Delivering Outcomes for Customers

Draft Determination Representations

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ODI Collars

1. Issue

This representation relates to the setting of collars in relation to the Performance Commitments (PCs) set out below. These are a combination of PCs, based on both a standard and bespoke approach developed by Ofwat.

PCs (based on the standard approach developed by Ofwat):

- External Sewer Flooding
- Internal Sewer Flooding
- Mains Repairs
- Water Supply Interruptions

PCs (based on a bespoke approach developed by Ofwat):

- Pollution Incidents

In the draft determination, Ofwat has maintained the use of collars for financially significant Outcome Delivery Incentives (ODIs), in line with its guidance at the IAP. However, since the IAP, Ofwat has changed its approach to calculate the level at which collars should be set for financially significant ODIs. Previously, collars were linked to P10 performance levels. Ofwat's new approach sets collars "*as a multiple of the performance commitment level relative to the first year of the performance level, and then apply[ies] the corresponding multiplier value as the collar in every year of the 2020-25 period*".

Ofwat states that its "*approach ensures that the annual financial consequences from failing to improve increase in each year of the 2020-25 period*", and that "*we consider that delinking collars from P10 performance levels improves resilience, by providing companies with incentives to manage against the risk of high impact, low probability events*".[1]

Ofwat has set out two clear policy objectives for the use of collars: (i) to counter-balance skew in exposure to financial incentives; and (ii) to protect companies against disproportionate exposure in the case of very poor performance. While the reasons for the use of collars is clear, the approach taken is not clear in how it delivers the policy objectives.

[1] Delivering outcomes for customers policy appendix, Ofwat July 2019

The new common approach to setting collar levels leads to considerably higher potential maximum underperformance payments than were proposed at the IAP stage. This amounts to an increase of c.£192 million over the course of AMP7, which is equivalent to over 2.4% of our RoRE. Southern Water's exposure to these underperformance payments extends to performance that is outside the sector's normal planning assumptions, especially in relation to severe weather events. The new approach would also incentivise outcomes that are inconsistent with customers' preferences.

We consider the updated approach for determining the level at which collars have been set for certain financially significant ODIs should be revisited.

Our concerns are compounded by a lack of transparency in the change in approach. In particular:

- The approach represents a significant change in policy which has not been previously communicated or subject to consultation. The late nature of the change and the lack of transparency from Ofwat has provided limited opportunity for challenge.
- The revised approach fails to deliver on the policy objectives and dis-incentivises stretching targets.
- The revised approach does not recognise the historic legacy of the sector and implicitly assumes that our assets can be resilient to all events, including severe weather events. Throughout AMP7 we are aiming to become more resilient but in the event that we experience a 1 in 100 year storm or worse, this would likely have a significant impact on our assets.
- The revised approach results in a significant risk related to low probability high impact events that is, to a large extent, beyond our control. As such it will distort incentives to invest in the areas most valued by customers. For Southern Water, this distortion is particularly acute with respect to External and Internal Sewer Flooding and Pollution Incidents.

2. Our proposed remedy

In order to address the concerns identified above, we consider that the approach for setting collars proposed in Technical Appendix A: Delivering Outcomes for Customers document, which was developed to support the IAP – i.e. set collars for financially significant ODIs at the P10 level proposed by the company, should be upheld.

Specifically, the P10 levels outlined in the DD_Representations_Data_Final_SRN Outcomes (and shown in the Supporting Evidence section below – Table 5) should be used.

This approach would:

- deliver Ofwat's aims of avoiding skew and protecting companies against disproportionate exposure in the case of very poor performance;
- provide protection for customers against bill volatility due to skew; and
- ensure collars are aligned to stretch and ongoing changes in targets.

3. Supporting evidence

Ofwat has made significant changes to its methodology for the calculation of the level at which collars are set for financially significant ODIs. We have a number of concerns about these changes. Our case and supporting evidence is set out as follows:

I. The change in approach represents a significant change in policy which has not been subject to consultation
II. The revised approach does not deliver the policy objectives relating to avoiding skew and providing protection against very poor performance
III. The revised approach dis-incentivises stretching targets
IV. The revised approach does not recognise the historic legacy of the sector and implicitly assumes that our assets can be resilient to extreme events
V. The revised approach results in a significant risk that is to a large extent beyond our control – as such it will distort incentives to invest in the areas most valued by customers
VI. The distortion is most acute for Southern Water with respect to External and Internal Sewer Flooding and Pollution Incidents.
VII. To avoid unintended consequences, we consider collars should be set at the level which will allow us to manage the risks in line with customer preferences

3.1 The change in approach represents a significant change in policy which has not been subject to consultation

Ofwat has changed, without consultation, its approach for the setting of collars between the IAP responses and the draft determination. (See Appendix A) [2]

At the IAP, we closely followed Ofwat's guidance with respect to collars and set all collars for financially significant ODIs at the P10 level. That guidance stated "*We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis*" (Technical Appendix A: Delivering outcomes for customers). Ofwat acknowledged that Southern Water had reduced "*the number of caps and collars used compared to its original Business Plan*", and that Southern Water committed to "*adopting [Ofwat's] approach to caps and collars on material performance commitments*".[3]

Since the IAP, Ofwat has revisited its approach to setting the level for collars. The setting of collars is now based on a single multiplier applied to the first year performance commitment target:

> *"We set collars as a multiple of the performance commitment level relative to the first year of the performance level, and then apply the corresponding multiplier value as the collar in every year of*

[2] Delivering outcomes for customers policy appendix, Ofwat July 2019
[3] Southern Water – Delivering outcomes for customers actions and interventions, Ofwat, July 2019

the 2020-25 period. This approach ensures that the annual financial consequences from failing to improve increase in each year of the 2020-25 period".[4]

In developing the new approach, there has been a shift away from the P10 level on the basis that *"setting collars at the P10 level … will mean that the maximum underperformance payment is the same each year".*

The updated approach uses an industry-wide multiple of the first year target to set the collar for the entire AMP. Through this updated approach, the size of the maximum underperformance payment increases each year.

We note that the standard approach has only been used in c.60% of instances that a company (excluding Fast Track) has applied a collar on a financially significant ODI (see Appendix B). This level of usage is a direct challenge to the approach, particularly as the collar level is less stretching in 50% of the instances where the industry-multiple was not used. In not consulting on tis significant change to the methodology, companies have not had the opportunity to raise concerns or challenge the approach, in line with best regulatory practice.

3.2 The revised approach does not deliver the policy objectives related to avoiding skew and providing protection against very poor performance

Ofwat has set out two clear policy objectives for the use of collars. Based on the information provided by, the new proposed levels do not appear to meet either of these objectives.

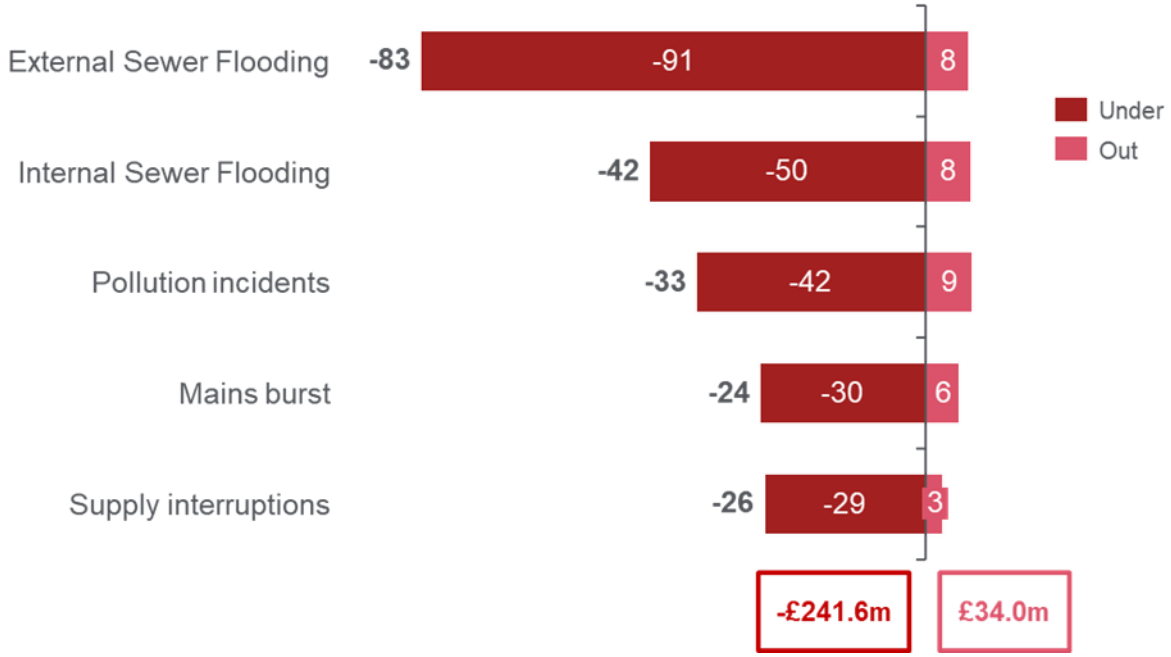
Objective 1 – Avoiding Skew

The first relevant objective is to avoid skew: *"We consider collars are justified to counter-balance the skew in exposure where we are applying a corresponding cap at the P90 performance level for customer protection purposes."*[5]

However, while caps have been set "*at the P90 performance level for customer protection purposes*"[6], collars have been set *below* the P10 level. The levels of the caps and collars causes considerable skew between out and underperformance payments, as illustrated in Figure 1. This directly counters the aims set out by Ofwat in its own policy document.

[4] ibid.
[5] Delivering outcomes for customers policy appendix, Ofwat July 2019
[6] ibid.

Figure 1. Draft determination Maximum Under and Out performance Payments (£ million)



Source: Southern Water analysis of Ofwat PR19 draft determination

Examining the draft determination caps and collars shows a £208m skew towards underperformance payments. This skew is equivalent to 2.6% of our RoRE

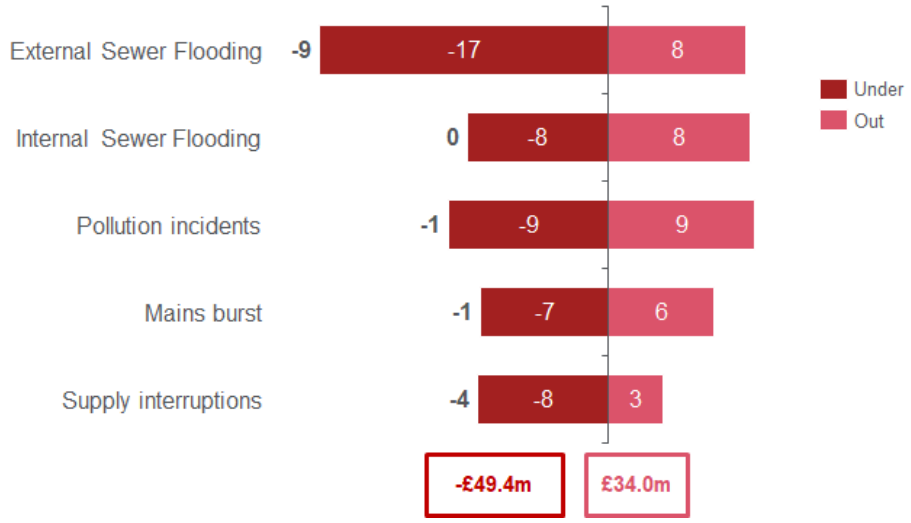
There would be considerably less skew had the collars been set at the P10 level – in line with previous guidance.

> *"We are expecting companies to put caps and collars at their P10/P90 performance levels on an annual performance basis."*[7]

Setting the collars at the IAP P10 performance level would result in a £15.4m skew towards underperformance payments. This is, (i) a limited skew, (ii) in line with Ofwat's policy aim, and (iii) as the skew is towards the downside, provides protection for customers.

[7] Technical appendix 1: Delivering outcomes for customers, Ofwat January 2019

Figure 2. Maximum underperformance and outperformance payments (£ million, AMP7 based on collars set at IAP P10)



Source: Southern Water analysis of table SRN Table OC 2.1

We note from the draft determination that Ofwat has calculated updated new P10 levels for our ODIs but has not provided information to support this calculation, or to confirm the proposed levels. We have not made a separate representation on the level of the P10s but have requested further information to explain the P10 levels proposed in the draft determination. [8] Given limited information, we propose the collars are set at the P10 levels proposed in DD_Representations_Data_Final_SRN Outcomes. This has maintained the same P10 levels proposed at the IAP except in instances where the target has changed in the draft determination.

As Figures 1 and 2 above show, the change in approach for the draft determination does not meet the objective for the use of collars to counter-balance the skew in exposure.

The new collar levels would result in considerably higher maximum underperformance payments. The difference in underperformance payment level between the draft determination collar level and a P10 collar level is shown in Table 1. In total, the change in collar approach provides an increase in maximum underperformance payment of £192m. This is equivalent to 2.4% of total RoRE.

[8] This information was provided on 28 August, which was too late to be taken into account in this response

Table 1. Impact of change in approach on collar levels (£ million)

Performance Commitment	IAP maximum under performance payment (£m) (Collar at IAP P10 level)	DD maximum under performance payment (£m)	Impact of moving collar away from P10 level (£m)
External Sewer Flooding	17.0	91.1	74.2
Internal Sewer Flooding	8.2	49.7	41.5
Mains repairs	7.4	30.0	22.6
Water supply interruptions	7.6	29.2	21.6
Pollution incidents	9.3	41.5	32.2
Total	**49.6**	**241.6**	**192.0**

Source: Southern Water IAP App 3 submission and SRN Table OC 2.1

Objective 2 – Protecting against very poor performance

Ofwat's second relevant objective for collars is *"to protect companies from disproportionate exposure in the case of very poor performance."*[9]

However, the level of collars proposed in the draft determination do not fulfil this objective of protecting Southern Water for disproportionate exposure to very poor performance. Very poor performance is predominantly caused by extreme weather events. "Delivering Outcomes for Customers Policy Appendix" states that *"we therefore set collars using multiplier values that capture worst levels of recent historic performance across the industry. We consider that this is an indication of the performance level under plausible circumstances against which a company should ensure that it is resilient."*[10]

Given the lack of transparency, however, this may result in collars based on performance outside the sector's normal planning assumptions, especially for extreme weather events. This is demonstrated by the fact that the collars have been set at a level beyond the P10 performance level – a level at which there is

[9] Delivering outcomes for customers policy appendix, Ofwat July 2019
[10] ibid.

only a 1 in 10 chance of being realised, and which predominantly only occurs under extreme weather events. See Appendix C.

In addition, since AMP6, Ofwat has changed definitions of performance commitments to include under performance caused by extreme weather. Ofwat's assumption that companies should be fully resilient to all extreme events is inconsistent with the way that the sector has planned or been funded for the last 30 years. The sector will need time to invest to be able to react to weather events to meet the requirements of these ODIs.

In order to achieve the stated objective of protecting against very poor performance, we consider that the collars should be set at the P10 level as set out above.

3.3 The revised approach dis-incentivises stretching targets

The collar being set on a multiple of the first year target means that future performance commitments would not take stretch into account. In fact, beyond the first year, the approach used, de-links collar levels from target performance. Given that one of the policy aims is to protect against very poor performance (see Ofwat's "Delivering Outcomes for Customers Policy Approach"), this approach is inconsistent.

The ODIs identified by Ofwat as having the same historic underperformance (shown by having the same multiple in the first year – according to Ofwat's approach) are being penalised at a different rate. Despite having the same multiple in the first year, these ODIs have a different multiple in the last year. The variation is caused by the singular nature of the approach, combined with differences in the level of stretch of the target. As such, an ODI with a more stretching target is exposed over a greater underperformance range than one with a less stretching target. This further highlights the inappropriateness of the revised approach.

This issue can be illustrated with the following example:

For External Sewer Flooding and Mains Repairs, Ofwat has determined that the collar should be set at 1.5 times the 2020-21 level based on historic performance. As Ofwat has set this level for both ODIs, it is reasonable to assume that Ofwat believes the historic performance vs. the target level is similar for both ODIs.

Over time, the level of the multiple changes considerably between the two ODIs, as illustrated in Table 2. We consider this to be an error in the approach, given the similarity in historic performance against PC target levels between the two ODIs (indicated by the 2020-21 target being the same).

Table 2. Example variation in multiple over AMP7 for External Sewer Flooding and Mains Repairs

	20-21	21-22	22-23	23-24	24-25
External Sewer Flooding	1.50	1.60	1.70	1.79	1.88
Mains Repairs	1.50	1.61	1.75	1.91	2.10

Source: Southern water analysis of Ofwat PR19 draft determination

Note: the multiple is calculated as the (Collar level / PC Level) in each period.

Given the historic data used by Ofwat shows the multiple should be the same in the first year, it is unclear why it should be different in later years. This error indicates that the approach of setting collars without

consideration for stretch targets is inappropriate and would be rectified by setting collars at the P10 level, as set out above.

3.4 The revised approach does not recognise the historic legacy of the sector and implicitly assumes that our assets can be resilient to extreme events

The impact of severe weather has historically been excluded from Performance Commitments and has been included for the first time in AMP7. The inclusion of severe weather events aligns with the industry drive for greater resilience, and we recognise the importance of a resilience challenge in principle. However, the proposed collars mean, in effect, that we would be largely unprotected against one-off severe weather events in circumstances where, as explained below, there has not been adequate funding or time to deliver the required investment.

Since privatisation, Ofwat has recognised that our asset base will not be resilient to all weather events. This has been reflected in the existence of "severe weather exclusions" for the measures that are most impacted, such as sewer flooding and water supply interruptions. In moving the collar levels beyond the P10 performance level, we are required to deliver resilience to a greater extent but have not been funded (or time) to achieve this step-change improvement in resilience. If there is an expectation to become much more resilient to a 1 in 100 year storm, significant resilience enhancement funding would be required.

Ofwat's assumption that companies should be resilient to all extreme events is inconsistent with the way that the sector has planned or been funded for the last 30 years. Companies have not had time to invest to be able to react to weather events to meet the requirements of these ODIs; we consider that companies require time and additional funding to respond to these new resilience requirements.

3.5 The revised approach results in a significant risk that is to a large extent beyond our control and will distort incentives to invest in the areas most valued by customers

At the IAP, Ofwat challenged Southern Water to 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"*. We provided comprehensive evidence and explanation within the action SRN.OC.A5 in our IAP response. In the draft determination, Ofwat acknowledged that we had provided evidence, across the board, of the alignment between customer preferences and our package of ODIs. However, it made a small number of changes to incentives (e.g. Leakage and Per Capita Consumption) and contended that:

> *"The overall package, following our interventions, is aligned to customer preferences and for most circumstances places sufficient incentives on the company to meet and exceed its performance targets. The largest incentives are typically placed on the outcomes customers value most highly."*[11]

It is not clear how it considered customer preferences in its updated approach to setting collar levels and the changes made have impacted the alignment between our underperformance payments and customer incentives – in part undermining Ofwat's view on our IAP submission. As can be seen in Table 3 below, Ofwat's actions have resulted in a set of maximum underperformance payments which are less aligned with our customers' preferences than what was submitted in our IAP response.

Table 3. Maximum underperformance payments at IAP and draft determination and customer priorities*

Performance Commitment	Max Underperformance Payment (£m) IAP	Customer Priority*	Comment	Max Underperformance Payment (£m) DD
Water supply interruptions	-7.70	High	This is a common PC with high regulatory support and high customer value.	-29.2
Internal sewer flooding	-8.21	High	This is a common PC. The combined sewer flooding ODI incentives align with the overall high customer support to reduce sewer flooding.	-49.7
External sewer flooding	-12.02	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.	-91.1
Asset Health: Mains repairs	-8.76	Medium	This is a common PC with high regulatory support and medium customer value.	-30.0
Pollution incidents (categories 1, 2 and 3)	-9.34	Medium	This is a mandatory bespoke PC with high stakeholder support.	-41.5

Source: Southern Water IAP App3 submission, Southern Water IAP response SRN.OC.A5 and SRN Table OC 2.1. *Customer priorities are as submitted in IAP SRN.OC.A5

[11] Southern Water – Delivering outcomes for customers actions and interventions, Ofwat, July 2019

The risk of very substantial penalties on certain metrics which do not have high customer support will force us to focus on penalty avoidance and incentivise us in a way that is inconsistent with customers' preferences. This is not only a bad outcome for our customers but goes against a focus on promoting outcomes which reflect customer priorities and are grounded in high quality customer engagement.

3.6 The distortion is most acute for Southern Water with respect to External and Internal Sewer Flooding and Pollution Incidents

Ofwat has used its standard approach to set collars at a level which means that our maximum underperformance payments are highest for External Sewer Flooding (£91m) and Internal Sewer Flooding (£50m).

For Pollution Incidents (£42m), It has provisionally determined that the standard approach does not "*appropriately incentivise*" us to perform against our target for Pollution Incidents. Ofwat notes that the "*performance of [Southern] has been particularly poor and we consider there is a greater risk (than other companies) that the company could exceed the collar that we would set using our standard approach*", and that to " *appropriately incentivise the company we have set the collar at twice the 2020-21 committed performance level for each year in the 2020-25 period.*"[12]

We consider that Southern Water appears to have been unjustifiably singled out for performance that is in line with several other companies', and the level proposed is not supported by robust evidence.

Historic Pollution Incidents performance

Ofwat has proposed a higher target level for Southern Water driven by past performance, but has not been consistent in using historic performance to determine collar levels. Table 4 outlines historic performance on key metrics for Pollution Incidents across companies who have been given a collar in the draft determination.

[12] Southern Water – Delivering outcomes for customers actions and interventions, July 2019, Ofwat

Table 4. Alignment of historic pollution incidents performance and collar levels (excludes fast track companies)

	Environmental Performance Assessment + Natural Resources Wales					*Ofwat collar multiple*				
	16-17	*17-18*	*18-19*	*Total*		*20-21*	*21-22*	*22-23*	*23-24*	*24-25*
Yorkshire	46	43	44	133		1.62	1.67	1.73	1.77	2.04
Southern	35	31	39	105		2.00	2.06	2.13	2.19	2.51
Northumbrian	38	17	12	67		1.62	1.67	1.73	1.77	2.04
Severn Trent England	30	30	31	91		1.17	1.17	1.17	1.17	1.17
Welsh	30	28	28	86		1.50	1.55	1.60	1.64	1.89
Wessex Water	22	23	24	69		1.62	1.67	1.73	1.77	2.04
United Utilities	22	23	24	69		1.26	1.30	1.34	1.38	1.58

Source: The Environment Agency Water and Sewerage companies Environment Performance assessments 2016, 2017 and 2018. The Ofwat collar multiple is a calculation based on PR19 draft determinations outcomes performance commitment appendix.

As can be seen from Table 4, Ofwat has not demonstrated consistency in using historic performance to set collars for this ODI and has been unduly challenging for us.

- Despite variations in historic performance, Yorkshire, Northumbrian and Wessex have all been set the same collar multiple in 2020-21 showing that there is inconsistency in using historic performance to set collar levels.
- Our performance has been worse than some other companies but has not been the worst in the industry – however our collar has been set at a higher level than Yorkshire, which has a worse performance record.

We consider that the collar level has been set in a manner that discriminates against Southern Water.

The setting of our collar for Pollution Incidents

Ofwat has provisionally determined that the industry-wide multiple of 1.5 times for Pollution Incidents is unsuitable and has adjusted to use a multiple of 2 times. However, there is no evidence that its decision to set a higher multiple is commensurate with the level of incentive. Without this information we are unable to understand or challenge further the reasonableness of the approach taken.

In order to rectify this, we propose that the collar should be set at the P10 level, as set out in DD_Representations_Data_Final_SRN Outcomes (SRN Table OC 2.1).

3.7 To avoid unintended consequences, we consider the collars should be set at a level which will allow us to manage the risks in line with customer preferences

In conclusion, we propose that the collars should be set at IAP P10 levels in order to:

- deliver Ofwat's objectives of avoiding skew and protecting companies against very poor performance;
- protect customers against bill volatility due to skew;
- ensure collars align with targets; and
- enable us to focus investment in line with customers' priorities.

This would result in collars being set at the following levels (which are the same as those set out in the SRN OC Table 2.1):

Table 5. Proposed P10 collar levels

Performance Commitment	Units	2020-21	2021-22	2022-23	2023-24	2024-25
External Sewer Flooding	nr	4766	4495	4241	4056	3879
Internal Sewer Flooding	nr per 10,000 connected properties	1.98	1.93	1.88	1.74	1.64
Mains repairs	nr per 1000km	142.0	133.5	125.0	116.5	108.0
Water supply interruptions	Property minutes lost (min:sec)	09:59	09:23	08:47	08:11	07:35
Pollution incidents (categories 1 to 3)	nr per 10,000km sewer	30.44	29.67	28.93	28.33	25.43

Source: SRN Table OC 2.1

4. Data tables impacted by this representation

This response relates to the following data tables:

Table Reference	Table Title
DD Representations Data_Final_SRN_Outcomes	SRN Table OC 2.1

Appendices

Appendix A: Applications of Ofwat's standard collar approach

Appendix B: Ofwat's use of its standard approach

Appendix C: Ofwat's P10 levels

Appendix A: Applications of Ofwat's standard collar approach

Ofwat has created a new approach to set the level of collars without robust econometric evidence or consultation with the industry. The communication of the new approach is limited within its policy document, and differs considerably from the previous approach.

In creating its new approach, Ofwat has used historic information to inform the levels at which collars should be set (through multiplier values relative to the 2020-21 target level). Ofwat has provided very limited information on the supporting information used – beyond informing us through the webinar (Ofwat webinar: Delivering outcomes for customers, 24 July 2019) that it is based on the three worst years out of the last seven.

We requested to be provided with the historical information mentioned. However, as set out below, Ofwat has not provided this information, and provided a more general response.

Table 6: Ofwat response to Southern Water query related to information used to develop collar levels

Date	Query	Response
26 July 2019	During the Outcomes Webinar you showed the multiplier values used in your Standard Approach for setting collars in line with the guidance set out in "Delivering Outcomes for customers policy appendix". Please can you provide supporting evidence (identified as recent historical performance across the industry) behind these multiplier values?	We chose multipliers that would lead to collars that generally included the worst performance across the industry for each performance commitment. We consider that this is an indication of the performance level under plausible circumstances against which a company should ensure that it is resilient. This analysis was based on the historical performance data that companies provided in their Business Plan submissions for each performance commitment. Companies provided data for varying numbers of years and we used the information provided. In a small number of cases there were clear company performance outliers for particular years, and we excluded this information from the industry dataset. We chose multipliers to the nearest 0.5 that would include poor performance from across the industry. If you consider that it is not appropriate to have financial incentives to provide services that are resilient in such circumstances you should set this out in your representation, setting out evidence why it is not appropriate.

The affected ODIs now include severe weather events (a change from AMP6) and it is unclear how the use of historic performance has accounted for this change.

Table 7 comprises the only information that has been provided to date, relating to the level at which the collars have been set. No supporting information has been provided to explain the calculation of these levels.

Table 7: Guidance on multipliers provided in Ofwat webinar: Delivering outcomes for customers 24 July 2019 11:00am – 12:00 noon (£ million)

	Collar
Interruptions	4 x 2020-21 level (21.6 minutes)
Internal sewer flooding	2 x 2020-21 level (3.35 incidents per 10,000)
Pollution incidents	1.5 x 2020-21 level (36.8 per 10,000km)
Leakage	Cap at -5% (an increase of 5% from 2019-20)
PCC	1.1 x 2020-21 level
Mains repairs	1.5 x 2020-21 level
Sewer Collapses	1.5 x 2020-21 level
Unplanned Outage	2 x 2020-21 level
Drinking Water Contacts	2 x 2020-21 level
External sewer flooding	1.5 x 2020-21 level
Low pressure	10 x 2020-21 level
Sewer blockages	2 x 2020-21 level

Source: Ofwat, 24 July 2019

We note that, in responding to our clarification question by stating *"We chose multipliers to the nearest 0.5 that would include poor performance from across the industry"*, Ofwat has not followed its own guidance with the PCC multiple set at 1.1 times.

Appendix B. Ofwat's use of its standard approach

We note that Ofwat has used the multiples in c.60% of instances that a company (excluding Fast Track) has applied a collar on a financially significant ODI, with the collar level is less stretching in 50% of the instances where the industry-multiple was not used.

Using Ofwat's PR19 draft determinations: Outcomes performance commitment appendices for each company, we have analysed the consistency with which the standard collar approach has been applied across the industry. Table 8 shows the collar multiple for each company, for common PCs, calculated as:

Collar multiple = Standard underperformance collar (2020-21) / PC level (2020-21)

In the instances where the collar level is not set at Ofwat's mandated collar level, the collar is less stretching in c.50% of instances. Table 8 below illustrates where the collar level sits:

A. At the Ofwat mandated collar level (blue shading)

B. At a less stretching position than the Ofwat mandated collar level (red shading)

C. At a more stretching position than the Ofwat mandated collar level (green shading)

Of the 19 instances where the collar is not at the Ofwat collar level, there are 9 instances where the collar level is less stretching (47%). This inconsistent use of the mandated collar level, where the collar level is less stretching c.50% of the time, providing direct challenge to Ofwat's updated approach.

Table 8: Collar multiple comparison from company PR19 draft determinations: Outcomes performance commitment appendix

Company	Interruptions	Internal Sewer Flooding	Pollution Incidents	Leakage	PCC	Mains Repairs	Sewer Collapses	Unplanned Outage	Drinking Water Contacts	External Sewer Flooding	Low pressure
Anglian Water	4.00	1.99	N/A	-76%	N/A	N/A	N/A	N/A	N/A	1.50	N/A
Dwr Cymru	0.10	1.99	1.50	-5%	N/A	1.50	1.50	N/A	2.00	1.50	N/A
Hafren Dyfrdwy	N/A	1.99	N/A	N/A	N/A	N/A	N/A	N/A	2.00		N/A
Northumbrian Water	0.10	N/A	1.62	-16%	N/A	1.50	N/A	N/A	N/A	1.50	
Southern Water	4.00	1.99	2.00	-5%	10.80	1.50	N/A	N/A	N/A	1.50	N/A
Thames Water	4.00	1.99	N/A	-10%	8.00	1.50	N/A	N/A	N/A		N/A

Table 8 cont.: Collar multiple comparison from company PR19 draft determinations: Outcomes performance commitment appendix

Company	Interruptions	Internal Sewer Flooding	Pollution Incidents	Leakage	PCC	Mains Repairs	Sewer Collapses	Unplanned Outage	Drinking Water Contacts	External Sewer Flooding	Low pressure
Wessex Water	N/A	1.43	1.62	-22%	120.0	N/A	N/A	2.00	N/A	N/A	
Yorkshire Water	0.10	1.43	1.62	-4%	3.96	N/A	N/A	N/A	2.00	1.50	N/A
Affinity	1.50			-5%	4.76	N/A		2.26	N/A		N/A
Bristol	4.00			-5%	6.62	N/A		2.00	2.00		10.0
Portsmouth	1.50			-5%	6.62	N/A		N/A	N/A		N/A
SES	6.09			46%	8.90	N/A		N/A	N/A		
South East	4.00			-5%	N/A	N/A		N/A	N/A		N/A
South Staffs	4.00			-5%	N/A	N/A		N/A	N/A		
Count (not N/A)	**12**	**7**	**5**	**13**	**8**	**4**	**1**	**3**	**4**	**5**	**1**
% same as multiple	**50%**	**83%**	**20%**	**54%**	**0%**	**100%**	**100%**	**67%**	**100%**	**100%**	**100%**
Count (not N/A / at Ofwat collar level)	**6**	**2**	**4**	**6**	**0**	**0**	**0**	**1**	**0**	**0**	**0**
% less stretching than Ofwat collar level	**17%**	**100%**	**100%**	**17%**	**0%**	**0%**	**0%**	**67%**	**0%**	**0%**	**0%**

(NB: Grey shading with no text denotes the company has not adopted a PC, grey shading with N/A denotes the company has not used a collar on a PC)

Source: Southern Water analysis of company PR19 draft determinations

Appendix C. Ofwat's P10 levels

Ofwat provided us with its changes to our P10 levels for our performance commitments on the 28th of August 2019. This included 3 of the 5 PCs we are discussing in this representation. Table 9 shows these P10s and the corresponding collars Ofwat set for each PC.

Table 9 Ofwat's p10s and collars

PC name	PC unit description	P10/Collar	2020-21	2021-22	2022-23	2023-24	2024-25
Water supply interruptions	property minutes lost	Ofwat's P10	00:16:12	00:14:24	00:12:36	00:10:48	00:09:00
		Ofwat's Collar	00:21:36	00:21:36	00:21:36	00:21:36	00:21:36
Internal sewer flooding	nr per 10,000 connected properties	Ofwat's P10	2.0	2.0	1.9	1.7	1.6
		Ofwat's Collar	3.35	3.35	3.35	3.35	3.35
External sewer flooding	nr	Ofwat's P10	5,294.4	4,969.2	4,664.4	4,442.4	4,230.0
		Ofwat's Collar	6618	6618	6618	6618	6618
Mains Repairs	nr per 1000km	P10	142	133	125	116	108
		Ofwat's Collar	179.4	179.4	179.4	179.4	179.4
Pollution incidents	nr per 10,000km sewer	P10	30.4	29.7	28.9	28.3	25.4
		Ofwat's Collar	49.01	49.01	49.01	49.01	49.01

*Ofwat agreed with our P10 levels for both mains repairs and pollution incidents

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Compliance Risk Index ODI deadbands

1. Issue

Ofwat proposed an industry-wide target for Compliance Risk Index (CRI), a DWI measure, which does not take into account the variability in risk between different regions and different companies. In our case, this would place undue weight on the impact of failures at [redacted] Water Supply Works (WSW).

Due to the particular circumstances of [redacted] WSW, rather than *incentivising* performance, Ofwat's proposed CRI deadband would result in the immediate triggering of penalty payments. Given the constraints of our current improvement plan at [redacted] WSW this would have no impact on our planned performance and would merely serve to reduce our resilience. Due to the triggering of the maximum penalty under this ODI, the level of compliance at our other water supply works would have limited impact on the size of the penalty, meaning that the ODI would not be operating as an incentive mechanism for any other works.

As set out in further detail below, the Drinking Water Inspectorate (DWI) has put in place a plan to improve performance at [redacted] WSW and achieve compliance with the DWI's target levels by 2025. These works are to be completed 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.[13]

The proposed deadband would mean we will receive a significant underperformance penalty for the first three years of AMP7. This penalty would be received regardless of successful delivery of the improvement programme as agreed with the DWI.

Setting the deadband on an industry-wide basis, without taking into account the fact that we have agreed an improvement plan with the DWI at [redacted] WSW, would not achieve a better outcome for [redacted] WSW. This approach removes any incentive across the remaining works as the maximum penalty will likely be triggered. There is also the risk of undermining customer confidence in the agreed improvement plan, as an immediate penalty penalises us for meeting the terms of an agreement with the DWI.

[13]The Water Supply (Water Quality) Regulations 2016 (as amended) Notice under Regulation 28(4) Southern Water Services Ltd : [redacted] Water Supply Works. Improvement Programme Database Reference number – SRN 3911

2. Our proposed remedy

In order to ensure the ODI properly incentivises performance, we consider a company specific adjustment to Southern Water's CRI deadband which takes account of the particular circumstances of [redacted] WSW would be appropriate.

The CRI target should account for our performance at [redacted] WSW in line with the DWI notice, resulting in deadbands as shown:

Table 1. Proposed deadband including [redacted] WSW

	20-21	21-22	22-23	23-24	24-25
IAP deadband (inc. [redacted]	6.2	6.2	5.6	3.2	1.0

Source: Southern Water SRN Table OC 2.1

Our proposal would result in appropriate incentives for us to deliver continuous improvement in line with the goals for this PC as set out by the DWI, without resulting in automatic penalties under this ODI from the beginning of AMP7.

3. Supporting evidence

3.1. Background: CRI is a new measure put in place by the DWI

CRI is a measure to highlight the risks associated with failures in treated water compliance. The measure was developed by the DWI in line with its risk based approach to water regulation. In its definition of CRI,

> *"All compliance failures are assessed by DWI using the provisions of the Water Industry Act 1991. In doing so, DWI has regard to its published Enforcement Policy, and it also follows the principles of "better regulation" to scrutinise company performance on the basis of their risk of failing to meet the requirements of the Regulations."*[14]

CRI was introduced:

> *"in lieu of the current MZC as Amendment Regulations 2017 make provision for companies to move to a risk based sampling regime, which will impact on the MZC calculation as it allows for efficiencies based on risk analysis*".[15]

The measure was developed in consultation with water companies.

Each specific compliance failure is given a CRI score, calculated from a combination of, (i) the significance, (ii) the cause, and (iii) the location of the failure. Each company's annual score is the sum of any individual failure's CRI score. Ofwat has adopted the DWI definition for this PC, and performance against this PC is based on DWI defined measurements.

In its draft determination Ofwat has set a PC target of 0 for all 5 years, and deadbands in the first 2 years at 2.0, followed by 1.5 in subsequent years.

3.2. Our performance against the CRI measure is largely defined by our performance at [redacted] WSW. However, the DWI has set us specific targets for our site at [redacted] WSW

[redacted] WSW is an 80 Ml/d (critical national infrastructure) water supply works which was built in 1963 and expanded to its current size in 1980. The process stream consists of clarification, filtration and chemical dosing stages. [redacted] WSW supplies 327,000 customers or ~14% of our total population including the majority of Southampton, Eastleigh, Romsey and the north of the Isle of Wight.

[14] http://dwi.gov.uk/stakeholders/price-review-process/CRI_Def.pdf
[15] Drinking Water Inspectorate comments on the Ofwat consultation on "Delivering Water 2020: Consulting on our methodology for the 2019 price review", DWI, 2017

The following example gives an indication of the scale of [redacted] WSW and the impact it can have on our CRI performance:

- The least significant parameter score which would result in a CRI score is an aesthetic quality failure at [redacted] WSW(which is likely until the construction programme agreed with the DWI is completed in 2025). This would generate a CRI score of 1.6 (versus the company-wide annual deadband level of 2.0).

Until completion of our improvement programme higher category quality failures are likely, which would lead to even higher CRI scores, albeit still within limits agreed with the DWI and posing no risk to public health.

In response to water quality failures at [redacted]WSW during AMP6, the DWI issued Notice SRN 3911 which mandates a series of major site upgrades to be completed by 2025. The notice was collaboratively developed with the DWI to ensure that the milestone dates within the notice reflected the significant nature of the works, but were also sufficiently challenging to mitigate any public health risk as soon as possible.

The DWI provided their expert judgement through the development process and the notice demonstrates the DWI position that the speed of works proposed is appropriate to manage the risks associated with the [redacted]WSW. As such, the DWI have agreed that the works should have a completion date of 2025.

The improvements required at [redacted] WSW are primarily to the clarification and filtration assets along with overhauls of chemical treatment assets. These assets are the root-cause of the water quality issues and the significant CRI impact[16].

The clarification and filtration component will require an entirely new process stream to be built. This requires major civil works (large concrete tanks to be built in a limited footprint) and hence at least a four year build programme (factoring in design, pilot plants, planning, temporary works, construction and commissioning). However, before the construction of these new assets can take place, we will also be required to improve the existing clarification and filtration streams to ensure any potential public health risk is addressed whilst we build the new process stream.

These primary improvements will take until March 2020 (the subsequent performance improvement is reflected in the CRI glidepath we have proposed as our deadband for this ODI).

DWI Notice SRN 3911 outlines the comprehensive programme we are undertaking, which has been agreed with the DWI to mitigate the water quality risks. This is a prescriptive notice which clearly sets out timings to ensure that the water quality risks can be mitigated as soon as practicable (to the satisfaction of the DWI). This shows clearly that we are doing all that is practicable to address the water quality issues at [redacted] WSW. In conclusion, the plan agreed with the DWI is:

- robust;
- objectively necessary and appropriate in the circumstances;
- stretching with regards to timing, while reflecting the best that we could hope to achieve, and
- has already been comprehensively tested by the DWI.

[16] Improvement Programme Database Reference number – SRN 3911

We provide, with this response, the latest annual progress report (TA_OC_SRN 3911) to demonstrate that we are currently on track with the programme agreed with the DWI.

3.3. Using industry-wide levels for this ODI unduly penalises us for delivering what we have been set by DWI

In the IAP response SRN.OC.A9 we explained how our current poor overall CRI performance is to a very large degree attributable to a single large treatment works, [redacted] WSW, which is accountable for ~65% of our CRI events.

As set out above, we have agreed to a robustly-tested and stretching set of actions with the DWI to improve the performance of the [redacted] WSW.

If we were unable to meet the improvement plan agreed with the DWI, we would be subject to enforcement action from the DWI under Section 18 of the Water Industry Act 1991. However, even if we were to meet the requirements agreed with the DWI, Ofwat's proposal in the draft determination would result in penalties under the ODI regardless.

The impact of [redacted] WSW can be seen clearly when it is removed from the CRI target for Southern Water. Without [redacted] WSW, our current performance would be within the deadbands proposed by Ofwat.

Table 2. CRI performance including [redacted] WSW

	20-21	21-22	22-23	23-24	24-25
Ofwat deadband	2.0	2.0	1.5	1.5	1.5
IAP deadband (inc. [redacted]	6.2	6.2	5.6	3.2	1.0

Source: Southern Water analysis

Table 3. CRI performance excluding [redacted] WSW

	20-21	21-22	22-23	23-24	24-25
Ofwat deadband	2.0	2.0	1.5	1.5	1.5
IAP deadband (excl. [redacted]	1.7	1.7	1.1	1.0	1.0

Source: Southern Water analysis

3.4. The deadband represents an automatic penalty if we perform at DWI levels and does not drive effective incentives

The above tables show that, due to the issues at [redacted] WSW, we will fail to meet the proposed PC for the first three years of AMP7 (and would have to pay the maximum penalty - even if we were to achieve compliance in accordance with the DWI programme, and were to maintain compliance at all of our other water supply works.

Indeed, due to the inevitable triggering of the maximum penalty under this ODI, the level of compliance at our other water supply works would make no difference, and the ODI would fail to operate as an incentive mechanism.

The unavoidable underperformance penalty under the ODI in these circumstances would be very significant – around £9m, as shown in Table 4.

Table 4. Penalty from delivering at level agreed with DWI

	20-21	21-22	22-23	23-24	24-25
Ofwat deadband	2.0	2.0	1.5	1.5	1.5
Penalty (£m)	2.6	2.6	2.6	1.1	0.0

Source: Southern Water analysis of Ofwat's PR19 draft determination

In its Final Methodology, Ofwat states that it has developed an approach of balancing risk and return which provides that companies are "incentivised to provide the best service for customers."[17] However this aim would not be met in this case, because the proposal would mean that we would be penalised for delivering at the best level we can for our customers; as the level at which we will deliver has been agreed with the DWI.

The proposed CRI deadband would not create appropriate incentives and is at odds with Ofwat's own contention in its draft determination that a "deadband set at the levels we are proposing allows for some fluctuation in performance, whilst providing a strong incentive to minimise compliance failures. It is important that the range of underperformance to the collar is adequate to provide clear incentives for companies to deliver statutory requirements."[18]

The purpose of a regulatory ODI is designed to drive incentives, and not to impose penalties in circumstances where compliance action is already being addressed. The deadband which Ofwat has set us will not produce any incentive to drive compliance in circumstances where it creates an inevitable breach resulting in the maximum penalty in the first three years of the five year AMP (and where we comply with the already stretching requirements imposed by the DWI under Notice SRN 3911).

[17] Delivering Water 2020: Our final methodology for the PR19 price review, Ofwat December 2017
[18] Southern Water – Delivering outcomes for customers actions and interventions, draft determination July 2019

3.5. Our proposed remedy: [redacted]WSW should be excluded from the overall CRI company target and aligned to the DWI requirement

In order to ensure the ODI properly incentivises performance, we consider that there should be a company-specific adjustment to Southern Water's CRI deadband which takes account of the specific circumstances of [redacted]WSW.

The CRI deadband levels in the case of [redacted]WSW should be aligned with the levels agreed with the DWI. Our proposal would result in deadbands as shown, which are the same as those presented in Southern Water's IAP response:

Table 5. Proposed deadband including [redacted]WSW

	20-21	21-22	22-23	23-24	24-25
IAP deadband (inc. [redacted]	6.2	6.2	5.6	3.2	1.0

Source: Southern Water SRN Table OC 2.1

Such CRI targets would result in appropriate incentives on Southern Water to deliver continuous improvement in line with the goals for this PC as set out by the DWI, without resulting in inevitable penalties under this ODI from the beginning of AMP7.

4. Data tables impacted by this representation

This response relates to the following data tables:

Table Reference	Table Title
DD Representations Data_Final_SRN_Outcomes	SRN Table OC 2.1

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Void Properties

1. Issue

Void properties are a performance commitment within the retail price control. Voids are properties classed by water companies as being vacant. However, some voids are actually occupied, so they may, erroneously, not be billed. Thus, due to the wholesale price control revenue limits, finding voids that are occupied will reduce the average bill for all other customers as an extra customer would be billed.

The incentive rate is therefore set by reference to the average wholesale bill. The rate calculation also includes Ofwat's assessment of the efficient cost of identifying a false void (the marginal cost).

For Southern Water, the draft determination sets the incentive rates for void properties based on an average wholesale bill of £394, marginal costs of £30, a cost sharing factor of 50%, and property numbers as provided by the company.[19] The new rates are:

- Underperformance: £7.23 m per 1% of household properties classed as void
- Outperformance: £3.76 m per 1% of household properties classed as void

We consider Ofwat's approach for determining our incentive rates for void properties to be inappropriate. In particular, we believe that:

- The decision not to adjust the incentive rates for our proportion of single service customers is not correct
- The sharing rate has been incorrectly included in the calculation for both the underperformance and outperformance incentives.

19 PR19 draft determinations July 2019: 'Delivering outcomes for customers policy appendix', https://www.ofwat.gov.uk/wp-content/uploads/2019/07/PR19-draft-determinations-Delivering-outcomes-for-customers-policy-appendix.pdf, p.93-94; 'Southern Water – Outcomes performance commitment appendix', https://www.ofwat.gov.uk/wp-content/uploads/2019/07/PR19-draft-determinations-Southern-Water-Outcomes-performance-commitment-appendix-final.pdf, p.79-80; 'Southern Water – Delivering outcomes for customers actions and interventions', https://www.ofwat.gov.uk/wp-content/uploads/2019/07/PR19-draft-determinations-Southern-Water-Delivering-outcomes-for-customers-actions-and-interventions.pdf, p.26.

1.1 Failure to account for dual service and single service customers separately

In calculating the incentive rate associated with identification of a false void, Ofwat has assumed that the consumer benefit for all false voids should be set at £394. This does not reflect our customer base. Ofwat's figure represents the average wholesale bill of a dual service customer, but does not take into account that over 700,000 of our customers are single service customers. Correctly taking account of the split between single service and dual service considerably reduces the size of the potential underperformance penalty associated with this ODI.

In summary:

- The calculated benefit per void is too high as it does not take account of the difference between single service and dual service customers. The benefit assumed of £394 is correct only for dual service bills. Single service voids have a lower impact on costs passed through to customers, with average bills of £162 for water and £251 for wastewater.
- Southern Water has the lowest proportion of revenues from dual service customers out of all WaSCs (c.60%). As such, Ofwat's approach has the largest and most disproportionate impact on us.

The approach in not accounting for dual and single service customers separately increases the penalty incentive rate by some £3m to £4m (depending on whether the incentive rates are weighted or per customer type) per 1% of household properties classed as void.

1.2 Incorrect inclusion of a customer sharing mechanism in the incentive rate calculation

The cost sharing factor of 50% in the calculation for both the underperformance and outperformance incentives has been incorrectly included. This is at odds with the PR19 methodology where it proposed not to apply cost sharing rates to the retail price control.

The consequence of applying the sharing rates increases the penalty incentive rate by £500k per 1% and reduces the outperformance incentive rate by £3.5 million per 1%.

2. Our proposed remedy

In order to rectify the approach above, we consider that the approach should:

- account for the split between single and dual service customers in their equation for the incentive rates
- remove the cost sharing from the calculation as this is not applicable to the retail price control

The calculations should be made on the following basis:

- Underperformance incentive rate = (Average wholesale bill for each service – marginal costs)*1% of properties for each service
- Outperformance incentive rate = (Average wholesale bill for each service)*1% of properties for each service

Table 1 below applies these equations, and sets out the correct incentive rate considering single service and dual service customers separately:

Table 1. Incentive rates for dual and single service customers

Customer type	Average bill benefit (£)	Marginal cost (£)	Sharing rate (£)	1% of customers (#)	Underperformance incentive rate (£/%)	Outperformance incentive rate (£/%)
dual	394	30	n/a	11000	4,334,000	4,334,000
water	162	15	n/a	1000	147,000	162,000
waste	251	15	n/a	7000	1,652,000	1,757,000

Source: Southern Water analysis

While the above is our preferred approach we recognise that for simplicity, an alternative approach might be to apply a weighted incentive rate based on the number of customers within each service. Taking this approach would result in the following rates:

- Underperformance incentive rate: £3,125,526 per 1% of properties
- Outperformance incentive rate: £3,165,000 per 1% of properties

We note, however, a challenge to this approach as it would mean that customers with different water and waste companies will be overpaying for incentives from two companies. Accordingly, we submit that it would be more appropriate to set the incentives on the basis of Table 1 above.

Regardless of approach adopted above, we consider that the cost sharing mechanism should be removed from the calculation.

3. Supporting evidence

Voids are properties classed by water companies as being vacant. However, some voids are actually occupied, so they may, erroneously, not be billed. Thus, due to the wholesale price control revenue limits, finding these voids that are occupied will reduce the average bill for all customers as an extra customer would be billed.

3.1 The revised approach has not accounted for dual service and single service customers separately

While dual service voids increase the total paid by other customers (split across all customers) by £394 per property, the increase per property for a single service void is only £143 for water and £251 for wastewater. The approach Ofwat has used has not taken account of this difference, and the impact on consumers' bills will be different depending on which service or services the void property receives from Southern Water.

For example, with Ofwat's approach at its draft determination, if we were to find a void for a water-only customer, the benefit to the customer base would only be £143, although the outperformance payment would be based on the £394, and thus customers would potentially be paying higher bills if we were to reduce the amount of voids for single service customers.

A single service bill is, on average, much smaller than a dual service bill, which means that the impact of a false void among single source customers has a much smaller impact on customers' bills than a false void among dual service customers. Given the difference in value (£394 for dual service, £143/£251 for single service) the benefit of a reduction for a void for a single service customer should be based on the wholesale average bill for the respective service.

Due to the approach taken, our incentive rate is skewed. A separate incentive rate should instead be used for each type of customer.

As Table 2 below shows, only ~60% of our revenue is recovered from dual service customers which means that Ofwat's approach would have a disproportionate impact on us compared with the wider industry, with the industry average being 80%. Our split of dual service and single service customers means that we are among the most impacted by the incentive skew than any other company.

Table 2. Dual service revenue per company

Company	Dual service bill (Discover water)	Population (table R9)	Revenue (Bill*population)	% of overall Revenue
Anglian	429	1,726,334	£740,597,286	75.4%
Welsh	447	1,178,128	£526,623,216	91.3%
Northumbrian	401	1,071,376	£429,621,776	74.3%
Severn Trent	348	2,966,545	£1,032,357,660	84.2%
Southern	437	930,290	£406,536,730	60.8%
Thames	386	3,428,138	£1,323,261,268	78.7%
United Utilities	432	2,829,900	£1,222,516,800	97.5%
Wessex	488	512,665	£250,180,520	60.8%
Yorkshire	385	1,946,606	£749,443,310	94.7%

Source: Per column titles

*Table 2 excludes Hafren Dyfrdwy and South West water due to limited data availability; there is no information in R9 for South West Water

3.2 The revised approach incorrectly includes a customer sharing mechanism in the incentive rate calculation

Ofwat's approach includes cost sharing factor of 50% which has been based on our wholesale cost-sharing rate. This sharing rate should not be included in the incentive rate calculations, consistent with Appendix 11 in the PR19 methodology where Ofwat stated that it would not apply cost sharing rates to the retail price control on the basis that this is an average revenue control and as a result *"the cost performance risk is significantly lower because of the outturn volume adjustment".*[20]

Accordingly, the benefit should be the average wholesale bill and the cost sharing rate should not be included in the calculation. Including the cost sharing reduces the outperformance incentive rate by 50% and increases the underperformance incentive by 50% of the marginal cost.

3.3 To avoid incorrect penalties the calculations for voids should be updated

In order to correct the above approach in setting incentive rates for finding false voids, Ofwat should update its calculations to those shown below. The benefit should be the relevant average wholesale bill and the cost sharing rate should not be included in the calculation.

- Underperformance incentive rate = (Average wholesale bill for each service – marginal costs)*1% of properties for each service
- Outperformance incentive rate = (Average wholesale bill for each service)*1% of properties for each service

This would result in the rates set out above under the "Remedy" heading.

This approach will mean that we would be correctly incentivised to find additional false voids and to give our customers the best service possible.

[20] Delivering Water 2020: Our final methodology for the 2019 price review Appendix 11: Securing cost efficiency, Ofwat, December 2017, p.4.

4. Data tables impacted by this representation

This response relates to the following data tables:

Table Reference	Table Title
DD Representations Data_Final_SRN_Outcomes	SRN Table OC 2.1

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River Water Quality ODI Targets

1. Issue

Ofwat has not set the performance commitment for km of rivers improved to *"good"* status (the River Water Quality PC) in accordance with Southern Water's Water Industry National Environment Programme (WINEP) delivery dates. Specifically there are a number of observations which we consider to be incorrect:

- Set target dates for all rivers based only on those specified as "*Green*" by the Environment Agency as of 1 April 2019;
- Adopted an approach which includes duplication, as it has counted multiple schemes relating to the same river as separate schemes (and therefore included the km of river included by those schemes multiple times) despite the fact that each river can only be increased to "*good*" status once. The correct approach would be to include only the scheme with the largest impact on the river; and
- Inclusion of scheme 7SO200207 in 2020-21. This is a water scheme, whereas all other schemes that impact the river km improved are wastewater schemes. For simplicity and, consistent with all other wastewater PCs, to keep the PC fully within the wastewater price control we believe that this should not be included.
  - Ofwat has confirmed in the clarification (Appendix 1) that only wastewater schemes should be included

These errors have led Ofwat to propose to the following commitment levels for the amount of river water quality improved in the draft determination:

Table 1. Ofwat's proposed PC level

	2020-21	2021-22	2022-23	2023-24	2024-25
PC level proposed by Ofwat (km of rivers improved to "good" status)	7.60	106.60	134.70	134.70	242.20

Source: Ofwat's PR19 draft determination

Through the clarification process, Ofwat has asked us to make a representation based on the correct cumulative annual delivery profile (see Appendix 1). In the remedy section we have provided what we believe to be the correct cumulative annual delivery profile. We confirm that this has been calculated using the 29 March 2019 WINEP spreadsheet.

TA_OC_WINEP_Reconcilliation_River_Water_Quality_Targets has been provided in line with Ofwat's request to show the names of the included schemes, the relevant delivery codes and completion dates.

2. Our proposed remedy

We consider the approach to setting the level of the River Water Quality PC to be incorrect. Currently the targets are much more stretching than those we proposed, as demonstrated in Table 2, but this is a result of the errors identified above in Section 1. Issue.

Table 2. Variance of Ofwat's and Southern Water's PC levels

	2020-21	2021-22	2022-23	2023-24	2024-25
PC level proposed by Ofwat (km of rivers improved to "good" status)	7.6	106.60	134.7	134.7	242.2
WINEP delivery dates green schemes river km improved to "good" status		82.5	102.7	102.7	182.3
Variance	7.6	24.1	32	32	59.9

Source: Ofwat's PR19 draft determination, Southern Water SRN Table OC 2.1

We note that the target levels may change prior to final submission of the WINEP on April 1st 2020. Nonetheless, the same calculation approach that it has used to determine its proposed PC level, as shown in TA_OC_WINEP_Reconcilliation_River_Water_Quality_Targets should be used to calculate the correct amount of rivers to be improved for the purposes of the River Water Quality PC.

3. Data tables impacted by this representation

This response relates to the following data tables:

Table 3. Related data tables

Table Reference	Table Title
DD Representations Data_Final_SRN_Outcomes	SRN Table OC 2.1

Appendices

Appendix A: Ofwat clarification

We asked Ofwat a clarification on how they derived our performance commitment levels, they confirmed they want us to make this representation, to clarify the correct performance commitment levels.

Table A1. Ofwat clarification question

Date	Query	Response
20-Aug-19	We have now understood how you have calculated the targets for our River water quality PC. The variance between our target in query SRN.OC.004 and draft determination, is due to the inclusion of duplicate river km improved amounts in your figures. Where two or more different schemes impact the same river, we have only included the scheme with the largest impact on the river, on the basis that the river can only be improved to good status once. In addition to this you have included scheme 7SO200207 2020-21. This is a water scheme, where all other schemes that impact the river km improved are wastewater. For simplicity and to keep the PC fully within the wastewater price control we did not include this. Can you confirm whether we believe we should indeed be including all schemes, including duplicates or just the schemes with the largest impact on the river? Further, can you confirm that for simplicity, we should exclude scheme 7SO200207. As this is simply a matter of interpretation, we would ideally like to agree the position with you ahead of the submission of formal representations later this month.	Our estimates of the WINEP delivery profile at draft determination were based on the best information that we had, which is annual update of the WINEP spreadsheet dated 29 March 2019 and which aligns with the performance commitment (PC) definition. You however refer to the 29 March 2018 version, which is not in line with the PC definition. We can confirm that river length improved are only counted once as per the PC definition and that only wastewater schemes should be included. May you please make a representation on the basis of our feedback, stating what you consider to be the correct cumulative annual delivery profile. In your representation, we expect you to provide an annex setting out the names of the included schemes, the relevant driver codes, completion dates as well as any other pertinent information.

Within this representation, we have provided the correct cumulative annual delivery profile. We confirm that this has been calculated using the 29 March 2019 WINEP spreadsheet.

TA_OC_WINEP_Reconcilliation_River_Water_Quality_Targets has been provided in line with Ofwat's request to show the names of the included schemes, the relevant delivery codes and completion dates.

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Surface Water Management

1. Issue

Reductions in external sewer flooding can be achieved via a range of methods. Better management of surface water is one of these, but in many instances it is not the most cost effective approach to reducing external flooding.

Southern Water designed its surface water management performance commitment (PC) as a reward only outcome delivery incentive (ODI), on the basis that it was an innovative PC intended to improve customer behaviour. While the outcome of achieving this PC would be a reduction in external sewer flooding, we designed it in a way which supported our commitment to customer participation and education in the wastewater environment. The outcome of us achieving the PC would be reduced localised flooding, as well as a reduction in customers' surface water drainage charge of £25.90 per year per household. At the same time, customers would have full control over implementing the solutions, due to the requirement for owners' permission for installation of surface water separation on their property. We set the target level for the number of properties at which installation would take place based on customers' willingness to pay in line with BP_Ta4.4_Customer and Stakeholder Engagement Deliverables_Document 3.

At the draft determination, Ofwat has set us targets for surface water management which are 5 times higher than those we developed based on our customer willingness to pay analysis.

By setting such high targets, Ofwat would force us to prioritise the delivery of surface water management to achieve our targeted reductions for external sewer flooding, rather than addressing sewer flooding through other, more cost-effective means, such as monitoring and sealing manholes, installing and diverting pipes, FOG education and property level alarms on high flow. This is inconsistent with the intention of our proposed PC, which was driven by customer willingness to pay and aimed at achieving results through changes to customer behaviour. The result of this approach is that there is a considerable risk of us having no choice but to take decisions relating to external flooding which are not in line with our customers' willingness to pay. We consider that this is not acceptable and should be rectified by the removal of this PC. We will still deliver surface water management activities to reduce localised flooding, although we will work as per our Business Plan on the most efficient delivery to reduce flooding on the whole.

In summary, we consider the approach to be erroneous for the following reasons:

- The target set for surface water management is 5 times higher than that proposed by Southern Water, without an adjustment to our funding allowance
- This PC was not intended to drive a direct outcome in and of itself, but to support our overall management of external sewer flooding events as part of a range of tools at our disposal
- The levels proposed would directly distort our flooding strategy, with a clear negative impact on our customers because:
  - We would not be incentivised to deliver the most efficient approach to reducing external sewer flooding, given the need to prioritise surface water management over other options
  - We would be incentivised under both this Surface Water Management PC and out External Sewer Flooding PC
- The change to the target is not linked to a customer priority and now applies two separate ODI penalties to delivery of our external flooding outcome

2. Our proposed remedy

The approach taken means that this PC and the associated ODI are no longer supporting our overall external sewer flooding reduction outcomes in the manner intended. We therefore propose the PC and ODI are removed from Southern Water's final determination.

3. Supporting evidence

Our September 2018 Business Plan included a surface water management performance commitment (PC). This was a bespoke PC aimed at removing surface water at specific customer properties. This involved the disconnection of roof down pipes, the use of localised Sustainable Urban Drainage Systems (SuDS) as well as smart flood storage based water butts. The primary purpose of the PC was to target surface water removal as part of our overall plans to deliver our sewer flooding reduction targets (primarily external flooding) where large scale SuDS solutions are not available. It was driven by customers' willingness to pay.

This PC was designed specifically at property level where customers own the assets and have full control over whether they want surface water removal (or not). Only key customer locations that suffer from external flooding through hydraulic overloading would be considered to ensure our resources were prioritised appropriately. Properties that are connected to a combined foul sewer would be assisted with property level interventions, e.g. to convert roof downpipes into garden soakaways.

In our Business plan, we proposed a reward only PC for Surface Water Management based on removing surface water from a maximum of 2,842 roof tops for the AMP and equivalent to 115,385m^3 across the AMP – which is 23,077m^3 in each year of the AMP. This was based on evidence that our customers were willing to pay no more than £1.2 million across the next 5 year AMP period to fund this work, at a cost of £400 per property. (BP_Ta4.4_Customer and stakeholder Engagement Deliverables_Document 3) This is achieved by disconnecting roof water from the combined sewer system into soakaways (where possible) or flood storage smart water butts.

We identified target locations that contained properties that had all of their roof drainage connected to a combined foul sewer and did not have other larger scale SuDS options available to mitigate the external flooding risk. Therefore, at these locations providing localised surface water management activities on specific households would be most effective. Providing this on a larger scale would not be as effective, due to SuDS schemes being slow to deliver and other locations having issues where more effective solutions can be provided to reduce flooding.

At the draft determination, Ofwat has set the PC levels five times higher than we proposed based on its estimation of the volume of water that is likely to be drained from the equivalent of 22,000 roof tops. This is shown in Table 1:

Table 1. Ofwat's performance commitment levels

	2020-21	2021-22	2022-23	2023-24	2024-25
Surface water management (m^3)	182,000	182,000	182,000	182,000	182,000

Source: Ofwat's PR19 draft determination

Ofwat has expressed the target on a per cubic metre (m^3) basis to allow flexibility in how surface water is removed from the combined network, rather than limiting the approach to disconnecting individual properties. Ofwat has calculated the performance level based on the following data and assumptions:

- Average annual rainfall in Southern Water region: 600mm (Met office)
- Average roof area square metres (m^2): 67.16m^2 (based on other company submissions)

This gives a total of 40.6m^3 of surface water drained per roof top in a given year and with a performance level set at 22,000 roof top equivalents removed.

Due to the expansive nature of the changes Ofwat has made to this PC, it would impact our delivery plan and lock us in to delivering surface water management schemes in order to achieve reductions in external sewer flooding. In most cases, these methods are unlikely to be the most efficient and effective at reducing flooding across our network. As a result, the approach disincentivises us from pursuing the most efficient and effective solution.

Specifically, the proposed PC would require us to shift our focus away from customers that suffer from localised external flooding through hydraulic overloading and do not have wider scale SuDS solutions available. Instead, in order to achieve the Ofwat proposed PC we would have to look for wide scale low cost surface water separation that may not deliver significant benefits to customers in terms of reducing flooding.

We still intend to use surface water separation as a method of delivering our flooding targets, as we support the use of customer participation in this way. However, the scale should be based on a cost-benefit analysis, not on enforced targets. Therefore we propose that this PC is removed from Southern Water's final determination as it is no longer fit for purpose.

3.1. Data tables impacted by this representation

This response relates to the following data tables:

Table Reference	Table Title
DD Representations Data_Final_SRN_Outcomes	SRN Table OC 2.1

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Long term supply demand balance schemes

Ofwat reference: SRN.OC.C3, SRN.CE.A2

1. Actions

Ofwat has taken the following interventions with regards to Long term supply / demand balance schemes:

SRN.OC.C3 - PR19SRN_WN13

We are intervening to set the performance commitment so it measures the expected number of months delay to deliver the investment. A formal review will be carried out to inform the next price review that will determine the progress of the schemes by an appropriately qualified external third party. If there is an expected delay the underperformance rate is £0.949 million, which is based on the scheme based on the allowed costs being divided by 60 months of delivery and multiplied by the cost sharing rate (50%). If the company plans to deliver less than the full capacity we will in addition recover £0.322 million per Ml/d, which is based on the allowed costs being divided by 182.5 Ml/d expected capacity and multiplied by the cost sharing rate (50%).

SRN.CE.A2

Intervention required. We assess the information the company provides in its submission and intervene to modify the bespoke performance commitment, 'PR19SRN_WN12 Long term supply demand schemes to ensure customer protection' ('Southern Water - Outcomes performance commitment appendix').

Company to provide response to the revised performance commitment in its representation to the draft determination

2. Response

We are accepting Ofwat's interventions for long term supply demand balance schemes.

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Risk of severe restrictions in a drought

Ofwat reference: SRN.OC.A24

1. Actions

1. The company should provide a full set of intermediate calculations at a zonal level, underlying the risk calculation (for both baseline levels and performance commitment).
2. The company should confirm that its performance commitment levels are reflective of its water resources management plan position. This should include the potential that it will have access to drought orders and permits
3. The company should confirm which programmes of work will impact its forecasts.

2. Response

2.1 The company should provide a full set of intermediate calculations at a zonal level, underlying the risk calculation (for both baseline levels and performance commitment).

Intermediate calculations at a zonal level have been attached, this is in “TA_OC_Risk of severe restrictions in a drought - Intermediate calcs”. These calculations show how the performance commitment is calculated for both baseline forecast and performance commitment forecast. The steps show how the supply demand balance component is calculated for each zone and then how they are transferred into the company wide baseline/target figures.

2.2. The company should confirm that its performance commitment levels are reflective of its water resources management plan position. This should include the potential that it will have access to drought orders and permits

Southern Water confirms that performance commitment levels are reflective within the water resource management plan (WRMP), as WRMP solves for a 1:200 year drought event and so will be zero customers at risk during a 1:200 year drought. This assumes that Southern Water will have access to drought orders and permits.

2.3. The company should confirm which programmes of work will impact its forecasts.

In “TA_OC_Risk of severe restrictions in a drought - Intermediate calcs” in each of the 14 zonal tabs, the schemes which help to solve the deficit in any given year are listed along with whether they impact supply or demand. These consist of supply side options, demand side options and customer side options. Each option is chosen in the WRMP to help solve the supply/demand deficit in the future, therefore any of these options can impact on the forecast.

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Risk of sewer flooding in a storm

Ofwat reference: SRN.OC.A25

1. Actions

Ofwat are intervening to set out that the company should confirm that it is:

- Using the updated parameters in the catchment vulnerability assessment
  - (And setting out any additional criteria that they intend to use)
- Reporting the extent to which they use 2d or simpler modelling; and adopting FEH13 rainfall as standard and if not with immediate effect then when it expects to do so.

2. Response

We confirm that we are using the updated parameters in the catchment vulnerability assessment;

Southern Water currently utilises a consistent 1D 'simpler modelling' method within its process for reporting the risk of sewer flooding in a storm. All the 16 catchment vulnerability characteristics stated in the latest guidance were used in the catchment vulnerability grading assessments. We shall review each catchment vulnerability assessment every year based on the latest updated data and derive any additional criteria or characteristics where needed.

Currently we do not utilise FEH13 rainfall in the 50 year design storms used for the Resilience Metric modelling but aim to make this standard use in AMP7 and for reporting the risk of sewer flooding in a storm for Year 1 of AMP7.

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