with its broader approach to customer protection. The company's evidence should include justification for the level at which the cap is set, and the company should explain why its level is appropriate and in customers' interests.	Further information provided

Our detailed response

Based on feedback provided in Ofwat's IAP, we have undertaken further work on our approach to caps and collars, including reconsidering our position on the widespread use of caps and collars.

However, as outlined in *SRN.OC.A4*, we excluded PCs linked to Cost Adjustment Claims (CACs) from this updated approach. This is because these ODIs are designed to ensure that our customers are protected in the non-delivery of the improvements that are covered by the CAC.

This ODI relates to our CAC to improve two out of four named bathing waters to 'Excellent' status in AMP7, which is a continuation of a bathing water improvement programme we began in AMP6. The four named bathing waters are:

- Gurnard, Isle of Wight
- Seagrove, Isle of Wight
- Ramsgate Sands, Kent
- Pevensey Bay, East Sussex

(BP_TA6.2_Our package of PCs and ODIs_ Pg 56)

We will face a penalty – equivalent to the value of the cost adjustment claim – if we do not deliver at least two of the four named bathing waters to excellent during the period.

We will earn an outperformance payment for delivering more than two of the four named bathing waters. In our September Business plan we included a cap on this ODI to limit overpayments at four bathing waters brought to excellent. As the definition limits the payments to four specific bathing waters, the definition provides a natural cap for performance on this ODI. As such, we have removed the cap from this ODI.

41. SRN.OC.A41 – Drinking water taste and odour: ODI rate

Ofwat action	How we have responded
The company should explain why it has set its underperformance payment symmetrically and justify why investment in this PC is in customers' interests. The company should also provide evidence to justify magnitude of its proposed outperformance payment rates including the 10% uplift applied to generate them.	Further information provided

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response to *SRN.OC.A41* in line with the response provided to *SRN.OC.A3*.

We have removed the manual adjustments, and revisited our triangulation as per action *SRN.OC.A3*. This has led to a change in the incentive rates:

OC.A41.Table 1 – Incentive rates

Business plan		IAP	
Outperformance incentive rates (£m)	Underperformance incentive rates (£m)	Outperformance incentive rates (£m)	Underperformance incentive rates (£m)
12.8	-12.8	14.6	-15.9

Based on our refreshed approach, the updated proposed underperformance and overpayments are no longer symmetrical. This is due to the increase in the marginal benefits as calculated in the new triangulation approach laid out in *SRN.OC.A3*. The new marginal benefits are now higher than our forecast efficient marginal costs.

The underperformance rate was calculated using the outperformance rates established through the triangulation laid out in *SRN.OC.A3* in conjunction with our forecast efficient marginal costs to set the underperformance rate, using Ofwat's standard formula.

$$ODI_{underperformance} = Incremental\ benefit^{20} - (incremental\ cost \times p)$$

$$ODI_{outperformance} = Incremental\ benefit \times (1 - p)$$

Customers view safe and high-quality water as one of their top priorities. They worry about four main things with regard to their water quality:

- Safety (which they see as an absolute basic of any water company in the UK, and they view that as one of the most important parts of our job)
- Taste
- Odour
- Appearance

(*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 2, 8, 96*).

Customers support investment to reduce taste and odour problems and demonstrated a willingness to pay for improvements in both of our customer valuation exercises (ODI research and willingness to pay studies (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Documents 3, 11*)). The ODI incentive rate is derived from both of these studies and has been calculated in line with the triangulation approach set out in *SRN.OC.A3*.

Our ODI research was designed explicitly to elicit customers' willingness to pay for improvements beyond the level included in our business plan, so provides strong evidence of support for outperformance payments (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*).

42. SRN.OC.A42 – Effluent re-use: stretch

Ofwat action	How we have responded
The company should set targets for each year between 2020-21 and 2024-25 and ensure that they are stretching. The company should clearly set out the evidence and rationale for its proposed targets.	Further information provided

Our detailed response

Effluent re-use relates to the provision of treated final effluent for use by businesses, farmers and communities on an annual basis, as a substitute for potable water and/or abstractions from the environment. The measure will assess the level of effluent that we no longer discharge direct to the environment but instead provide to a third party (at the appropriate quality required) for use. This could be, for example, to a council for watering flower beds or to a grower for crop irrigation. In an area that is recognised as being in water stress, this has the potential to deliver benefits for customers through improved security of supply – a priority for our customers – by displacing demand for treated drinking water.

We have set a target of zero for this measure for two reasons. Firstly, we have not included any associated costs in our plan for these activities and the costs will be met through the ODI outperformance payments. We do not currently undertake these activities, and believe that we are the only WASC proposing this specific PC. Without the ODI these activities would not be included in our plan. Secondly, innovative schemes such as this are, by their nature, uncertain and we are unable to reasonably predict demand levels. Therefore we do not believe it would be possible to commit to a given level of activity.

Customers are fully protected by this approach as they will only pay for the level of activity that is undertaken. We believe that ODIs of this type provide a useful means of supporting, within the regulatory framework, innovative solutions where the outcomes may be less certain than conventional solutions, but which may yield significant benefits for customers.

Recognising that the learnings from these innovative schemes may be of wider benefit to the sector, we are happy to commit to publishing the findings of our initiative within AMP7.

43. SRN.OC.A43 – Effluent re-use: ODI type

Ofwat action	How we have responded
The company should provide evidence to justify the use of an outperformance-only payment for this ODI and evidence of customer support for this approach. The company should demonstrate how this outperformance-only ODI will benefit customers.	Further information provided

Our detailed response

Effluent re-use relates to the provision of treated final effluent for use by businesses, farmers and communities on an annual basis, as a substitute for potable water and/or abstractions from the environment. The measure will assess the level of effluent that we no longer discharge direct to the environment but instead provide to a third party (at the appropriate quality required) for use. This could be, for example, to a council for watering flower beds or to a grower for crop irrigation.

Our customers are supportive of recycling and not being wasteful with water, which they recognise as a precious, natural resource. It helps support delivery of customers' desire for us to be ready for the future and to take care of water. It also helps us to meet their objectives of looking after and protecting our environment by placing less reliance on other sources, such as river abstraction. In particular customers want recycling water for the benefit of golf courses and agricultural land. Customers were also supportive of indirect water re-use to supply drinking water. Customers of the future and stakeholders both believe effluent re-use should be a high priority. Customers of the future also felt we could use technology better to help people recycle wastewater in their home. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 8, 30, 31, 52, 69*).

We have set this as an outperformance-only ODI as we have not included any associated costs in our plan for these activities and the costs will be met through the ODI outperformance payments. Innovative schemes such as this are, by their nature, uncertain and we are unable to reasonably predict demand levels. Without the ODI these activities would not be able to be included in our plan.

Customers are fully protected by this approach as they will only pay for the level of activity that is undertaken. We believe that ODIs of this type provide a useful means of supporting, within the regulatory framework, innovative solutions where the outcomes may be less certain than conventional solutions, but which may yield significant benefits for customers. It excludes any water re-use schemes that are included in our WRMP.

In our latest customer research, performed in March 2019 (*IAP_Ta11_OC_ODI research 2019*), customers told us that they recognise effluent re-use as an important PC for Southern Water. Customers told us that they think it is fair to fund the effluent re-use through outperformance payments.

44. SRN.OC.A44 – Bioresources recycling: definition

Ofwat action	How we have responded
The company should revise the PC definition. Where it has not addressed our July 2018 feedback, it should clearly set out the rationale for not doing this.	Accepted: Plan updated

Our detailed response

Further to the July feedback we have updated the performance commitment definition to clarify our position regarding bio-solids recycled as a result of market trading activities, either:

1. by Southern Water on behalf of other water and sewage companies and/or 3rd parties; or
2. by other water and sewage companies and/or 3rd parties on behalf of Southern Water

We have also included a statement clarifying that our performance against this commitment will be expressed in terms of tonnes of dry of biosolids material recycled to land in accordance with legislation, as a proportion of total tonnes dry solids recycled to land during the reporting period. It will be measured to two decimal places and reported annually (calendar year) to the Environment Agency.

The revised definition is set out below. We have addressed all of the July feedback and changes that are identified by red text in italics and strikeouts. The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_ Pg 30*.

Our updated definition: Satisfactory bio-resources recycling (PR19SRN_BIO02)

Together we aim to recycle every drop of water

Short definition

Disposal of bio-resources in a way that is compliant with the Sludge (Use in Agriculture) Regulations, Environmental Permitting (England & Wales) Regulations 2010 and the Safe Sludge Matrix.

Measurement

% compliance with legislation applying to bioresources recycling. *% compliance will be expressed in terms of dry tonnes of biosolids material (tds) recycled to land in accordance with relevant legislative and regulatory requirements as a proportion of total dry tonnes recycled to land during the reporting period, measured to two decimal places and reported annually (calendar year) to the Environment Agency in accordance with guidance.*

Mitigation / exceptions

There are no mitigations or exceptions.

Any other information relating to the performance commitment

None. Grit & screenings and water treatment sludge are excluded from the PC. Biosolids material that we may export to another treatment and recycling services provider through market trading activities is excluded.

Full definition of the performance commitment

Satisfactory bio-resources recycling is defined as compliance with the Sludge (Use in Agriculture) Regulations, Environmental Permitting (England and Wales) Regulations 2010, in so far as they apply to the recycling and/or disposal of sewage sludge containing products and residual wastes, and the Safe Sludge Matrix.

~~Grit & screenings and water treatment sludge are excluded from the PC.~~

This commitment covers all Biosolids material that we may import from another treatment and recycling services provider through market trading activities.

45. SRN.OC.A45 – River water quality: definition

Ofwat action	How we have responded
The company should revise the PC definition. Where it has not addressed our July 2018 feedback, it should clearly set out the rationale for not doing so.	Accepted: Plan updated

Our detailed response

Ofwat’s July feedback suggested that, for clarity, the definition should state where the river length benefitting from scheme delivery is documented and the process by which the delivery of a WINEP requirement is determined and communicated.

We have updated the definition to make clear which WINEP drivers are associated with the river lengths to be delivered. We have also clarified that scheme delivery will be determined and communicated via the column titled “Final Scheme Completion Date” in the NEP delivery tracker issued by the EA.

The revised definition is set out below. We have addressed all of the July feedback and changes are identified by red text in italics and strikeouts. The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_pg. 33*.

Our updated definition: River water quality (PR19SRN_WWN09)***We protect and improve rivers, reservoirs and coasts for the future*****Short definition**

Improvements to river water quality as a result of the delivery of our environmental improvement schemes. The length of river defined as improved will be based on the delivery of specified schemes in the Water Industry National Environment Programme (WINEP).

Measurement

km of rivers improved. Measured annually (financial year) and assessed in the last three years of the AMP. There is an incentive for early delivery in years three and four of the AMP and a penalty in the final year, which we will incur if we do not deliver.

Mitigation / exceptions

Delivery of this PC will be subject to changes in the final WINEP, as a result of Ministerial decisions.

Any other information relating to the performance commitment

None

Full definition of the performance commitment

The length of river water quality improvements will be derived from specified schemes in WINEP, measured in km. It is assumed for the purposes of this PC that delivery of the WINEP schemes will deliver the specified improvements to water quality.

The PC will only include wastewater schemes, with km defined in WINEP, which lead to an improvement in river water quality, as specified by the WINEP. *This comprises the following WINEP driver codes: HD_IMP, SSSI_IMP, U_IMP1, WFD_IMP_CHEM, WFD_IMPg, WFD_IMPm, WFD_ND, WFD_NDLS_CHEM1, WFD_NDLS_CHEM2.* Where multiple schemes improve the same stretch of river, the shorter lengths are excluded.

We will continue to collaborate with the EA to understand the certainty of each need within the programme and deliver that which is ultimately deemed affordable and beneficial following ministerial direction. We have developed an uncertainty mechanism to address this variation.

Where there are changes to the schemes in the WINEP as a result of alternative solutions being identified and agreed by the Environment Agency, the length of river deemed to be improved will be based on the WINEP scheme before the alternative solutions were identified.

Delivery of the schemes will be as reported to the Environment Agency on an annual basis. *The output will be shown by an entry in the column titled "Final Scheme Completion Date" in the NEP delivery tracker issued by the EA.*

46. SRN.OC.A46 – River water quality: ODI type

Ofwat action	How we have responded
The company should provide sufficient evidence that its customers support an outperformance payment.	Further information provided

Our detailed response

This ODI is designed to incentivise early delivery of our river water quality improvement programme, ahead of the regulatory dates. The South East has some of the most environmentally sensitive rivers in the UK and we know that our customers value river water quality improvements highly. Our customers have demonstrated a willingness to pay for such improvements. Our willingness to pay studies (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11*) show that customers are willing to pay an additional £91k per km of river improved.

From a qualitative perspective, customers expect us to look after and protect our environment, including ensuring that river water quality is improved. Customers want to ensure that rivers in the surrounding area provide habitats for wildlife and believe we should prioritise areas of river water to be improved based on whether the areas are used for water based activity, such as sailing and bathing. Customers also want us to ensure that there is enough water in rivers for natural eco-systems to thrive. Customers disliked drought orders, because of the implications on the environment of removing more water from sources which demonstrates the strong value customers place on looking after the rivers, even in extreme circumstances.

More generally, our customers have been very clear that looking after and protecting our environment is a key priority for them. They want services to be delivered in a way that looks after and protects the environment now and in the future. Customers are supportive of activity that would enhance the environment for nature and wildlife (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 2, 10, 11, 21*).

In our latest research performed in March 2019 (*IAP_Ta11_OC_ODI research 2019*), customers demonstrated strong customer support for the improvement and are accepting of the river water quality incentive facilitating early delivery. Customers say they are happy with the bill increase and they want us to complete the work as soon as possible. This feedback was provided after the customers were shown our proposed maximum bill impact for this ODI.

47. SRN.OC.A47 – River water quality: ODI rate

Ofwat action	How we have responded
Should the company propose to keep outperformance payments on this PC, the company should consider the proposed outperformance payment potential and either revise the ODI outperformance payment in line with customer evidence or provide compelling evidence why the ODI rates are considered appropriate. In either case the company should set out its evidence and rationale.	Further information provided

Our detailed response

We propose to keep outperformance payments on this PC. The outperformance incentive rate is £0.046m per km of river per year after applying the totex sharing rate. This was derived from the unit value of our WTP - DCE research, which stated customers are willing to pay £91k per km of river improved (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11*). Further evidence of customer engagement on this PC is provided in *SRN.OC.A46*.

In our September Business Plan our ODI allowed for the full value of this to be earned as an outperformance payment for early delivery of the improvements, regardless of how far ahead of the regulatory date they were delivered.

Having reflected on the Ofwat IAP challenge, we now believe it would be appropriate for the ODI to more fully reflect the timing of delivery, so that if an improvement is delivered two years early the outperformance payment is greater than if it were delivered just one year early.

We have amended the structure of the ODI to reflect this, as illustrated in *OC.A47.Table 1 – Incentive rate by year*. Under the revised structure, the full £91k per km would only be earned if the improvements were delivered in the first year of the AMP. The payment reduces proportionally each year, reflecting the fact that customers enjoy the benefit for less time.

OC.A47.Table 1 – Incentive rate by year

	Year 1	Year 2	Year 3	Year 4
Incentive rate (£000s)	91	68	46	23

In response to the Ofwat challenge, we have also revisited our P90 and P10 levels.

In our September Business Plan our P90 implicitly assumed that we could deliver all of the river water quality improvements early (indeed in year 1). This is clearly not feasible in practice, due to the size of the program. Our best estimate, based on management judgement is that we could feasibly deliver the improvements two years early (in year 3 of the AMP).

Conversely, our original P10 assumed that we might experience a shortfall of 25%. We have reassessed the likely shortfall as 10%, again based on a management judgement, informed by our experience of delivering previous quality improvement programmes.

The combination of declining incentive rate and a more considered and more realistic view of P10 and P90 levels, reduces the magnitude of our potential under and outperformance payments significantly. In our September submission our potential outperformance payments were £24.5m and our potential underperformance payments were -£50m

Table OC.A47.Table 2 – Revised P10 and P90 levels and maximum payments below shows our new P90 and P10 rates and the maximum outperformance and underperformance payments associated with these.

OC.A47.Table 2 – Revised P10 and P90 levels and maximum payments

	2020-21	2021-22	2022-23	2023-24	2024-25
P90 (km)		82.5	537.2	537.2	537.2
Outperformance Payment (£m)			9.8m	4.9m	
Performance commitment target levels (km)	-	82.5	107.1	107.1	537.2
P10 (km)					483.5
Underperformance payment (£m)					-20.2m

We have updated table APP1 to reflect these changes.

48. SRN.OC.A48 – River water quality: caps, collars and deadbands

Ofwat action	How we have responded
The company should provide further ODI-specific evidence to support its use of a cap and a collar, whilst also considering how its use of these features aligns with its broader approach to customer protection. The company’s evidence should include justification for the levels at which the cap and collar are set, and the company should explain why these levels are appropriate and in customers’ interests.	Accepted: Plan updated

Our detailed response

Based on feedback provided in Ofwat’s IAP, we have undertaken further work on our approach to caps and collars, and have reconsidered our position on the widespread use of caps and collars in line with both Ofwat’s feedback and other companies’ submissions. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A48* in line with the response provided in *SRN.OC.A4*.

We have removed the underperformance collar that was attached to this PC in our September Business Plan, as per the robust approach we have taken in deciding where the use of collars is appropriate across our ODI package (see action *SRN.OC.A4* for detail). The improvement of river water quality relates to the delivery of WINEP3. Based on our revised approach we are not retaining the collar on this ODI as it doesn’t meet the objective criteria we have set for the application of the collar.

In our September Business Plan we included a cap on this ODI. In our approach to assessing the appropriate use of caps and collars (see action *SRN.OC.A4*), we propose that the use of a cap is appropriate where:

- An ODI has an outperformance element, and the underperformance collar has been retained
- A PC is financially significant (i.e. the P90 value is forecast to be at least 10% of the total P90s for either wastewater (wastewater “network plus” activities and bioresources) or water (water “network plus” activities and water resources))

As outlined in *SRN.OC.A7*, the river water quality outperformance payment is financially significant (at 17% of wastewater P90s). However, on reflection the WINEP3 programme investment provides a natural limit for performance on this PC – targeted at improving 537.2km of river (equal to the total length of river that would need to be improved to reach P90 performance). Consequently, the value of the WINEP3 programme sets a natural cap on the maximum outperformance we could achieve on this ODI.

Ofwat’s *Technical Appendix 1* states that in instances with a natural cap, “there is less of a need for the company to apply outperformance caps”.

We therefore believe that, as the natural cap is the same as the P90 level the cap was previously set at, removing the cap will not impact our customer protections for this ODI. As such, we have removed the cap for river water quality.

49. SRN.OC.A49 – AIM: definition

Ofwat action	How we have responded
The company should provide sufficient evidence to justify why it proposes to discontinue a site and why there are not further sites in its area that should be included in the AIM PC.	Further information provided

Our detailed response

AMP7 AIM commitment

Our plan includes one AMP7 AIM scheme. This is an enhanced version of our AMP6 AIM scheme on the River [REDACTED]. Our AMP6 scheme commits us to operating as if proposed restrictions on our River [REDACTED] abstraction rights were in place. By AMP7 the revised abstraction licence conditions will be in place and our new commitment is to operate at 15 MI/d below that revised abstraction limit, during September, when the environmental impacts are most acute. We have informed the EA of our proposed AMP7 commitment and they are supportive.

Discontinuing existing commitment

During AMP6 we had a small, innovative water efficiency AIM scheme. This was the only water efficiency-based AIM scheme included in AMP6 and was based on a targeted community-based water efficiency campaign in six parishes in Hampshire. It was intended to help deliver our commitment to operate within the proposed new River [REDACTED] licence limits. As noted above, these limits will be in place by AMP7, and our AMP7 AIM target on the River [REDACTED] is more stretching, therefore the AMP6 AIM scheme is no longer relevant.

For AMP7 we have a region-wide programme to drive water efficiency through our Target 100 campaign. For more information see *BP_TA11.WN01 Business Case - Supply Demand Balance*.

Approach to identification of AMP7 AIM

We followed a robust, systematic approach to identifying potential AIM schemes for AMP7. From this analysis, the only scheme that was deemed to be feasible for setting as a performance commitment was the enhanced River [REDACTED] scheme.

To explore the potential for further AIM schemes we followed the three filter approach set out in Ofwat’s AIM guidance. These three filters are:

- **Filter 1** - The abstraction has “a potentially unacceptable impact on the environment”. An AIM Scheme provides an appropriate approach for managing this.
 - The WINEP list provides an indication of abstraction impact concerns.
- **Filter 2** - There is an “existing alternative source...or bulk supply... readily available.... or some other realistic means of reducing the abstraction...”
 - The WINEP list also provides an indication of the availability of acceptable other sources i.e. ideally an ‘alternative’ source should not be on the WINEP list.
- **Filter 3** - Open to a company to devise and apply to reflect local environmental or operating circumstances.
 - We have to consider network connectivity / actual infrastructure capability and, the supply risks that may become real issues should an ‘alternative’ operation be attempted.

A matrix analysis has been used to apply the three filters and provide an initial identification of any remaining AIM opportunities. The matrix analysis involved the following steps:

- All the WINEP schemes are initially sorted by WINEP driver.
- Each scheme is then ‘attached’ to the associated abstraction point (water supply works).
- This is used to identify any abstraction with no WINEP scheme.
- Water supply network schematics are used to identify the connectivity with other (alternative) abstractions.
- As part of this process, we checked whether previously committed AIM schemes still passed the filter criteria.

The output of this analysis is shown in the supporting document (*IAP_TA11_OC_WINEP3_Summary.xlsx*). This concluded that out of 178 abstractions, 18 were not impacted by WINEP and of these 18, none had any residual AIM opportunities. This was due to four key reasons:

- No alternative sources were available to facilitate an AIM reduction.
- An AIM reduction would have required an increase in network capacity.
- The sources were in zones with other supply risks (e.g. the source is needed for nitrate blending) and implementation of an AIM scheme would amplify these supply risks.
- The sources were either drought or leakage sources with intermittent use.

50. SRN.OC.A50 – Maintain bathing waters: definition

Ofwat action	How we have responded
The company should revise the definition of the PC to include a more direct commitment to use official samples taken by the Environment Agency.	Accepted: Plan updated

Our detailed response

We confirm that our intention was to use official EA samples, but we agree that this was not clear in the definition. We propose to modify the definition as follows to clarify this. We have made additional changes to the definition for this PC, a full explanation of these changes and an updated definition is provided in response *SRN.OC.A52*.

The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_Pg 39*.

The original definition reads:

“The relevant assessment period is a four-year assessment from the Environment Agency unless there have been fundamental changes to a bathing water.”

We have included the following, in addition to the above:

“Official samples taken by the Environment Agency in fulfilment of the Bathing Water Regulations 2013 will be used.”

51. SRN.OC.A51 – Maintain bathing waters: ODI rate

Ofwat action	How we have responded
The company should either provide further evidence to justify the methodology employed and why its ODI rates are reasonable or revise ODI rates based upon robust customer valuations and forecast efficient marginal costs to provide customers with sufficient protection from under delivery against the PC target	Further information provided

Our detailed response

This ODI is a continuation of a PR14 PC and associated ODI. At PR14 Ofwat allowed a Cost Adjustment Claim with a total value £31.5m to improve seven bathing waters to 'Excellent' water quality status. We have based the incentive rate for this ODI on the value of the PR14 CAC, as the value of the CAC provides a direct indication of the cost to customers per year to improve a single bathing water to excellent.

The ODI rate is calculated by taking 50% of the total of the CAC (based on the totex sharing rate) and then dividing the total value by the seven improved bathing waters and then by the five years of AMP6. This provides the marginal cost of improving a single bathing water to Excellent and gives an incentive rate of £0.45m per bathing water, per year.

This ODI is designed solely to provide continued customer protection against the risk of a deterioration in the quality of our bathing waters. The value of the underperformance payment is linked directly to the allowed PR14 CAC as the CAC provides a clear indication of the cost to improve a single bathing water to Excellent. The rate means that if we do not maintain the bathing waters at the 'Excellent' standard that customers have paid for in AMP6, we return the money to them. If the deterioration in bathing waters goes beyond seven, we will incur further penalties.

52. SRN.OC.A52 – Maintain bathing waters: caps, collars and deadbands

Ofwat action	How we have responded
The company should reconsider whether to apply an underperformance collar to this PC, taking account of its broader approach to customer protection. If the company decides to retain the collar, it should provide a convincing, ODI-specific justification for this decision. This should include justification for the level at which the collar is set, and an explanation of how this protects customers adequately for poor service performance.	Further information provided

Our detailed response

In reviewing the structure of this ODI in response to the IAP challenge, we have decided to change the definition to align more closely with the intent of this ODI. This ODI was designed to ensure that our bathing waters were not allowed to deteriorate, but on reflection it is clear the ODI was not providing this protection for all our bathing waters currently at Excellent.

At PR14 Ofwat allowed a Cost Adjustment Claim with a total value £31.5m to improve seven bathing waters to ‘Excellent’ status. The selection of the seven bathing waters to be improved was subject to verification by our CCG, to ensure we had applied our selection criteria objectively, and the results of this were discussed with Ofwat in 2016. The seven bathing waters selected for improvement through this process were:

- Minster Leas, Kent
- Leysdown, Kent
- Deal Castle, Kent
- Worthing, West Sussex
- Middleton-on-Sea, West Sussex
- Selsey, West Sussex
- Shanklin, Isle of Wight

In our September business plan we had set a target of ensuring 57 bathing waters are ‘Excellent’. We proposed that the incentive should have a collar at 50 bathing waters. This was based on the total number of bathing waters (including the seven named ones) expected to be at Excellent at the end of AMP6. However, in our September business plan the definition limited the ODI to only the seven bathing waters improved in AMP6. Having considered the structure and purpose of this ODI further, we believe it would be appropriate to alter the definition to protect all 57 bathing waters.

We have therefore revised the definition so it protects all 57 of the bathing waters expected to be at excellent at the end of AMP6, rather than just focusing on the seven improved bathing waters improved during AMP6. As outlined in *SRN.OC.A51* - we have continued to use the Cost Adjustment Claim from AMP6 to determine our incentive rates as the CAC provides a clear indication of the marginal cost to customers to improve a bathing water to Excellent, and was based on analysis of customer preferences.

The revised definition is set out at the end of this *SRN.OC.A52* response. Changes are identified by red text in italics and strikeouts.

The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_Pg 39*.

Collar challenge

Based on feedback provided in Ofwat's IAP, we have undertaken further work on our approach to caps and collars, and have reconsidered our position on the widespread use of caps and collars in line with both Ofwat's feedback and other companies' submissions. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A52* in line with the response provided in *SRN.OC.A4*.

Our updated approach is laid out in *SRN.OC.A4*. In summary, we have applied collars to financial ODIs which are financially significant or have considerable uncertainty.

Using the approach set out in *SRN.OC.A4*, we have completed a robust assessment of the ODI-specific factors that contribute to uncertainty in our ODI delivery. We have included a cap on any ODIs for which the P90 outperformance payment represents at least 10% of the total P90 outperformance payment for the relevant price control (as laid out in *SRN.OC.A7*). As explained in *SRN.OC.A4*, we also believe that all non-financially significant ODIs that have a collar, and an outperformance element, should have a cap. This is in line with Ofwat's guidance that all financially significant or uncertain PCs should be capped, in addition to meeting our customers' expectations around not exceeding the maximum level they are willing to pay and their aversion to large bill variations. The inclusion of caps on ODIs with collars avoids an unbalanced incentive package.

ODI-Specific Evidence

Based on our collar assessment for the maintaining bathing waters at 'Excellent' PC, we believe it is appropriate to set a collar at the P10 performance level due to the impact of extreme weather on performance in this area. The collar is set at the P10 level in line with Ofwat's expectation for PCs with considerable uncertainty (as outlined in Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments).

Extreme rainfall events can have an influence on performance in this area; storm incidents can degrade the quality of bathing waters significantly. Furthermore, bathing waters can be impacted by the actions of third parties. The unpredictable and uncontrollable nature of such events has the potential to lead to extreme outcomes which are not within reasonable management control. This supports the use of a collar for this PC.

As this is an underperformance only ODI, there is no requirement for the use of a cap in this area.

Customer protections

Ofwat expects companies to take steps to protect customers from extreme outcomes, and our overall approach to customer protections was deemed sufficient by Ofwat in the IAP.

Our approach to determining the appropriate use for collars was developed based on the principles of our broader approach to customer protections, as explained in *SRN.OC.A4*. As such, by applying this framework to the maintaining bathing waters at 'Excellent' PC, the use of a collar in this specific instance is aligned with our broader approach to customer protections.

Cap & Collar levels

We have set our collar at the P10 performance levels on an annual performance basis, as per Ofwat's expectations as laid out in *Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments*:

“We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis, where... there is considerable uncertainty”

As outlined in *SRN.OC.A51* - we have continued to use the Cost Adjustment Claim from AMP6 to determine our penalty incentive rates as the CAC provides a clear indication of the marginal cost to customers to improve a bathing water to Excellent, and is based on analysis of customer preferences from PR14.

The levels and associated under performance payments for this PC are shown in *OC.A52. Table 1 – Cap & collar levels and performance payments, and performance commitment target levels* below. Units are the number of bathing waters at ‘Excellent’ at the end of AMP6 over the following assessment period.

OC.A52. Table 1 – Cap & collar levels and performance payments, and performance commitment target levels

		2020-21	2021-22	2022-23	2023-24	2024-25
Performance commitment target levels		57	57	57	57	57
Collar	Performance level	50	50	50	50	50
	Underperformance payment (£m)	-3.15	-3.15	-3.15	-3.15	-3.15

Our updated definition: Maintain bathing waters at ‘Excellent’ quality (PR19SRN_WWN11)
We safeguard and enhance rivers, reservoirs and coasts for the future

Short definition

Maintain the number of bathing waters with ‘Excellent’ water quality classification as defined under the revised Bathing Water Directive.

Measurement

The number of bathing waters at ‘Excellent’ over the relevant assessment period.

Mitigation / exceptions

~~There are no mitigations or exceptions.~~ *The Environment Agency apply Pollution Risk Forecasting (PRF) to 21 of our bathing waters, this PC would also include PRF.*

Any other information relating to the performance commitment

None.

Our updated definition: Maintain bathing waters at 'Excellent' quality (PR19SRN_WWN11)***We safeguard and enhance rivers, reservoirs and coasts for the future*****Full definition of the performance commitment**

~~This PC is designed to ensure that we maintain the performance of the bathing waters improved to excellent in AMP6, which our customers have paid for.~~

This definition is to maintain the number of bathing waters with 'Excellent' water quality at 57 throughout AMP7.

The relevant assessment period is a four-year assessment from the Environment Agency unless there have been fundamental changes to a bathing water. ~~The Environment Agency apply Pollution Risk Forecasting (PRF) to 21 of our bathing waters, this PC would also include PRF.~~

Official samples taken by the Environment Agency in fulfilment of the Bathing Water Regulations 2013 will be used (change per SRN.OC.A50)

Measurement of performance will be in line with the official samples taken as part of the revised Bathing Water Directive which is published by Defra. In the revised Bathing Water Directive applied by the Environment Agency - 'Excellent' is defined as EC: ≤250 cfu/100ml and IE: ≤100 cfu/100ml with 95th percentile confidence level for coastal bathing waters.

(<https://environment.data.gov.uk/bwq/profiles/help-understanding-data.html>)

Through AMP6 we have delivered improvements at seven specific Bathing Waters increasing the total to 57. ***We recognise the importance of maintaining the quality of our overall bathing waters portfolio.***

Therefore, we will pay a penalty if any the total number of bathing waters at excellent falls below 57. ~~We recognise the particular importance of maintaining the new classification for these seven bathing waters as part of this measure. Therefore if any of the bathing waters listed below are not maintained, a penalty will be incurred.~~

- Minster Leas
- Leysdown
- Deal Castle
- Worthing
- Middleton-on-Sea
- Selsey
- Shanklin

53. SRN.OC.A53 – Good bathing waters: definition

Ofwat action	How we have responded
The company should revise the definition of the PC to include a more direct commitment to use official samples taken by the Environment Agency.	Accepted: Plan updated

Our detailed response

We confirm that our intention was to use official EA samples, but we agree that this was not clear in the definition. We propose to modify the definition as follows to clarify this.

Replace:

“The relevant assessment period is a single year of assessment from the Environment Agency, which differs from the standard 4-year average. Measurement of performance will be in line with the official samples taken as part of the revised Bathing Water Directive which is published by Defra.”

With:

“The relevant assessment period is a single bathing water season in 2025 at the end of the commitment period. This differs from the standard 4-year assessment. Official samples taken by the Environment Agency in fulfilment of the Bathing Water Regulations 2013 will be used.”

The revised definition is set out below. We have addressed all of the July feedback changes are identified by red text in italics and strikeouts. The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_ Pg 42*.

Our updated definition: Improve the number of Bathing waters to at least ‘Good’ (Cost Adjustment Claim)

Short definition

To bring at least five named bathing waters to ‘Good’ water quality classification.

Measurement

Number of bathing waters at ‘Good’ after the relevant assessment period.

Mitigation / exceptions

Based on previous guidance from the Environment Agency relating to Wet Weather Waivers, we will apply an abnormal weather approach, whereby a season is classed as ‘abnormal’ when there are a number of samples 2 standard deviations away from typical wet weather affected samples. As this PC is based on a single year of performance in 2024-25, if the year is classified as an ‘abnormal’ wet weather year then performance assessment would be deferred to the following year.

If during investigations an alternative bathing water is identified a single swap can be made.

Any other information relating to the performance commitment

None.

Full definition of the performance commitment

Five named bathing waters have been selected for improvement by 2025 to at least ‘Good’ status. The following bathing waters are to be taken to ‘Good’ classification:

- Broadstairs Viking Bay
- Littlestone
- Lancing, Beach Green
- Hastings Pelham Beach
- Felpham

~~The relevant assessment period is a single year of assessment from the Environment Agency, which differs from the standard four-year average. Measurement of performance will be in line with the official samples taken as part of the revised Bathing Water Directive which is published by Defra.~~ *The relevant assessment period is a single bathing water season in 2025 at the end of the commitment period. This differs from the standard four-year assessment. Official samples taken by the Environment Agency in fulfilment of the Bathing Water Regulations 2013 will be used.*

The PC is designed to ensure if we do not deliver the improvements associated with the Cost Adjustment Claim (CAC) the money associated with those improvements not delivered will be given back to customers.

Further details of this PC are included within our CAC submission. In the case of the CAC not being accepted this would no longer be a PC.

54. SRN.OC.A54 – Good bathing waters: ODI type

Ofwat action	How we have responded
The company should provide further evidence to justify the use of an outperformance payment for this ODI, in particular evidence of customer support for this approach.	Further information provided

Our detailed response

Improving bathing waters was a key priority for customers in AMP6 and this is reflected in our Bathing Water Improvement Programme, which will deliver an additional seven bathing waters to the highest ‘Excellent’ status. It is an AMP6 ODI which has both under and outperformance penalties associated with it. Support for improving bathing waters remains strong amongst our customers (*IAP_Ta11_OC_ODI research 2019*).

Outperformance rewards for this ODI will be earned if we improve the five bathing waters to ‘Excellent’ water quality status rather than to ‘Good’. Customers support improving bathing waters to the highest water quality status of ‘Excellent’. In both our main customer valuation exercises, customers were willing to pay us between £880k and £3.1 million for improving each bathing water to ‘Excellent’ from ‘Good’ status.

Our customers want us to look after and protect the natural environment of our region including maintaining and improving bathing waters. Customers and visitors to the region, and business customers in the local area, value and want bathing waters that are at the highest water quality level. Stakeholders view bathing waters as an even higher priority, citing the Government’s 25-year Environment Plan which includes clear goals on bathing water improvements. Regulators and stakeholders are keen for bathing waters to be of high quality, with many councillors linking this to support for local tourism. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 98*).

The cost adjustment claim for bathing waters had strong support, with customers feeling that any potential bill increases were sufficiently low that customers almost universally accept them. The consensus across customers was that these claims demonstrate we are working together and portray a water provider that is acting responsibly and taking customer priorities seriously. Those who feel particularly strongly in favour of this potential claim tend to be those who live nearer to the coast and who feel the indirect effects of polluted/clean bathing waters (e.g. impact on the economy). (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 46, 58, 67*).

Improving bathing waters is seen as having a broader environmental impact. In our March 2019 customer research (*IAP_Ta11_OC_ODI research 2019*), customers demonstrated support for this commitment and for the regulatory framework including an outperformance payment. Customers saw bathing waters as important to invest in as this would improve the environment, aid the community, support tourism, aid quality of life and leisure and was part of Southern Water going above and beyond. This feedback was provided after the customers were shown our proposed maximum bill impact for this ODI.

55. SRN.OC.A55 – Good bathing waters: ODI rate

Ofwat action	How we have responded
Should the company propose to keep outperformance payments on this PC, the company should either provide further evidence to justify how the proposed ODI rates are reasonable both in relation to its customer valuations and the underperformance payment proposed, or revise its ODI outperformance payment such that this does not exceed the magnitude of the underperformance payment. In either case the company should set out its evidence and rationale.	Further information provided

Our detailed response

We have revisited our triangulation of ODI rates, as per action SRN.OC.A3. This has led to a change in both our outperformance incentive rates for this ODI. We have also updated the cost adjustment claim associated with this ODI which has reduced the underperformance incentive rate. These changes can be seen in OC.A55. Table 1 – Incentive rates below.

OC.A55. Table 1 – Incentive rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
3.132	-2.688	2.382	-1.852

While our outperformance incentive rate has reduced as a result of the re-triangulation, it remains higher than the underperformance incentive rate. This is because our underperformance rate is based on the value of our cost adjustment claim (CAC), while the outperformance rate is based on customer valuation see SRN.OC.A3 for information on the triangulated benefit.

Since submission of our September Business Plan, we have revisited our CAC submissions and have reduced the value of the claim, thus the incentive rate has reduced as shown below (see OC.A55. Table 2 – CAC and penalty values, and underperformance incentive rates).

OC.A55. Table 2 – CAC and penalty values, and underperformance incentive rates

Improve the bathing waters at excellent	Value (£m)
Total value of the CAC for bathing waters	21.251
Element of the claim relating to improving five bathing waters to 'Good'	18.521
Maximum underperformance penalty (50% of CAC value as per totex sharing rate)	-9.261
Underperformance incentive rate per bathing water	-1.852

The outperformance incentive rate is derived independently of the CAC value and is based on our ODI research and customer willingness to pay studies (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3, 11*). It is earned if we improve the named bathing waters to 'Excellent' water quality status rather than 'Good'. It represents the incremental customer benefit, derived from our valuation studies, of improving a bathing water from 'Good' to 'Excellent'.

The value has reduced from our September Business Plan as a result of the updated approach to triangulation set out in SRN.OC.A3.

In this case, we have not adjusted the benefit value for the customer sharing rate. This is because we believe an improvement of the five named bathing waters to 'Excellent' is most likely to be delivered as a result of effective use of our investment to deliver 'Good' status, rather than additional expenditure.

56. SRN.OC.A56 – Target 100: definition

Ofwat action	How we have responded
The company should revise the PC definition in line with our feedback from July 2018. Where it has not addressed our July 2018 feedback, it should clearly set out the rationale for this.	Accept: Plan updated

Our detailed response

Ofwat's July feedback suggested that it would be useful to include in the definition:

- How voids will be treated.
- How we will determine occupancy rate and manage shifts in data.
- Whether billed or estimated data will be used.

We have now updated the definition to make clear that voids will be excluded from the measure and that we will use billed data rather than estimates. We also explain that we will use third party occupancy data from Experian or a similar organisation and how we will manage shifts in occupancy data. We also include a note relating to possible future implications of GDPR legislation on the reporting of this PC.

The revised definition is set out below. Changes are identified by red text in italics and strikeouts.

The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_Pg 47*.

Our updated definition: Target 100 (SRNPR19_WR03)***We recognise the true value of water in our daily lives*****Short definition**

% of household population with estimated per capita consumption of less than 100 l/h/d, in line with our Target 100 initiative. Per capita consumption is defined as the average amount of water used by each customer that lives in a household property.

Measurement

% of metered household customers. Measured annually (financial year).

Mitigation / exceptions

Void properties are excluded. There are no mitigations or exceptions.

Any other information relating to the performance commitment

~~None.~~ *Reporting of the metric may be affected by future interpretation of GDPR legislation, in respect of the availability of occupancy data at the individual household property level. Any material impacts on the reporting of this PC will be discussed with Ofwat.*

Full definition of the performance commitment

% of household population with estimated per capita consumption of less than 100 l/h/d, in line with our Target 100 initiative.

The proportion of customers using less than 100 l/h/day is calculated using metered, billed household consumption. A metered household property is one which is charged on the basis of measured consumption. The measure excludes unmeasured household properties and business properties. Billed household consumption will be based on data from our billing system. It excludes meter under-registration and supply-pipe leakage.

Only valid consumption above 0 l/prop/d will be considered.

We will procure the occupancy data on an annual basis and it will be based on demographic data from Experian or a similar third party. Each household will be assigned to a demographic group each of which will have an associated occupancy rate. The metered household consumption value is divided by estimated occupancy to create the estimated PCC for each household.

In the event that an update of the third party demographic data causes a significant shift in occupancy rates, a sensitivity test will be carried out by back casting the occupancy rates and a rebase of the starting point will be considered.

~~Reporting of the metric is subject to further investigation of the implications of GDPR on the availability of occupancy data at the individual household property level.~~

57. SRN.OC.A57 – Water efficiency visits: definition

Ofwat action	How we have responded
The company should revise the PC definition in line with our feedback from July 2018. Where it has not addressed our July 2018 feedback, it should clearly set out the rationale for this.	Accept: Plan updated

Our detailed response

Ofwat's July feedback suggested we should provide further details in our definition of:

- The level of uptake of efficiency devices
- The assumed savings for each type of device

It also asked us to confirm whether our assumptions are in line with the UKWIR report 09/WR/25/4.

Our assumed savings are based on the UKWIR report 09/WR/25/4, which does not provide device-specific savings rates. It is instead based on a historic view of actual water consumption reductions once a household has had a water efficiency visit. This is calculated by reviewing what the consumption was before each visit and what the consumption is after each visit. On average we found water consumption is reduced by circa 10%.

We have now updated the definition to include details of our assumptions. The revised definition is set out below. Changes are identified by red text in italics and strikeouts.

The original definition can be found in BP_TA6.2_Our Package of PCs and ODIs_Pg 49.

Our updated definition: Water saved from water efficiency visits (SRNPR19_WR04)***We recognise the true value of water in our daily lives*****Short definition**

Total estimated volume of water saved as a result of water efficiency visits to residential properties, based on the number and usage of water saving devices installed. This is the cumulative saving in m³/d to the end of AMP7.

Measurement

Total estimated m³/d of water saved. Measured annually (financial year).

Mitigation / exceptions

There are no mitigations or exceptions.

Any other information relating to the performance commitment

None.

Full definition of the performance commitment

The total estimated reduction in consumption is based on the number and type of water saving devices fitted and their estimated usage reduction. This will be calculated by our water efficiency visit supplier at the time of the visit. *Based on our water efficiency visits in AMP6, customers usually take up 1-2 devices after each visit, along with the educational information they receive on water saving.*

A water saving device is any physical device designed to save water (for example a low flow shower head or tap aerator) or other intervention (for example dripping tap repair).

The estimated saving will be based on the estimated daily saving associated with each device installed and the customer's stated usage. *A list of the types of devices that are offered to customers are set out below along with the estimated savings per device. We may add devices to this list as they become available or update the assumed savings if there is evidence that actual savings are higher or lower than historic estimates.*

- *Europa dual flushing valves: 47 litres per day*
- *Siphon: 31 litres per day*
- *SNA flushing valves: 47 litres per day*
- *Save a flush bag: 1.2 litres per flush*
- *Tap aerators: 4-8 litres per minute*
- *Aquair typhoon shower head: 30 litres per four minute shower*
- *Kitchen taps: 9 litres per minute*
- *Pure pulse eco-shower: 30 litres per four minute shower*
- *Maku satinjet shower head: 11 litres per minute.*

The annual savings will be calculated as the sum of the estimated daily savings at each property.

The measure includes all residential properties, but excludes business properties.

58. SRN.OC.A58 – Water efficiency visits: ODI type

Ofwat action	How we have responded
The company should provide further evidence to justify the use of an outperformance payment for this ODI and evidence of customer support for this approach.	Further information provided

Our detailed response

Customers expect us to work together and communicate clearly with them to provide tailored and personalised support on the tangible actions they can take. Customers expect us to take care of water and many customers find the home visit helps them reduce their personal consumption (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 8*) The proposed outperformance payment associated with this PC was small and limited by a cap. Based on Ofwat’s challenge in *SRN.OC.A59*, we recognise that there is an overlap between this PC and the common PC for Per Capita Consumption (PCC).

Given the importance to customers, we propose to retain this PC but to change it to be a reputational only PC, removing the risk of double-counting benefits, but ensuring we retain an incentive to support the continued delivery of these home visits.

We have updated data table APP1 - line 14 to reflect this change.

59. SRN.OC.A59 – Water efficiency visits: ODI rate

Ofwat action	How we have responded
The company should provide further evidence and explanations to demonstrate that there is no double-counting of ODI payments between this PC and the common PC per capita consumption.	Accepted: Plan updated

Our detailed response

We have received very positive feedback from our customers regarding our water efficiency home visits and the proposed outperformance payment associated with this PC was small and limited by a cap. Based on Ofwat’s challenge we recognise that there is an overlap between this PC and the common PC for Per Capita Consumption (PCC).

Given the importance to customers, we propose to retain this PC but to change it to be a reputational only PC, removing the risk of double-counting benefits, but ensuring we retain a reputational incentive to support the continued delivery of these home visits.

We have updated data table APP1 - line 14 to reflect this change.

60. SRN.OC.A60 – Water efficiency visits: caps, collars and deadbands

Ofwat action	How we have responded
The company should provide further ODI-specific evidence to support its use of a cap and a collar, whilst also considering how its use of these features aligns with its broader approach to customer protection. The company's evidence should include justification for the levels at which the cap and collar are set, and the company should explain why these levels are appropriate and in customers' interests.	Accepted: Plan updated

Our detailed response

We have received very positive feedback from our customers regarding our water efficiency home visits and the proposed outperformance payment associated with this PC was small and limited by a cap. Based on Ofwat's challenge in *SRN.OC.A59*, we recognise that there is an overlap between this PC and the common PC for Per Capita Consumption (PCC).

Given the importance to customers, we propose to retain this PC but to change it to be a reputational only PC, removing the risk of double-counting benefits, but ensuring we retain a reputational incentive to support the continued delivery of these home visits.

We have updated data table APP1 - line 14 to reflect this change.

61. SRN.OC.A61 – Voids: ODI type

Ofwat action	How we have responded
The company should provide evidence to demonstrate that an outperformance payment would benefit customers and that it is designed in such a way that does not create perverse incentives with respect to the timely and accurate registration of void sites.	Further information provided

Our detailed response

Our outperformance incentive rate is derived from the incremental benefits of our ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*). It is £0.317m per 1% of properties no longer listed as void. On a per property basis this equates to an outperformance payment of £14.95, (dividing the £0.317m by 1% of properties (21,255) in 2024/25. i.e. we will receive an outperformance payment of £14.95 for each new property identified.

The average bill raised per void property identified is assumed to be £368 per year, in line with our average bill for all customers. The retail price control element is approximately 10% of the total revenue, thus resulting in an additional £36 of revenue. The remaining 90% goes to reduce the wholesale bills of all customers, through the operation of the wholesale revenue cap.

This means the benefit to all customers is £332 per void found, while the cost to customers through the ODI is £14.95. Even with the ODI it is clearly in our customers' interests for us to pursue void properties.

From a company perspective, void properties often have a very high debt cost associated with them. This means that although the retail business gains £36 this can be far outweighed by the resultant increase in the bad debt charge (which is borne entirely by the retail business). The existence of this high level of bad debt presents a significant disincentive to the retail business. The availability of the additional ODI outperformance payment, while comparatively small, makes it more cost beneficial to identify, and bill, void properties that are occupied.

62. SRN.OC.A62 – Voids: ODI rate

Ofwat action	How we have responded
The company should outline the basis on which its ODI rates have been calculated and demonstrate that they do not exceed the reduction in bills that customers would experience from a reduction in void sites.	Further information provided

Our detailed response

We derived the ODI incentive rate for void properties from our ODI research (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3*).

Our customers said they would be willing to pay an extra 7p each year for a reduction in void properties. This equates to £133,470 per year (£0.07 times 1.9 million customers).

This total willingness to pay is divided by the distance from our target to our forecast P90 level. This distance is 0.21%, resulting in an incremental benefit of £63.557m (£133,470 / 0.21%).

Applying Ofwat's standard formula, this equates to a outperformance incentive rate of £0.317m. As our marginal costs are greater than our marginal benefits we set the underperformance penalty incentive symmetrically at -£0.317m.

In our business plan we then applied a 5% downward adjustment to this rate, due to the customer priority being low. We have now removed this adjustment as a result of revisiting our overall approach to triangulation (see *SRN.OC.A3*).

As set out in *SRN.OC.A61*, the reduction in bills that customers as a whole would receive through the wholesale revenue cap (on average £332 per occupied void property identified), far outweighs the value of the ODI outperformance payment of £14.95.

63. SRN.OC.A63 – Vulnerability support: definition

Ofwat action	How we have responded
The company should provide additional evidence on the survey sample size used to determine the target for this PC. In addition, the company should confirm that the survey will be externally assured and conducted in line with social research best practice.	Further information provided

Our detailed response

The survey sample size we used to determine the target for this PC was 350 Priority Services Register customers. As we monitor our performance for this PC through AMP7, we commit to surveying a minimum of 350 PSR customers each year. However, we will aim to survey 400 to ensure the highest levels of statistical robustness.

The survey will be externally assured and the research approach that will be taken to survey these customers will be developed in line with social research best practice, and we will work with our CCG to ensure that the approach is robust. We will also externally assure our approach to ensure it is delivered against best practice.

64. SRN.OC.A64 – Lead pipes: definition

Ofwat action	How we have responded
The company should revise the PC definition in line with our feedback from July 2018. Where it has not addressed our July 2018 feedback, it should clearly set out the rationale for this.	Accepted: Plan updated

Our detailed response

Ofwat’s July feedback said we should confirm whether replacement of the company communication pipe and the customer supply pipe was part of this performance commitment.

We have now updated the definition to clarify that the PC only includes subsidising customers to replace lead pipework within their home (although we do also replace communication and supply pipes).

The revised definition is set out below. Changes are identified by red text in italics and strikeouts.

The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_ Pg 69*.

Our updated definition: Replace lead customer pipes (SRNPR19_WN09)***We innovate to create sustainable communities*****Short definition**

This is a co-delivery measure with our customers to reduce the amount of lead in our customer pipes. It will apply only in our Deal water supply zone, where we are trialling this approach to eliminating lead pipes and fittings. The measure will be the number of residential properties receiving grants from Southern Water towards removing lead pipes in the home.

Measurement

Number of residential properties that receive grants (cumulative to the end of AMP7) Measured annually (financial year).

Mitigation / exceptions

There are no mitigations or exceptions.

Any other information relating to the performance commitment

None.

Full definition of the performance commitment

This is a co-delivery measure with our customers to reduce the amount of lead in our customer pipes. The measure will be the number of residential properties receiving grants towards removing lead pipes and fittings in the home. This will be expressed as the number of grants given by the Lead Working Group to residential properties each year.

A grant is a cash subsidy provided to the householder for the purposes of replacing lead plumbing.

In AMP7 this will apply in the Deal (Kent) trial area only and if successful will be rolled-out at company level in AMP8.

As part of our proposed Deal Lead Removal trial we are undertaking the following activities:

1. *Mains replacement.*
2. *Communication pipe replacement.*
3. *Customer supply pipe replacement.*
4. *Educational & awareness campaigns.*
5. *Trialling new distribution water quality technologies.*
6. *Subsidising customers (through a joint fund) to replace lead pipework within their home.*

This bespoke ODI relates to point 6 only. It is not a global lead replacement ODI but is tied specifically to the Deal Lead Removal trial.

The measure includes all residential properties, but excludes business properties.

65. SRN.OC.A65 – Lead pipes: stretch

Ofwat action	How we have responded
The company should set targets for each year between 2020-21 and 2024-25 and ensure that they are stretching. The company should clearly set out the evidence and rationale for its proposed targets.	Further information provided

Our detailed response

This PC/ODI relates to our proposed Lead Removal trial in Deal, Kent. As part of that trial we are undertaking the following activities:

1. Mains replacement.
2. Communication pipe replacement.
3. Customer supply pipe replacement.
4. Educational & awareness campaigns.
5. Trialling new distribution water quality technologies.
6. Subsidising customers (through a joint fund) to replace lead pipework within their home.

Only no.6, which relates to customers' internal plumbing, is within the scope of this ODI. It does not include the replacement of lead supply pipes, or the other aspects of the trial, which we acknowledge are all activities that are carried out by other companies.

We believe this aspect of the trial, which involves customer participation in tackling the challenge of lead, is innovative our sector and is consistent with Ofwat's challenge to companies to increase customer participation in tackling the challenges of the sector. The trial is supported by the DWI as per our draft notice *IAP_TA11_OC_DWI* draft notice.

We have set a target of zero for this measure for two reasons. First, we have not included any associated costs in our plan for this aspect of the trial and the costs will be met through the ODI outperformance payments. Without the ODI, this activity would not be included in our plan. Second, innovative schemes such as this are, by their nature, uncertain and we are unable to reasonably predict demand levels. Therefore, we do not believe it would be possible to commit to a given level of activity.

Customers are fully protected by this approach as they will only pay for the level of activity that is undertaken. We believe that ODIs of this type provide a useful means of supporting, within the regulatory framework, innovative solutions where the outcomes may be less certain than conventional solutions, but which may yield significant benefits for customers.

Recognising that the learnings from this innovative trial are likely to be of wider benefit to the sector, we are happy to commit to publishing the results of this aspect of our initiative within AMP7.

66. SRN.OC.A66 – Lead pipes: ODI type

Ofwat action	How we have responded
The company should provide a rationale that sufficiently justifies the use of an outperformance-only payment for this ODI and evidence of customer support for this approach. The company should demonstrate how this outperformance- only ODI will benefit customers.	Further information provided

Our detailed response

This ODI relates to one aspect of our proposed Lead Removal trial in Deal, Kent (see SRN.OC.A65), subsidising customers to replace lead pipework within their home. It is not a global lead replacement ODI, but an ODI tied specifically to the Deal trial. In the medium to longer-term, the complete removal of lead pipes will reduce or remove the need for chemical dosing to manage the impacts of lead in drinking water, consistent with customers’ preference for ensuring their water is as natural as possible. This can only be achieved through a holistic approach which addresses both water company and customer pipes. The trial is supported by the DWI as per our draft notice *IAP_TA11_OC_DWI* draft notice.

If our AMP7 trial in Deal successful, we propose to roll-out to all areas from 2025 (subject to agreement with DWI) as part of our commitment to eliminating lead risk by 2045. This will deliver long-term benefits to our customers and could provide a model for the sector as a whole.

Our customers view safe and high quality drinking water as one of their top priorities in terms of delivering the basics. In our triangulated customer research it was identified as a ‘High’ relative priority. In particular our customers have told us they want access to water that is as natural as possible; they don’t want too many chemicals to be added to their water supply. They expect us to take care of water and keep it as natural as possible. Our customers are concerned about the impact of lead on human health, and welcome help and support the removal of harmful chemicals from pipes within their property. While their general level of satisfaction with current levels is high, our customers believe that continuing to ensure harmful metals like lead are not in the water supply is a high priority (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 2, 8*).

This ODI is to provide funding for subsidising customers (through a joint fund with the local health authority) to replace lead pipework within their home. This is a reward only ODI as the costs for this activity are not included in our business plan. Customers are fully protected by this approach as they will only pay for the level of activity that is undertaken. We believe that ODIs of this type provide a useful means of supporting, within the regulatory framework, innovative solutions where the outcomes may be less certain than conventional solutions, but which may yield significant benefits for customers.

67. SRN.OC.A67 – Surface water management: stretch

Ofwat action	How we have responded
The company should set targets for each year between 2020-21 and 2024-25 and ensure that they are stretching. The company should clearly set out the evidence and rationale for its proposed targets.	Further information provided

Our detailed response

Surface water management is a co-delivery measure with our customers, with the aim to reduce the amount of surface water entering Southern Water’s combined or surface water sewerage network including through the use of SuDS, soakaways and smart water butts at the customer property level. Removing surface water from the sewer network can help alleviate flooding and pollution at a local level. We believe the initiatives included within the scope of this ODI represent an innovative approach to customer-led demand management in respect of the wastewater network, an area that has historically received far less attention than water demand management. We do not believe that this type of customer-led wastewater demand management activity is common in our sector.

We have set a target of zero for this measure for two reasons. First, we have not included any associated costs in our plan for these activities and the costs will be met through the ODI outperformance payments. Without the ODI these activities we would not be included in our plan. Second, innovative schemes such as this are, by their nature, uncertain and we are unable to reasonably predict demand levels. Therefore, we do not believe it would be possible to commit to a given level of activity.

Customers are fully protected by this approach as they will only pay for the level of activity that is undertaken. We believe that ODIs of this type provide a useful means of supporting, within the regulatory framework, innovative solutions where the outcomes may be less certain than conventional solutions, but which may yield significant benefits for customers.

Recognising that the learnings from these innovative schemes may be of wider benefit to the sector, we are happy to commit to publishing the findings of our initiative within AMP7.

68. SRN.OC.A68 – Surface water management: ODI type

Ofwat action	How we have responded
The company should provide further evidence to justify the use of outperformance-only payments for this ODI and evidence of customer support for this approach.	Further information provided

Our detailed response

Our customers expect us to be ready for the future and to look after and protect our environment. They are willing to invest now to ensure that there is no deterioration in services in the future. They are willing to pay more for delivering future water and wastewater services that use technology better and expect us to pursue more innovative, environmentally friendly delivery options too. Customers' preferred approach for delivering wastewater services was to continue with the current level of engineering activity in addition to re-landscaping the natural environment in order to reduce flows, and make use of rain gardens, soakaways, and sustainable drainage systems (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 2, 7, 11*).

Surface water management is a co-delivery measure with our customers, with the aim to reduce the amount of surface water entering Southern Water's combined or surface water sewerage network including through the use of SuDS, soakaways and smart water butts at the customer property level. Removing surface water from the sewer network can help alleviate flooding and pollution at a local level. In our triangulated customer research (*BP_Chapter 4 Customer and Stakeholder Engagement and Participation_pg 55*), reducing sewer flooding was the only wastewater attribute that customers ranked as the highest priority. One of the four broad themes to emerge from our customer research was that "customers want to actively participate with us in building a resilient water future" (*BP_Chapter 4 Customer and Stakeholder Engagement and Participation_pg 58*).

Because this PC is focused on customer property level interventions (as opposed to other standard flood mitigation), customers have full control. This means that the level of activity that we will undertake in AMP7 is far less certain than for conventional solutions on our assets. As such, we have not included any associated costs in our plan.

Given the nature of the commitment, the control that the customers have over implementing it, and the lack of costs in our plan we have proposed an outperformance only ODI. This approach allows for us to provide an innovative solution while protecting customers who will not incur costs for works which are not undertaken – which is genuine a possibility owing to the requirement for owners' permission for installation.

69. SRN.OC.A69 – Community engagement: stretch

Ofwat action	How we have responded
The company should provide its fully assured baseline and targets with its annual performance reporting submission in 2019-20.	Further information provided

Our detailed response

In line with Ofwat’s request, we confirm that we will provide a fully assured baseline and targets with our annual performance report submission in 2019-20.

70. SRN.OC.A70 – School visits: definition

Ofwat action	How we have responded
The company should revise the definition of the PC to ensure that it measures actual outcomes for customers, not outputs.	Accepted: Plan updated

Our detailed response

We agree that the PC should measure actual outcomes. We will now measure the effectiveness of our school visits in order to ensure that each school visit has met its aims. This will be measured based on the % of ‘good’ or ‘excellent’ feedback from schools we have visited to raise awareness and improve understanding of the value of water, water efficiency and ‘unflushables’.

We have updated APP1 with the revised targets.

The revised definition is set out below. Changes are identified by red text in italics and strikeouts.

The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_Pg 75*.

Our updated definition: Replace lead customer pipes (SRNPR19_N02)***We innovate to create sustainable communities*****Short definition**

The % of 'good' or 'excellent' feedback from schools we have visited to raise awareness and improve understanding of the value of water, water efficiency and 'unflushables'. ~~The number of schools we have visited to raise awareness and improve understanding of the value of water, water efficiency and 'unflushables'.~~

Measurement

The % of good or excellent feedback. ~~The number of schools which have been visited in the year.~~ Measured annually (financial year).

Mitigation / exceptions

There are no mitigations or exceptions.

Any other information relating to the performance commitment

None.

Full definition of the performance commitment

The measure is the % of good or excellent feedback from schools that have been visited in the year. ~~The measure is the total number of schools that have been visited in the year.~~ It is measured annually on a financial year basis.

A 'visit' is defined as any activity involving a school, either at the school premises or other venue, which has as its aim the education of pupils in relation to our core activities, including the value of water, water efficiency, unflushables and the water cycle.

'Schools' includes any establishment involved in the education of children under the age of 18.

The feedback is based on a survey we ask the participants to fill out after each visit. The participants in the school visit are asked how valuable they found the visit on a scale of Excellent, Good, Average, Poor or Neutral.

Rationale for PC and ODI

This is a bespoke, non-financial PC. We are proposing it as a PC to improve the visibility to customers of the work we are doing educating young people on the value of water, water efficiency, and 'unflushables'

Our target

We are aiming to visit approximately 1 in every 8 schools in our region. This is equivalent to 250 schools over AMP7, and is consistent with the number of school visits in AMP6. *We are aiming to have at least 90% successful school visits every year, this follows on from the high standard we are currently achieving via the feedback from our save a flush talks and our Watwise talks in AMP6.*

71. SRN.OC.A71 – Water supply resilience: stretch

Ofwat action	How we have responded
The company should clearly set out the evidence for its proposed targets in relation to the initial position.	Further information provided

Our detailed response

This PC is designed to measure the success of our Network 2030 initiative. The objective of the Network 2030 initiative is to improve the configurational resilience of our water supply system to ensure it is sufficiently robust and fit for use by future generations.

To understand the physical resilience of our supply system, we have developed a systematic method for measuring resilience across our water asset base. This systematic assessment allows us to identify households at risk of long-term interruptions to supply. This is our proposed measure of long-term resilience.

For AMP7 we have targeted the use of this measure in our Thanet, Isle of Wight and Brighton zones.

All 10 zones were reviewed in collaboration with asset plan managers and operations. Thanet, IoW and Brighton were reported to be the most challenging and least resilient. These zones have significant challenges such as raw water deterioration (nitrate), deteriorating asset health and lack of connectivity. We are developing an industry leading zonal resilience metric, we have started by applying it to these three most challenging zones. The zonal resilience assessment is an ongoing process which will cover all 10 zones. Completion of assessments for the highest priority zones coincided with the September business plan submission. We have therefore built the PC around these three most challenging zones.

An initial baseline established that 59,930 households are currently at risk across the three zones. We have set a stretching target driven by our advanced optimisation analysis. Our Network 2030 This plan delivers a reduction of 36% in households at risk, to 38,407 by 2025 (*IAP_ Ta11_Outcomes_14 Network 2030 Business case*).

72. SRN.OC.A72 – Daily water consumption data: definition

Ofwat action	How we have responded
The company should revise the PC definition in line with our feedback from July 2018. Where it has not addressed our July 2018 feedback, it should clearly set out the rationale for this.	Accepted: Plan updated

Our detailed response

Ofwat's July feedback suggested that it would be useful to further define what is considered to be a residential property, for example, whether a block of flats will count as one property or several properties. We have now updated the definition to make clear that 'Residential Property' means one household, for example one flat within a block of flats.

The revised definition is set out below. Changes are identified by red text in italics and strikeouts.

The original definition can be found in *BP_TA6.2_Our Package of PCs and ODIs_Pg 52*.

Our updated definition: Access to daily water consumption data (PR19SRN_RR02)

We recognise the true value of water in our daily lives

Short definition

Total number of residential properties provided with a device which can give access to daily water consumption.

Measurement

Number of residential properties provided with devices. Measured annually (financial year).

Mitigation / exceptions

There are no mitigations or exceptions.

Any other information relating to the performance commitment

None.

Full definition of the performance commitment

Total number of residential properties provided with a device which can give access to daily water consumption. *A 'residential property' means one household, for example one flat within a block of flats.*

A device is any product installed at the customer's property which enables the customer to access daily water consumption data, without physically accessing the meter. This includes any smart devices installed, including our next generation of smart meters.

The measure includes all residential properties, but excludes business properties.

73. SRN.OC.A73 – Daily water consumption data: stretch

Ofwat action	How we have responded
The company should set targets for each year between 2020-21 and 2024-25 and ensure that they are stretching. The company should clearly set out the evidence and rationale for its proposed targets.	Further information provided

Our detailed response

This performance commitment relates to the provision of suitable technology to support our customers in better understanding their water consumption. One aspect of our aspiration to reduce overall per capita consumption is to drive a step change in behaviour towards water among our customers. This PC will play a crucial role in supporting this behavioural change by giving our customers the information they need to start to make more informed decisions about their water usage.

We have set a target of zero for this measure for two reasons. First, we have not included any associated costs in our plan for these activities and the costs will be met through the ODI outperformance payments. Without the ODI these activities we would not be included in our plan. Second, innovative schemes such as this are, by their nature, uncertain and we are unable to reasonably predict demand levels. Therefore, we do not believe it would be possible to commit to a given level of activity.

Customers are fully protected by this approach as they will only pay for the level of activity that is undertaken. We believe that ODIs of this type provide a useful means of supporting, within the regulatory framework, innovative solutions where the outcomes may be less certain than conventional solutions, but which may yield significant benefits for customers.

Recognising that the learnings from these innovative schemes may be of wider benefit to the sector, we are happy to commit to publishing the findings of our initiative within AMP7.

74. SRN.OC.A74 – Daily water consumption data: ODI type

Ofwat action	How we have responded
The company should provide a rationale that sufficiently justifies the use of an outperformance-only payment for this ODI and evidence of customer support for this approach. The company should demonstrate how this outperformance-only ODI will benefit customers, over and above what would be delivered without this PC.	Further information provided

Our detailed response

Customers are often not aware of the amount of water that they are using and welcome the knowledge of how much water they are using, to help them reduce their consumption. In our June 2018 Retail Proposition Exploration customers indicated that they had high interest in up to date, real time consumption data and would like the ability to manage real time data. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 2, 4*). Customers expect us to take the lead in helping us all to take care of water and our insight shows this has to be delivered by working together collaboratively. Our customers want to actively participate in delivering more resilient water services but expect us to help them. Consumption data is a key enabler to drive behaviour change in consumption, as it's needed to provide the tailored and personalised support required to help educate customers about what they can do. (*BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 4, 12*)

This PC relates to the provision of suitable technology, within customers' properties, to support them in better understanding and reducing their water consumption. One aspect of our aspiration to reduce overall per capita consumption is to drive a step change in behaviour towards water among our customers. This PC is an innovative approach to help us shift our customers' behaviours. The PC will play a crucial role in supporting this behavioural change campaign by giving our customers the information they need to start to make more informed decisions about their water usage.

Given the nature of the commitment, which depends on active customer participation, the level of activity is impossible to accurately predict. Therefore, to protect customers from the risk of paying for activity that is not undertaken, we did not include any costs (or targets) within our plan.

An outperformance only ODI allows for us to provide an innovative solution while protecting customers who will not incur costs for works which are not undertaken. We believe that ODIs of this type provide a useful means of supporting, within the regulatory framework, innovative solutions where the outcomes may be less certain than conventional solutions, but which may yield significant benefits for customers.

75. SRN.OC.A75 – External flooding: ODI rate

Ofwat action	How we have responded
<p>The company should provide the additional information set out in Technical appendix 1: Delivering outcomes for customers to allow us to better understand the causes of variation in ODI rates for external sewer flooding and assess the appropriateness of the company's customer valuation evidence supporting its ODI.</p> <p>The company should explain and evidence how its proposed ODI rate for this PC is coherent with the rates proposed for all other sewerage PCs (including Internal sewer flooding, Sewer collapses, Pollution incidents) and demonstrate how the package of ODIs across the relevant group of PCs appropriately incentivises performance in the long and short-term.</p>	Further information provided

Our detailed response

Following the IAP, we have reviewed the evidence available from a wider range of sources, some of which was not previously available (e.g. customer values identified in other companies' PR19 submissions) to support the development of our ODI rates. We have revisited the guidance provided in the Ofwat Final Methodology as well as the CCWater report on triangulation in water. We have combined this guidance with our experience to develop a revised approach to determining ODI rates. This refreshed approach is provided in *SRN.OC.A3*. Please read this response in line with the response provided to *SRN.OC.A3*. The approach laid out in *SRN.OC.A3* directly impacts our response to this question.

We have removed the manual adjustments, and revisited our triangulation as per action *SRN.OC.A3*. We have also made an adjustment on our marginal costs, due to a reallocation of costs between our flooding and sewer collapses PCs. This is explained further in *SRN.OC.A3* where we explain how we developed our forecast efficient marginal costs. This has led to a change in the incentive rates, as outlined in *OC.A75. Table 1 – Incentive rates*.

OC.A75. Table 1 – Incentive rates

Business plan		IAP	
Outperformance incentive rates	Underperformance incentive rates	Outperformance incentive rates	Underperformance incentive rates
0.004	-0.008	0.0045	-0.0068

Our incentive rates now fall within the normalised ranges provided by Ofwat in *Technical Appendix 1*, for both the underperformance and outperformance incentive rates. We have included our normalised rates and Ofwat's ranges for comparison.

OC.A75. Table 2 – Normalised incentive rates

	Underperformance incentive rates		Outperformance incentive rates	
	Ofwat	IAP (normalised)	Ofwat	IAP (normalised)
Lower Bound	-0.567	-0.679	0.339	0.449
Upper Bound	-1.199		1.032	

We have provided information related to the request relating to *Technical Appendix 1* in *OC.A75. Table 3 - Response to request for Technical Appendix 1 information*.

OC.A75.Table 3 - Response to request for Technical Appendix 1 information

Question	Answer
<p>The performance increments/decrements tested with customers and the extent to which these are consistent with the plausible range of performance associated with the relevant PCs in the company’s business plan.</p>	<p>In our ODI-specific research (<i>BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3</i>) we set our performance at 3,889 homes externally flooded annually and asked customers to move the slider for outperformance from this target. The maximum possible movement of the slider equated to 2,722 homes externally flooded annually. These decrements are consistent with the plausible range of performance given in 2018-19 performance is 5,628 our stretch target is 3,525 homes externally flooded by 2024-25.</p> <p>In our WTP–DCE research (<i>BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 11</i>), which was conducted in 2017, the performance increments/decrements were in the old metric for external flooding. Expressed in terms of the new metric, the starting position (S0) was 4,907 cases/year customers with a single increment in performance (S1) being equivalent to 4,318 cases/year customers. These were based on management judgement of the plausible AMP7 reduction when the research was conducted in 2017.</p>
<p>The basis on which unit willingness to pay (WTP) values are calculated from the result of the company’s customer valuation research (including whether these were calculated across performance increments and decrements or performance increments only).</p>	<p>As described in our T.A 6.1 – Our approach to PCs and ODIs, we used absolute willingness to pay levels from our ODI research (i.e. the total bill impact customers were willing to pay for better performance for each PC). (<i>BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3</i>)</p> <p>For our WTP –DCE research the unit willingness to pay was generated by dividing the customer bill impact by the change in performance from our starting level of service (S0) to the performance improvement level S1. The customer research data points were calculated across performance increments only.</p>
<p>Whether any scaling is applied to valuations for individual service attributes (for example to account for package effects) and if so to provide information on the associated packages.</p>	<p>We have applied no scaling for this ODI</p>

Coherence of a PCs

We believe the package of ODIs across the associated sewer network PCs demonstrates a reasonable balance and coherence as shown by examination of the maximum available under and outperformance payments shown in *OC.A75.Table 4 - Sewerage ODIs* below. As ODI rates for different PCs are not directly comparable, we have based our analysis on the maximum out and underperformance payments, rather than the rates (as requested by Ofwat) to provide a clear view of relative size.



OC.A75.Table 4 – Sewerage ODIs

Performance Commitment	Max Outperformance Payment (£m)	Max Underperformance Payment (£m)
Pollution incidents (categories 1, 2 and 3)	8.78	-9.34
Internal sewer flooding	8.21	-8.21
External sewer flooding	7.95	-12.02
Asset Health: Sewer collapses	0.00	-3.30
Surface Water Management	1.19	0.00

In our March 2019 customer research (*IAP_Ta11_OC_ODI research 2019*), customers told us that they are supportive of outperformance payment on PCs for which negative outcomes would be hugely detrimental to customers and are therefore important to mitigate against. Internal and external sewer flooding and reducing pollution incidents are key deliverables for customers and they want us to make improvements in all of these areas. As such, all carry a similar level of maximum outperformance payment.

The three are linked because network interventions have the potential to deliver multiple benefits and the root causes of incidents are related. Broadly similar levels of maximum outperformance payments ensure that we are not unduly skewed towards outperformance on any of these individual PCs. Sewer collapses does not carry an outperformance reward because, except in respect of its limited influence on flooding and pollution, it is not a PC that delivers direct customer benefits. It is designed to ensure we are incentivised to maintain the long term health of the network alongside delivering short term performance improvements, and is therefore a vital component of the package of incentives. External sewer flooding carries a larger underperformance penalty, reflecting the larger number of external flooding incidents, and therefore the potential penalty range as compared with internal flooding and pollution incidents, which have similar levels of maximum underperformance payment.

Long term and short term incentivisation

It is difficult to design a package of PCs which will perfectly balance short term and long term incentives. However, we believe that the combination of the level of stretch in our PC targets and the balanced package of ODIs means that our incentives are not skewed to delivery of short term performance only. Conversely, the significant level of underperformance payments for failing to deliver short term flooding and pollution reductions means we are strongly incentivised to ensure that we deliver for customers in AMP7. To deliver the degree of performance stretch in our plan in this area will require us to fundamentally change the way that we invest in, manage and operate the network, requiring us to invest in network rehabilitation as well as new technologies which will deliver longer-term network benefits. *OC.A75. Table 5 - Long and short term incentivisation* below sets out some of the key short and long term initiatives within our plan which will deliver these objectives.

C.A75.Table 5 - Long and short term incentivisation

Performance Commitment	Comment on long and short term incentivisation
Pollution incidents (categories 1, 2 and 3)	<p>In the short term we will identify high risk locations (improve our root cause analysis by using CAST (Causal Analysis using System Theory) on critical sites, greater use of leading performance indicators and use of predictive analytics). This will enable us to focus our maintenance on critical sites, improve monitoring and develop our mitigation plans. In the long term we are developing innovative flow management using catchment first principles / SUDS to enable us to sustain our performance improvement.</p>
Internal sewer flooding	<p>In the short term we are installing non-return valves, flood barriers and other flood mitigation activities. We are also funding a dedicated team to analyse external flooding data to identify optimal interventions from lessons learnt in our AMP6 zero Internal flooding zones project. We are trialling an innovative customer-led surface water reduction programme to remove surface water from sewers, with both short and long-term benefits.</p>
External sewer flooding	<p>In the longer term, we are investing more in our sewer replacement, and improving our monitoring on key parts of the network, further we are improving our IT and GIS models and our hydraulic models to more accurately identify flood risk. We are also stepping up our education programme aimed at changing long term customer behaviours in relation to unflushables.</p>
Asset Health: Sewer collapses	<p>Performance is already at a low level and in the short term we will continue to improve our performance through improved data collection, management and analysis to better identify high risk sewers and optimise our interventions. In the longer term we are developing smart sewer networks, with enhanced levels of automation and real-time monitoring, with benefits across all of this group of PCs.</p>

76. SRN.OC.A76 – External flooding: caps, collars and deadbands

Ofwat action	How we have responded
<p>The company should provide further ODI- specific evidence to support its use of a cap and a collar, whilst also considering how its use of these features aligns with its broader approach to customer protection. The company’s evidence should include justification for the levels at which the cap and collar are set, and the company should explain why these levels are appropriate and in customers’ interests. The company should either increase the level of the collar, to bring it above recent performance, or provide further evidence to justify the existing level.</p>	<p>Further information provided</p>

Our detailed response

Based on feedback provided in Ofwat’s IAP, we have undertaken further work on our approach to caps and collars, and have reconsidered our position on the widespread use of caps and collars in line with both Ofwat’s feedback and other companies’ submissions. This refreshed approach is provided in *SRN.OC.A4*. Please read this response to *SRN.OC.A76* in line with the response provided in *SRN.OC.A4*.

Our updated approach is laid out in *SRN.OC.A4*. In summary, we have applied collars to financial ODIs which are financially significant or have considerable uncertainty.

Using the approach set out in *SRN.OC.A4*, we have completed a robust assessment of the ODI-specific factors that contribute to uncertainty in our ODI delivery. We have included a cap on any ODIs for which the P90 outperformance payment represents at least 10% of the total P90 outperformance payment for the relevant price control (as laid out in *SRN.OC.A7*). As explained in *SRN.OC.A4*, we also believe that all non-financially significant ODIs that have a collar, and an outperformance element, should have a cap. This is in line with Ofwat’s guidance that all financially significant or uncertain PCs should be capped, in addition to meeting our customers’ expectations around not exceeding the maximum level they are willing to pay and their aversion to large bill variations. The inclusion of caps on ODIs with collars avoids an unbalanced incentive package.

ODI-Specific Evidence

Extreme rainfall events can have a significant influence on sewer capacity, and can result in overloading of sewers. The unpredictable and uncontrollable nature of such events has the potential to lead to extreme outcomes which are not within management control. This supports the use of a collar for this PC.

The collar is set at the P10 level in line with Ofwat’s expectation for PCs with considerable uncertainty (as outlined in *Technical Appendix 1: Delivering outcomes for customers, Section 6: Customer protection against unexpectedly high outperformance payments*).

For the same reasons, we deem it appropriate to use a cap for internal sewer flooding (in line with our cap approach outlined in *SRN.OC.A4*). We are applying caps where collars are in place and there is an outperformance element for the ODI, to protect customers from excessive outperformance payments due to potentially volatile performance. This supports our broader approach to customer protection, and is in line with our customers’ preferences around bill volatility.

Customer protections

Ofwat expects companies to take steps to protect customers from extreme outcomes, and our overall approach to customer protections was deemed sufficient by Ofwat in the IAP.

We use the cap mechanism to limit the possibility of very high bills, in line with our customers’ requirements. Given this position on caps, we use collars to prevent a material downward skew in incentives, and we use caps and collars together to minimise large bill variations, again in line with our customers’ preferences.

Our approach to determining the appropriate use for collars was developed based on the principles of our broader approach to customer protections, as explained in *SRN.OC.A4*. As such, by applying this framework to the external sewer flooding PC, the use of a cap and collar in this specific instance is aligned with our broader approach to customer protections.

A summary of customer priorities was provided in our September Business Plan *BP_TA6.2_Our Package of PCs and ODIs_ Pg 8-11* - the original research is provided in *BP_TA 4.3 Triangulation of customer priorities*.

Revised performance commitment level

In our business plan we set our targets at the level at the forecast industry average recognising that we were well behind our peers, in terms of our performance. This represented a significant stretch, which we believed we would struggle to deliver. Based on our current performance (which is worse than we previously forecast) and the further information available from other companies business plans, we have revised our AMP7 targets, in line with the average from other companies published business plans. The revised targets are shown in *OC.A76. Table 1 – AMP7 target levels*.

OC.A76. Table 1 – AMP7 target levels

	2020-21	2021-22	2022-23	2023-24	2024-25
Business plan performance commitment target level	4129	3875	3637	3464	3299
IAP performance commitment target level	4412	4141	3887	3702	3525

Our updated targets are still extremely stretching, and we believe they are among the most stretching in the industry.

Given the stretch in our targets we are currently undertaking a number of initiatives to improve our performance in this area (see *IAP_TA 6_Accounting for past delivery_PD.A6* technical appendix for further information).

Cap & Collar levels

We have considered Ofwat’s challenge to increase the level of the collar, to bring it above recent performance, and accept this

We have been working to improve our external sewer flooding performance over AMP6, by:



1. Increasing spend on education and executing plans on sewer jetting has reduced the number of external floods caused by sewer blockages (from 22,000 blockages in 2015 to 19,000 in 2018)
2. Increasing flood mitigation installations (e.g. anti-flood devices, manhole cover seals etc.) has reduced flooding incidents

We are already stretching ourselves to perform highly in external sewer flooding, and believe our performance will be sufficiently improved by the end of AMP6.

We have set our caps and collars at the P10 and P90 performance levels on an annual performance basis, based on this extended performance range, as per Ofwat’s expectations as laid out in *Technical Appendix 1: Delivering outcomes for customers (Section 6: Customer protection against unexpectedly high outperformance payments)*:

“We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis, where... there is considerable uncertainty”

In line with Ofwat’s request, the collar is now above our recent performance in 2017-18 of 4,724 external sewer flooding incidents.

The associated out and underperformance payments are based on our triangulated incentive rates (see *SRN.OC.A3*). For external sewer flooding this rate is based on ODI research, willingness to pay research and Ofwat data, thus the payment associated with cap and collar levels are aligned with customer preferences.

Setting the cap and collar at our proposed levels gives a reasonable balance to the maximum under and out performance payments for external flooding along with our other wastewater activity measures.

These levels and associated out / under performance payments for the internal sewer flooding PC at the level of the cap and collar are shown in *OC.A76. Table 1 – External sewer flooding caps and collars* below. Units are number of incidents per 10,000 connected properties, unless specified otherwise.

OC.A76. Table 1 – External sewer flooding caps and collars

Measurement		2020-21	2021-22	2022-23	2023-24	2024-25
Cap	Performance level	4058	3787	3533	3348	3171
	Outperformance payment (£m)	1.590	1.590	1.590	1.590	1.590
Performance Commitment Target Level		4412	4141	3887	3702	3525
Collar	Performance level	4766	4495	4241	4056	3879
	Underperformance payment (£m)	-2.403	-2.403	-2.403	-2.403	-2.403

77. SRN.OC.A77 – Natural capital: stretch

Ofwat action	How we have responded
The company should provide evidence of the review of its targets in its annual performance reporting submission in 2021-22.	Accepted: Plan updated

Our detailed response

As outlined in our September Business Plan (*BP_TA6.2_Our Package of PCs and ODIs_Pg 46*), our CCG was concerned that there was insufficient information on which to set targets for the whole of AMP7 and recommended that we revisit our targets after the first two years of AMP7.

In line with Ofwat’s request, we commit to providing evidence of the review of our targets within our annual performance report submission in 2021-22.

78. SRN.OC.A78 – Gap sites: ODI type

Ofwat action	How we have responded
<p>The company should provide further evidence to justify the use of a non-financial incentive by demonstrating why a financial incentive would not be in the interests of customers.</p> <p>Alternatively, the company should formulate a financial ODI reflecting the reduction in customer bills that would result from improvements in the identification of gap sites</p>	<p>Further information provided</p>

Our detailed response

A household gap site is a residential property where water and/or wastewater services are being consumed, but the property is not on our system and is therefore not billed. The existence of Gap Sites in the network impacts the overall level of bills received by billed customers. We recognise that it is in our customers’ interests for us to identify and reduce the number of Gap Sites over the next AMP.

We do not currently have sufficient data or information necessary to develop an appropriate measure for Gap Site reduction. As we outlined in *BP_TA6.2_Our Package of PCs and ODIs_ Pg 65-66*, we are currently working to assess our current baseline and establish how we can best measure our performance for Gap Sites. Given our current data challenge, we are not currently in a position to commit to a financial incentive relating to household Gap Sites.

While our non-financial commitment is based on a lack of available data to create a meaningful financial incentive, we are expecting (based on the work we are currently undertaking) that the availability of data will change over time.

We have already committed to revisiting the targets we have set for this PC after the first two years of AMP7 (*BP_TA6.2_Our Package of PCs and ODIs_ Pg 66*). Based on Ofwat’s challenge we intend go further. We now propose that in addition to revisiting the targets we will also revisit the type of ODI used for this PC after two years of AMP7. We will report on both the revisited ODI type and targets after two years of AMP7.

79. Further amendments

79a Renewable Generation definition

Since the September business plan we have identified an issue with the definition for our renewable generation performance commitment. The initial definition carried a risk of creating barriers to increasing generation, by defining the scope of the performance commitment too narrowly. We have updated the definition to make clear that it should include all energy generated on our sites, whether that is directly through the regulated business, or in partnership with a third party. This will enable us to maximise the value for customers and the environment by harnessing the benefits of diversified bioresources and waste management services through market engagement.

Our updated definition: Renewable generation (PR19SRN_BIO01)

Together we aim to recycle every drop of water

Short definition

Total renewable electricity generated at our sites as a percentage of our total electricity consumption.

Measurement

Quantity of renewable electricity generated *at our sites*, measured in kWh, as a percentage of our total electricity. Measured annually (financial year).

Our Renewable Generation commitment is primarily based on the operation of Combined Heat & Power (CHP) plants converting biogas to electricity and heat. Alternative uses of biogas (e.g. direct injection to grid, use for vehicle fuels) that may be utilised will also be captured under this commitment. In every case an appropriate gas to electricity conversion factor will be used based on equipment efficiency monitoring, industry best practice, and manufacturer guidance.

We aim to maximise our conversion efficiency rate through the use of efficient technologies.

Mitigation / exceptions

There are no mitigations or exceptions.

Any other information relating to the performance commitment

88% of this PC lies within the Bio-resources price control due to the majority of our renewable energy being generated from our Bio-resources activities. The remainder, which comprises solar energy, is split between Water Network Plus and Wastewater Network Plus price controls.

Full definition of the performance commitment

Total renewable electricity generated *at our sites*, measured in kWh at the generation source after deducting any power not used (parasitic loads) and including electricity both consumed on site and any surplus exported into the National Grid.

Total electricity consumption is measured in kWh and includes all electricity consumed at our sites, including both operational sites and our offices.

All renewable energy generated on our sites will contribute towards this performance measure, irrespective of whether it has been generated using assets owned, operated and maintained by us, or on behalf of us by a third party, non-regulated, or subsidiary business unit. In this way performance against the target will be intrinsically linked to behaviours incentivised by the market for the purpose of value creation and not restricted by a traditional operating model.

We will continue to quantify, monitor, report and verify greenhouse gas emissions as per Defra guidelines for operational greenhouse gas reporting using a bespoke workbook prepared each year for the waste sector (managed by UKWIR). This process is independently audited each year.

79b. Additional Performance Commitment information

We have removed PR19SRN_WWN14 our Growth (Cost adjustment claim) performance commitment, as we are no longer putting in this claim.

We have included three new additional performance commitments, further information on these can be found in:

1. Priority services register – as per action *IAP_TA 2_SRN.AV.A1*
2. Large new water resource schemes – as per action *IAP_TA 6b_SRN.CE.A2*
3. Long term supply demand schemes – as per action *IAP_TA 5_SRN.CMI.A3*

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