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Trust in water

# **Technical appendix 1: Delivering outcomes for customers**

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### **Delivering outcomes for customers**

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## 1. Introduction

The aim of this Technical Appendix is to assist companies in better understanding the context for their individual assessments against elements of the Delivering Outcomes for Customers test area and the actions and potential interventions that flow from that. The focus of the Appendix is on a number of cross-cutting themes within the Outcomes framework that are relevant for all companies, rather than on the application of the methodology to specific companies or individual performance commitments (PCs) and outcome delivery incentives (ODIs).

We provide details of our approaches to applying elements of the PR19 final methodology in our initial assessments of the companies' proposed PCs and ODIs in the following areas:

- The levels of stretch in companies' proposed PCs (Section 2);
- Companies' proposed ODI rates (Section 3);
- Companies' proposals for enhanced ODIs (Section 4);
- Companies' asset health packages (Section 5); and
- Customer protections in the event of unexpected levels of outperformance payments (Section 6).

We note that there are significant variations in the commitments and other proposals that companies put forward on PCs and ODIs in their business plans. In response, we have developed and implemented a consistent set of approaches to applying the final methodology to our initial assessments across all companies. We summarise some of the conclusions arising from our initial assessment of business plans in these areas, and the nature of the associated actions and expectations on companies.

In general, we do not set out company-by-company results or company-specific data, with the exceptions of our current assessments of stretching performance levels for five common PCs (Annex 1) and our current assessments of reasonable ranges for ODI rates on a number of common and comparable PCs (Annex 2).

## 2. Performance Commitment Levels

### What we said in the Final Methodology

As we set out in the final PR19 methodology, we want companies to commit to set stretching and good value service levels for all of their PCs, both bespoke and common, for the benefit of their current customers, future customers and the environment. We said we would assess the level of stretch in all companies' proposed service levels in the initial assessment of plans and we retain the ability to intervene to set service levels if companies' proposals are insufficiently stretching, or if their justification is not well evidenced.

Our specific decisions in the methodology are as follows:

- Setting the initial service level (2019-20) – we expect companies to forecast appropriate initial service levels for 2019-20, and for these to influence the level of their PCs for 2020-21 onwards.
- Stretching levels for bespoke PCs – we expect companies to challenge their proposed PC levels against six approaches that were set out in the final methodology or explain why they have not done so. These approaches are:
  - cost benefit analysis;
  - comparative information;
  - historical information;
  - minimum improvement;
  - maximum level attainable; and
  - expert knowledge.
- Stretching levels for the common PCs – we expect companies to use the same approaches for setting bespoke PC levels to inform their setting of stretching PC levels for the common PCs. We particularly expect companies to challenge their PC levels for the common PCs against forecast upper quartile performance levels.
- We expect companies to use annual data for their PCs, particularly with in-period ODIs, with the exception of leakage and per capita consumption (PCC) PCs for which we require companies to use three-year averages.

We expect all companies to be ready to report in line with standard definitions for 2019-20. We expect companies to provide a clear commitment that they are putting

in place all necessary plans to be able to do this for all common PCs. This includes the Unplanned outage PC, where companies are working to develop reporting of the metric.

## **Our Response**

We assess the proposed commitment levels using the calculated forecast upper quartile values for each year of the 2020-25 period based on companies' business plans for the following three common PCs:

- Water supply interruptions;
- Internal sewer flooding; and
- Pollution incidents.

We expect all companies to revise their performance commitment levels for these PCs to reflect the values we have calculated for each year of the 2020 to 2025 period.

For leakage, we expect companies to propose stretching PC levels to achieve forecast upper quartile performance (in relation to leakage per property, per day and leakage per kilometre of main per day), achieve at least a 15% reduction in leakage, and achieve the largest actual percentage reduction achieved by the company since PR14, or justify why this is not appropriate.

We expect full compliance to be proposed for the following PCs:

- Water quality compliance (CRI); and
- Treatment works compliance.

Where companies do not propose full compliance we expect the companies to revise their commitment levels to set them at 100% compliance.

To assess the remaining common PCs we use a variety of approaches, aligned to how we expect companies to challenge themselves in setting their PC levels in their business plans. For the majority we derive forecast upper quartile values and, in some cases, forecast median values using the companies' business plans to assist our reviews, but we do not use these values to assess PC levels in isolation. We also use other approaches as laid out in the final methodology (for example, comparative and historic information), and consider the evidence submitted by individual companies.

For some PCs, e.g. Per capita consumption (PCC), we are not specifying common levels for the industry as a whole, because we do not consider it appropriate. In addition to a direct comparison of the companies' proposed levels, we also consider the relative percentage reduction, each company's individual circumstances and the nature of its supply systems, to assess its proposed levels.

Where this assessment results in a different commitment level to the one included in business plans, we retain the ability to intervene in our determinations, unless the company can provide compelling evidence otherwise.

A summary of our assessment approaches for the common and bespoke comparable PCs<sup>1</sup> is provided in the table below.

### PC assessment approach

	PC	Summary of assessment approach
1	Water quality compliance The DWI's Compliance Risk Index (CRI)	We review each company's evidence to assess whether the DWI's guidance <sup>2</sup> is followed consistently. We expect full compliance should be achieved.
2	Water supply interruptions	We review each company's evidence to assess whether our methodology <sup>3</sup> is followed consistently. We calculate forecast upper quartile values for each year of the 2020-25 period based on all companies' business plans and expect the proposed commitment levels to reflect the values we have calculated for each year of the 2020 to 2025 period.
3	Leakage	We review each company's evidence to assess whether our methodology is followed consistently. We calculate the percentage difference between the annual average level expected in 2019-20 and the annual average leakage proposed in 2024-25. We expect the percentage difference to be greater than both the largest actual percentage reduction achieved by the company since PR14 and also at least a 15% reduction in leakage or the company to provide compelling justification why this is not appropriate. We also calculate forecast upper quartile performance in relation to leakage per property per day and leakage per kilometre of main per day in 2024-25 using three-year average leakage values provided in companies' business plans and divided by the corresponding property and mains length values. We benchmark each company against all other companies and consider each company's own circumstances, such as past

<sup>1</sup> Bespoke comparable PCs are those bespoke to each company but which in practice concern a service commitment that is similar across a large number of companies.

<sup>2</sup> <https://www.ofwat.gov.uk/outcomes-definitions-pr19/>

<sup>3</sup> <https://www.ofwat.gov.uk/publication/delivering-water-2020-final-methodology-2019-price-review-appendix-2-delivering-outcomes-customers/>

	PC	Summary of assessment approach
		performance. We expect the proposed commitment levels to be at or exceed these values, or the company to provide compelling justification why this is not appropriate.
4	Per capita consumption (PCC)	We review each company's evidence to assess whether our methodology is followed consistently. We benchmark all companies against each other, combined with evidence and justification provided for the forecast performance levels. We use each company's water resources position, their supply/demand balance, relative percentage reduction, proposed supply-side investment and the company's own circumstances, geographical location and benchmarking against neighbouring companies or companies with similar characteristics in the same region.
5	Internal sewer flooding	We review each company's evidence to assess whether our methodology is followed consistently. We calculate forecast upper quartile values for each year of the 2020-25 period based on all companies' business plans and expect the proposed commitment levels to reflect the values we have calculated for each year of the 2020 to 2025 period.
6	Pollution incidents	We review each company's evidence to assess whether our methodology is followed consistently. We calculate forecast upper quartile values for each year of the 2020-25 period based on all companies' business plans and expect the proposed commitment levels to reflect the values we have calculated for each year of the 2020 to 2025 period.
7	Risk of severe restrictions in a drought	We review each company's evidence to assess whether our methodology is followed consistently, and whether the proposed service levels are reflective of its draft Water Resources Management Plan (dWRMP) and any feedback we have given.
8	Risk of sewer flooding in a storm	We review each company's evidence to assess whether our methodology is followed consistently. We benchmark all companies against each other using their achieved level for 2017-18, forecast performance for 2019-20 and proposed service level for 2024-25, to assist our review and consider what assumptions are made in relation to measurement and reporting of the metric.
9	Mains repairs	We review each company's evidence to assess whether our methodology is followed consistently. We calculate forecast upper quartile and median performance expressed as the number of mains repairs per 1000 km of mains in 2024-25 using all companies' business plans to assist our review. We also consider each company's historical performance. We expect there to be no deterioration for asset health as measured by the level of mains repairs.
10	Unplanned outage	We review each company's evidence to assess whether our methodology is followed consistently. We calculate forecast upper quartile performance expressed as the total unplanned outage as a proportion of total production capacity (%) in 2024-25 using all companies' business plans to assist our review. We benchmark the companies against each other and their own 2017-18 performance and 2019-20 forecast to assess the proposed level of stretch.
11	Sewer collapses	We review each company's evidence to assess whether our methodology is followed consistently. We calculate forecast upper quartile and median performance expressed as sewer collapses per

	PC	Summary of assessment approach
		1000 km of sewers in 2024-25 using all companies' business plans to assist our review. We expect improvements in comparison with 2017-18 performance and 2019-20 forecast performance levels.
12	Treatment works compliance	We review each company's evidence to assess whether our methodology is followed consistently. We expect full compliance should be achieved.
13	External sewer flooding	We review each company's evidence to assess whether our methodology is followed consistently for the companies which propose this PC. We calculate forecast upper quartile performance expressed as the number of incidents per 10,000 connections in 2024-25 using companies' business plans to assist our review. We expect each company to meet forecast upper quartile levels or provide convincing evidence why this is not appropriate.

We set out in the PR19 final methodology that more stretching performance commitment levels do not cost customers more money in themselves. We have a separate test for cost efficiency, which challenges companies to have efficient levels of cost, and we do not allow companies a higher cost allowance just for a more stretching commitment level or to catch-up from poor historic performance levels. If a company incurs expenditure to improve its service performance customers will bear a share of that expenditure through totex efficiency sharing. Therefore, in our initial assessment of stretching performance levels for PCs, we do not consider companies' base totex levels and whether or not they propose additional enhancement expenditure or submit cost adjustment claims to enable them to reach the committed performance levels.

We also set out in the PR19 final methodology that if companies consider that their customers should provide additional funding for their PCs they need to make their case separately for additional costs and provide robust evidence to support any special cost claim. Such enhancement expenditure and cost adjustment claims (including for scheme delivery) are assessed within the cost efficiency test in our Initial Assessment of Business Plans (IAP).

To have an additional allowance made in costs or reduced service levels the company needs to show sufficient and convincing evidence that company-specific factors justify it being treated differently to other companies. Also, that these factors are unlikely to be offset by other factors where the company may have advantages compared to other companies.

Further detail on the companies' proposals and potential stretch targets for leakage, PCC and the three "forecast Upper Quartile" (UQ) PCs are presented in Annex 1 to this paper.

### 3. Outcome Delivery Incentive Rates

#### What we said in the Final Methodology

In the final methodology we set out an approach to ODIs designed to better align the interests of company management and investors with those of customers, providing incentives for companies to fulfil their service commitments to customers and penalties for those that do not.

We set out an expectation that ODIs should be financial rather than reputational as a default. Financial ODIs should include an underperformance rate in order to protect customers against failure to meet the committed service delivery level. For ODI outperformance payments to be appropriate, the company must at least:

- be proposing a stretching performance commitment level so that outperformance payments are for strong outperformance and not for carrying out the “day job”;
- demonstrate there are benefits from improved performance; and
- provide evidence of customer support for its proposed outperformance payment.

Our approach allows for a company to propose a reputational-only ODI, but only if the company provides convincing evidence that this is appropriate, including evidence from its customer engagement.

We also set out the following specific decisions with regards to the setting of ODI outperformance and underperformance payment rates:

- Companies can base their ODI rates on the existing formulas developed at PR14<sup>4</sup>, but amended such that companies can use alternative customer valuation methodologies.
- Companies can use other customer evidence to propose changes to the ODI outperformance and underperformance payment rates calculated according to the existing formulas, provided the changes are well justified.

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<sup>4</sup> <https://www.ofwat.gov.uk/wp-content/uploads/2017/12/Appendix-2-Outcomes-FM-final.pdf#page=92>

- Companies should use forecast efficient marginal cost levels in their estimates of incremental cost in the underperformance payment formula.
- Companies should not propose top-down, calculated outperformance and underperformance payment rates derived from a pre-set Return on Regulated Equity (RoRE) range or amount of revenue. Companies should use a bottom-up approach, which is based on customer evidence.
- Companies should calibrate their financial ODIs with total expenditure (totex) efficiency sharing and any other incentives that might apply to their performance. Companies can calibrate their ODI rates for overlap between PCs if they can provide evidence this is appropriate.
- Companies should provide information on the approach and evidence they have used to set ODI outperformance and underperformance payments, through the relevant business plan tables, the associated table commentaries and the sections of their business plans on ODIs. Any adjustments should be clearly explained, grounded in customer evidence and quantified transparently.

We set out that our approach to assessing ODIs would compare companies' marginal valuation amounts, marginal cost information, and outperformance and underperformance payment rates. We would seek to challenge companies on their proposed outperformance and underperformance payment rates, where appropriate. Our assessment of ODIs focuses upon the evidence and justification for a company's ODI rates provided by the company.

### **The Issues we found**

Within this framework, we have had particular regard to the setting of ODI outperformance and underperformance payment rates when assessing business plans.

In reviewing companies' proposed ODI rates for common and bespoke comparable PCs (e.g. external sewer flooding) we find substantial variation across companies both on an absolute and per household basis. In a number of cases we observe that companies' proposed ODI underperformance payments do not provide a sufficient incentive against service under-delivery, because they have a low ODI rate or absolute magnitude relative to the level of stretch proposed by the company.

The degree of variation observed in proposed ODI rates implies large differences in marginal costs and/or underlying customer preferences for incremental changes in the same unit of performance. Moreover, the extent of this variation is difficult to

plausibly explain by factors such as company scale, comparative and historical performance or regional differences in household income or water stress. Although in some cases we observe that standard rates of large magnitude could be explained by scaling factors that companies have applied across their package of ODIs or alternative calculation methodologies that companies have developed, large variability remains even accounting for these differences in approach. This unexplained variation is a concern.

In our assessment of ODI rate methodologies, we find that companies have submitted evidence of variable quality on marginal costs and benefits, including evidence of varying customer valuations underlying these. They also adopt a range of approaches to calculate their standard ODI rates, particularly for bespoke PCs. In many cases, companies do not provide sufficient evidence to demonstrate the calculations that they have used to form their standard payment rates or, for example, to demonstrate their approach to the triangulation of customer valuations into a single marginal benefit estimate. Where companies deviate from the Ofwat formula, this is not always sufficiently evidenced. For example, we find that some companies employ top-down methodologies to allocate a pre-set amount of revenue to particular ODIs, or apply scaling factors across their ODI packages without sufficient justification.

Some companies propose PCs with outperformance payments for going beyond statutory obligations or delivering statutory schemes earlier than required. In these cases, our assessment has had regard to whether there is a clear line of sight to improved outcomes for customers or the environment, and the evidence of customer support for the outperformance payment.

## **Our Response**

Given the variation found across common and comparable PCs, we are asking companies in their business plan re-submissions to explain why their proposed ODI rates differ from a range around the industry average and to demonstrate that this variation is consistent with customers' underlying preferences and priorities for service improvements. In the case of some bespoke PCs we are asking companies to provide further evidence to support the type of ODI proposed (i.e., financial or reputational), and the proposed ODI rates.

We are also asking companies to provide the following information to allow us to better understand the causes of variation in ODI rates and assess the appropriateness of the customer valuation evidence supporting companies' ODIs:

- 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.
- 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).
- 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.

If companies cannot provide sufficiently compelling evidence for proposed ODIs, we may intervene in our determinations to set ODI types and rates. This may include removing outperformance payments, changing a financial PC to a reputational PC, introducing an ODI rate in instances where companies propose a non-financial incentive, or changing the levels of ODI rates. For common or comparable PCs, these interventions could include:

- Reductions to proposed outperformance payments that are above the upper bound of our view of a reasonable range of outperformance payment rates; and
- Increases (in absolute terms) of proposed underperformance payments that are smaller than the lower bound of our view of a reasonable range of underperformance payment rates.

### **Our approach to evaluating reasonable ODI rates for common and comparable PCs**

In undertaking our assessment of ODI rates for common and comparable PCs we have compared rates between companies on a per household (HH) basis to take account of aggregation effects<sup>5</sup>.

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<sup>5</sup> For example, the internal sewer flooding PC is expressed as the number of incidents per 10,000 connections and the ODI rate accordingly in units of £m/incident per 10,000 connections. To make the ODI rate comparable between companies we have normalised by the number of HHs to obtain a rate expressed in £/HH/ incident per 10,000 connections.

For comparison purposes, ODI rates for Leakage have additionally been converted to units of £/HH/% distribution input because the PC is expressed in megalitres per day (Mld) (and 1 Mld is likely to be perceived as a greater increment in performance by households or smaller companies compared to larger companies, being a bigger percentage of their total usage). For External sewer flooding (a bespoke but comparable PC), we convert the ODI rates into units of incidents per 10,000 connections. The PC units for all other common PCs are already expressed in comparable units (e.g. incidents per 10,000 km sewer, average minutes per property, etc.), such that no additional normalisation is necessary to compare proposed ODI rates.

The tables in Annex 2 set out the normalised comparisons of ODI rates between companies for selected PCs.

In the absence of compelling evidence to explain the observed variation in ODI rates, we assess possible reasonable ranges on a top-down, statistical basis.

For the purposes of our IAP, we used the following approach to develop a reasonable range for the following PCs; at  $\pm 0.5$  standard deviations from the mean: Leakage, Per capita consumption, Supply interruptions, CRI, Internal sewer flooding, Pollution incidents and External sewer flooding.

For common asset health PCs (Mains repairs, Unplanned outages, Treatment Works Compliance, Sewer collapses) we take a different approach to defining a possible reasonable range. In general, companies have not provided strong evidence to justify their approach to setting ODI rates for asset health PCs. We recognise the challenges involved in obtaining accurate customer valuations for asset health-related PCs compared to service measures with more direct customer facing impacts. In particular, there is a risk that customer valuations are elicited in a way which does not capture the long-term impact on customers of companies failing to properly maintain their assets.

For the IAP, we therefore base our current view of reasonable underperformance payment rates for asset health PCs on the upper quartile of companies' proposed rates (measured in absolute terms and on a per HH basis) to ensure that companies have sufficient incentive to maintain their assets and deliver performance to customers over both the long and short term.

For outperformance payment rates, where we have fewer comparators on which to base our assessment, we assess our current view of an upper bound on reasonable rates at the median. We consider that this approach is likely to strike the best balance between providing companies with meaningful financial incentives to

properly maintain their assets, and protecting customers in the absence of compelling evidence to explain variation in ODI rates.

## 4. Enhanced ODIs

Enhanced ODIs encourage companies to innovate to improve performance to levels beyond what the current leading company achieves. In the long-term, all customers (not just those of the innovating company) should benefit from such frontier-shifting performance as other companies should be able to apply lessons learned from the innovating firm's performance, and we could use these new performance levels as benchmarks for future price controls.

### What we said in the Final Methodology

To incentivise this step change in performance, in the final methodology we allowed companies to propose higher outperformance payments for very high levels of performance. We said that companies could take account of wider benefits of this increased service level when proposing enhanced ODI rates. A corresponding enhanced underperformance payment is required to protect customers from excessive risk taking by companies.

Companies are not required to propose enhanced ODIs. Instead, companies are free to propose as many or as few as they want. We do not penalise companies for not proposing enhanced ODIs.

### The Issues we found

A total of 35 enhanced ODIs are proposed by ten companies. All of these relate to common PCs, as required in the methodology. Leakage is the most frequent PC to attract an enhanced ODI, with seven companies proposing enhanced ODIs relating to this PC. Other PCs for which more than one company proposes an enhanced ODI are: Per capita consumption, Sewer flooding and Mains repairs.

There is considerable variation in the approach companies take when proposing the appropriate level for enhanced outperformance payments. Some companies note that there is a tension between (a) providing the company with incentives that align with the benefits that customers throughout England and Wales might realise from frontier shifting performance, and (b) protecting their own customers from having to pay outperformance payments that exceed their own willingness to pay for the improvements.

## **Our Response**

When assessing the proposed enhanced ODIs, we look for evidence that the company's own customers will be protected and will not be in a situation where the company is collecting outperformance payments from its own customers that exceed those customers' willingness to pay for the outcome. Consequently, we are asking for additional supporting evidence where a company has put forward a maximum enhanced ODI rate of greater than 2x the associated standard outperformance payment rate.

We also consider that caps on enhanced ODIs are appropriate to protect customers from higher than expected enhanced outperformance payments, except to the extent that there is a maximum practical performance level (a "natural cap") which will achieve this objective.

We expect all enhanced ODIs to contain performance thresholds in 2020-21 at which enhanced outperformance payments commence, that are at least as good as performance levels currently being achieved, or forecast, by the best performing company. For companies that are already leading performers, we expect the threshold to represent a step change on current performance levels. Our assessment of proposed enhanced performance thresholds considers whether companies have allowed for the likelihood that performance might be expected to improve over time anyway. When assessing how much more demanding the threshold should be in 2024-25, we have regard to the forecast improvement over the five years in the upper quartile and performance commitment levels proposed by other companies.

## 5. Asset Health

Asset health is a key area of network and service resilience. It focuses on the ability of assets to provide services now and into the future, which is what matters to customers.

### What we said in the Final Methodology

We state in the final methodology that companies should clearly present, in their business plans, their approach to asset health and which of their PCs and ODIs relate to it. We expect companies to include four common asset health PCs as part of their asset health commitments, as well as additional PCs reflecting their own asset health challenges.

We assess the asset health PCs proposed by each company as a package - this includes the four common PCs, PCs selected from the asset health long-list and additional bespoke PCs proposed by the company. We assess the asset health PC packages for customer acceptability and extent of coverage, including alignment to past performance issues. To understand past performance, we identify issues from the current and previous periods to highlight areas which may still need monitoring and may not have been selected as PCs. We also compare companies' asset health PC packages to help identify any gaps or shortcomings.

We assess the ODI elements of the proposed asset health PCs together as a package. The asset health ODI package should protect customers both now and in the long-term; this should be achieved through appropriately sized incentives. We test if the company has expressed this in its own business plan by presenting its asset health package in terms of RoRE exposure, and the appropriateness of the range. We also compare companies' overall ODI packages to identify outliers and make appropriate adjustments. The incentives should also be in the right areas, for example where there are past performance issues, and areas that are strongly supported by customers. To understand this, we assess the extent and quality of customer engagement on asset health issues and the level of challenge from the Customer Challenge Groups (CCGs).

We also check that companies can demonstrate that customers support any outperformance payments, that there is no double-counting of ODIs between the direct service measures, and that companies can demonstrate that the balance between short-term service gains is not at the expense of long-term asset health.

## The Issues we found

The best companies set appropriate ODIs (and in particular, sufficient underperformance payments), demonstrate that they understand their past performance challenges, engage with customers effectively on asset health issues and respond well to CCG challenges. However, there is significant variation across all companies in the quality of the evidence in their business plans.

All companies propose the four common asset health PCs and most companies propose more than two PCs from the asset health long-list. The majority of companies propose some additional bespoke PCs, although few companies explain their overall approach to asset health explicitly. In general, the PCs selected as part of the asset health packages align to past performance issues, with very few exceptions, hence most companies adequately demonstrate that they understand past performance challenges, and that they will manage continuing issues through appropriate PCs.

The quality of customer engagement on asset health is mixed. The companies that did engage effectively find that customers strongly support the concept of maintaining healthy assets. However, most companies struggle to determine meaningful WTP values on specific asset health PCs, which in some cases results in low ODI rates. Very few companies carried out additional triangulation to increase the robustness of WTP values on asset health. Despite customers supporting asset health improvements in general, companies typically fail to gain strong support for outperformance payments above committed service levels.

Only around half the companies propose asset health ODI packages which we consider to offer sufficient customer protection against underperformance so that the company has appropriate incentives to maintain asset health and recompense customers if it does not efficiently invest sufficient maintenance expenditure – this is partly because of the generally low ODI rates proposed on asset health PCs.

Historically, there have been only underperformance payments on asset health type PCs, which does not provide a strong incentive for companies to improve performance beyond the level of the PC.

Some companies' asset health PCs are directly linked to a service impact, e.g. mains repairs are linked to supply interruptions, low pressure and leakage; sewer collapses and blockages are linked to sewer flooding and pollution incidents. Others, such as unplanned outages, have less of a direct service impact as the impact will depend on the overall network resilience. If the service elements of the 'system' have outperformance incentives, and the asset failure elements don't, this can lead to

short-termism (i.e. improve short-term operational performance at the expense of longer-term asset health, for example companies could repair pipes rather than replace them).

### **Our Response**

We will ensure that companies are adequately incentivised to address concerns about historical under-investment and potential poor performance in the future (as a result) for asset health by:

- Making sure companies have suitable PCs in place - these include the four common PCs. In addition, we consider what additional commitments may be required to address the issues of each company and their historical performance.
- Setting appropriate and stretching asset health PC levels - we take account of the company's past performance, including issues identified in the 2010-15 period<sup>6</sup>, and performance during 2015-18, to ensure there are appropriate levels. In particular, for companies with historical under-performance issues, we expect companies to calibrate PC levels so that these reflect levels we would expect if companies had well-maintained assets.
- Setting appropriate underperformance payments – we may intervene in our determinations to make sure that companies are setting appropriate levels of underperformance payments to protect customers against past under-investment and provide appropriate incentives to maintain asset health.

In order to justify outperformance payments on asset health PCs, companies need to:

- Demonstrate that customers support the inclusion of such payments (including understanding the impacts of asset health performance on customers). Companies should clearly demonstrate customer support for payments for each individual PC rather than general support for asset health outperformance payments.
- Demonstrate a commitment to stable asset health at levels that are not low due to either historical underperformance or previous asset health issues. We may

<sup>6</sup> <https://www.ofwat.gov.uk/publication/updated-2010-15-reconciliation/>

intervene to ensure companies are not rewarded for previous underperformance or neglect of their assets. There will be a high bar to allowing outperformance payments for companies with known asset health issues at PR14 (2010-2015) or where issues have emerged in 2015-2018.

- Demonstrate that there is no double-counting between the asset health and associated service measures. Companies have flexibility to propose outperformance payments that provide the appropriate balance of incentives across the 'system'. They are required to demonstrate that the balance between short-term service gains is not at the expense of long-term asset health.

## **6. Customer protection against unexpectedly high outperformance payments**

### **What we said in the Final Methodology**

We said in the final methodology that we expect companies to propose approaches to protecting customers in case their ODI payments turn out to be much higher than expected. These could involve companies demonstrating their understanding of the drivers of potential returns and the probability of extreme outcomes, and proposing protections for customers from these extreme outcomes (for example caps and collars, or sharing the returns from outperformance with customers).

### **The Issues we found**

For the majority of companies, we identify areas where insufficient protections from higher than expected outperformance payments are offered to customers, or where protections such as reinvestment schemes are proposed but insufficiently evidenced. In many cases, we do not have confidence that what the company proposed will sufficiently protect customers.

Some companies provide insufficient information or consideration of approaches to protect customers such as bill reductions, reinvestment of returns or their overall approach to caps and collars.

In some cases, companies propose consultations with their CCG, customers, or other stakeholders, should certain RoRE levels be achieved or exceeded, however do not provide evidence as to how these would work in practice to protect customers or whether the outputs of such consultation exercises would be binding. There is insufficient evidence as to how some companies will reinvest excess payments in line with customers' priorities. In addition, it is difficult to be sure that the level of funds "reinvested" in an area will be above what would otherwise have been delivered by the company as "business as usual".

Some companies do not appear to consider customer protections on particular ODIs that have large incentives and which are potentially a significant proportion of the company's possible returns.

Some companies propose ODI RoRE packages which are much smaller than our indicative range of +/-1% to 3%. However, we still expect to see from the company an approach to protecting customers in case payments turn out to be much larger than expected.

## Our Response

We are therefore asking all companies to commit to put in place additional protections for customers, where we consider protections are not adequate to protect customers from high outperformance payments. These include:

- sharing with customers through bill reductions 50% of their incremental outperformance payments once the outperformance payments in any year reach 3% of their wastewater or water RoRE for that year. This is the RoRE assumed in our PR19 price determinations for wastewater (wastewater “network plus” activities and bioresources) or water (water “network plus” activities and water resources). The mechanism will exclude any PCs at the retail price control level, including C-MeX and D-MeX; and
- putting caps and collars on potentially financially significant PCs (common and bespoke). We are expecting companies to put caps and collars at their P10/P90<sup>7</sup> 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 bioresources) 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.

The company should demonstrate that it has considered the following factors in particular:

- 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.
- 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.

<sup>7</sup> P90 and P10 are points on a risk distribution. The P90 point means there is only a 10% chance that the outturn RoRE will be above the threshold provided.

- 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.
- 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.

## Annex 1

### Further detail on the companies' proposed performance commitment levels for common PCs

We present data provided by the companies for a number of common PCs in this annex.

1. Leakage – proposed service levels (which are 3 year averages) in relation to leakage per property per day and leakage per kilometre of main per day in 2024-25 are presented together with upper quartile values.

Company	Leakage	
	m3/km/d	l/prop/d
Affinity Water	8.42	91.91
Anglian Water	4.13	68.70
Bristol Water	5.42	65.83
Hafren Dyfrdwy	4.28	104.94
Northumbrian Water	6.55	81.90
Portsmouth Water	8.96	94.34
SES Water	5.95	68.50
South East Water	5.14	73.31
Southern Water	6.32	75.02
South Staffs Water	7.59	86.06
Severn Trent Water	7.01	88.13
South West Water	5.58	97.48
Thames Water	17.35	133.25
United Utilities Water	9.56	117.79
Dŵr Cymru	5.29	99.29
Wessex Water	5.61	104.18
Yorkshire Water	5.64	75.25
<b>Upper quartile</b>	<b>5.42</b>	<b>75.02</b>

2. Per capita consumption (PCC) - proposed service levels in litres per person per day for 2024-25 are presented below.

<b>Company</b>	<b>PCC (l/person/d)</b>
Affinity Water	133.00
Anglian Water	130.70
Bristol Water	136.40
Hafren Dyfrdwy	151.00
Northumbrian Water	136.00
Portsmouth Water	135.72
SES Water	136.20
South East Water	140.30
Southern Water	120.00
South Staffs Water	128.33
Severn Trent Water	128.61
South West Water	128.70
Thames Water	136.00
United Utilities Water	137.10
Dŵr Cymru	139.00
Wessex Water	127.90
Yorkshire Water	120.20
<b>Minimum</b>	<b>120.00</b>
<b>Maximum</b>	<b>151.00</b>
<b>Upper quartile</b>	<b>128.61</b>

3. Water supply interruptions – proposed service levels in terms of the average number of minutes lost per customer for the whole customer base for interruptions that lasted 3 hours or more are presented below.

<b>Company</b>	<b>Water supply interruptions duration (hh:mm:ss)</b>				
	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>2024-25</b>
Affinity Water	00:05:00	00:04:30	00:04:00	00:03:30	00:03:00
Anglian Water	00:07:27	00:06:55	00:06:26	00:05:59	00:05:34
Bristol Water	00:04:12	00:03:36	00:03:00	00:02:24	00:01:48
Hafren Dyfrdwy	00:15:00	00:13:00	00:13:00	00:13:00	00:13:00

Company	Water supply interruptions duration (hh:mm:ss)				
	2020-21	2021-22	2022-23	2023-24	2024-25
Northumbrian Water	00:04:20	00:04:20	00:04:20	00:04:20	00:04:20
Portsmouth Water	00:03:00	00:03:00	00:03:00	00:03:00	00:03:00
SES Water	00:02:40	00:02:31	00:02:23	00:02:14	00:02:06
South East Water	00:06:29	00:05:45	00:05:05	00:04:30	00:03:58
Southern Water	00:06:11	00:06:01	00:05:51	00:05:40	00:05:30
South Staffs Water	00:05:30	00:05:20	00:05:10	00:05:00	00:04:50
Severn Trent Water	00:08:49	00:08:47	00:08:45	00:08:43	00:08:41
South West Water	00:07:14	00:06:15	00:05:55	00:04:59	00:04:41
Thames Water	00:10:28	00:10:21	00:10:14	00:10:06	00:09:59
United Utilities Water	00:06:00	00:06:00	00:06:00	00:06:00	00:06:00
Dŵr Cymru	00:11:12	00:10:24	00:09:36	00:08:48	00:08:00
Wessex Water	00:04:17	00:03:58	00:03:40	00:03:22	00:03:07
Yorkshire Water	00:03:36	00:03:12	00:02:48	00:02:24	00:02:00
<b>Upper quartile</b>	<b>00:04:17</b>	<b>00:03:58</b>	<b>00:03:40</b>	<b>00:03:22</b>	<b>00:03:00</b>

4. Pollution incidents – proposed service levels expressed in the number of incidents per 10,000 km of sewer are presented below.

Company	Pollution incidents (Number of incidents per 10,000 km of sewer)				
	2020-21	2021-22	2022-23	2023-24	2024-25
Anglian Water	25	24	23	22	21
Hafren Dyfrdwy	138	137	117	117	116
Northumbrian Water	24.01	22.35	20.35	18.01	14.34
Southern Water	27.8	26.4	24.5	22.8	20
Severn Trent Water	26.43	25.45	24.47	23.48	22.49
South West Water	34	30	27	23	19
Thames Water	27	26	25	24	23
United Utilities Water	23.73	23.472	23.214	22.956	22.698
Dŵr Cymru	28	27	26	25	24
Wessex Water	21	20	19	18	17
Yorkshire Water	25	24	23	23	22
<b>Upper quartile</b>	<b>24.51</b>	<b>23.74</b>	<b>23.00</b>	<b>22.40</b>	<b>19.50</b>

5. Internal sewer flooding – proposed service levels expressed in the number of incidents per 10,000 connections are presented below.

Company	Internal sewer flooding (Number of incidents per 10,000 connections)				
	2020-21	2021-22	2022-23	2023-24	2024-25
Anglian Water	1.64	1.55	1.46	1.38	1.31
Dŵr Cymru	2	2	2	2	2
Hafren Dyfrdwy	1.69	1.65	1.61	1.25	1.22
Northumbrian Water	1.97	1.92	1.87	1.82	1.77
Severn Trent Water	1.66	1.62	1.58	1.54	1.51
South West Water	1.78	1.69	1.65	1.53	1.37
Southern Water	1.83	1.78	1.73	1.69	1.65
Thames Water	1.89	1.87	1.8	1.73r	1.66
United Utilities Water	2.203	2.185	2.173	2.159	2.138
Wessex Water	1.54	1.47	1.41	1.34	1.24
Yorkshire Water	1.72	1.64	1.57	1.5	1.43
<b>Upper quartile</b>	<b>1.68</b>	<b>1.63</b>	<b>1.58</b>	<b>1.44</b>	<b>1.34</b>

## Annex 2

### Company ODI rates for common and comparable PCs

We present the ODI rates proposed by companies for all common PCs and the comparable external sewer flooding PC below. All rates are expressed on a per household basis. Blank cells denote where a company has not proposed a financial incentive (or outperformance incentive) for the relevant PC.

1. Leakage – the out and underperformance ODI rates proposed by each company (expressed as a percentage of distribution input) are shown below, along with the mean, standard deviation and our current assessment of a reasonable range (defined as  $\pm 0.5$  standard deviations from the mean).

Company	Underperformance rate (£/HH/% Distribution Input)	Outperformance rate (£/HH/% Distribution Input)
AFW*	-2.938	2.173
ANH	-1.898	1.140
BRL	-0.878	0.836
HDD	-0.016	0.016
NES*	-0.945	0.642
PRT	-0.076	0.137
SES	-4.200	4.043
SEW	-3.887	2.160
SRN	-0.941	0.844
SSC*		
SVE	-1.705	1.705
SWB	-3.509	4.144
TMS	-2.431	1.989
UUW	-0.733	0.733
WSH*	-5.922	7.402
WSX	-1.838	1.226
YKY	-0.474	1.117
<b>Mean</b>	<b>-1.681</b>	<b>1.481</b>
<b>Standard Deviation</b>	<b>1.376</b>	<b>1.264</b>
<b>Lower bound of range</b>	<b>-0.993</b>	<b>0.849</b>

Company	Underperformance rate (£/HH/% Distribution Input)	Outperformance rate (£/HH/% Distribution Input)
<b>Upper bound of range</b>	<b>-2.369</b>	<b>2.113</b>

\* Rates for AFW, NES, SSC and WSH excluded from calculation of mean and standard deviations due to issues of comparability.

2. Per capita consumption (PCC) – the out and underperformance ODI rates proposed by each company (expressed in litres per person per day) are shown below, along with the mean, standard deviation and our current assessment of a reasonable range (defined as **± 0.5 standard deviations from the mean**).

Company	Underperformance rate (£/HH/l/person/d)	Outperformance rate (£/HH/l/person/d)
AFW*	-0.363	0.270
ANH	-0.084	0.084
BRL	-0.046	0.027
HDD		
NES	-0.056	0.056
PRT	-0.005	0.005
SES	-0.545	0.548
SEW	-0.152	0.152
SRN	-0.182	0.165
SSC*	-0.129	0.090
SVE		
SWB	-0.283	0.259
TMS	-0.544	0.539
UUW	-0.064	0.064
WSH*		
WSX	-0.222	0.155
YKY*	-0.006	0.004
<b>Mean</b>	<b>-0.198</b>	<b>0.187</b>
<b>Standard Deviation</b>	<b>0.190</b>	<b>0.191</b>
<b>Lower bound of range</b>	<b>-0.103</b>	<b>0.091</b>
<b>Upper bound of range</b>	<b>-0.294</b>	<b>0.282</b>

\*Rates for AFW, SSC, WSH and YKY excluded from calculation of mean and standard deviations due to issues of comparability.

3. Water quality compliance (CRI) - the out and underperformance ODI rates proposed by each company (expressed as an index point of compliance) are shown below, along with the mean, standard deviation and our current assessment of a reasonable range (defined as  $\pm 0.5$  standard deviations from the mean).

Company	Underperformance rate (£/HH/index point)	Outperformance rate (£/HH/index point)
AFW	-0.338	
ANH		
BRL	-0.167	
HDD		
NES	-0.727	
PRT	-0.159	
SES	-1.355	
SEW	-0.778	
SRN	-0.640	
SSC*	-0.115	
SVE		
SWB	-0.288	
TMS		
UUW	-0.098	
WSH	-0.318	
WSX	-1.023	
YKY	-1.092	
<b>Mean</b>	<b>-0.582</b>	
<b>Standard Deviation</b>	<b>0.417</b>	
<b>Lower bound of range</b>	<b>-0.373</b>	
<b>Upper bound of range</b>	<b>-0.791</b>	

\*Rates for SSC excluded from calculation of mean and standard deviations due to issues of comparability.

4. Supply interruptions - the out and underperformance ODI rates proposed by each company (expressed in minutes per property) are shown below, along with the mean, standard deviation and our current assessment of a reasonable range (defined as  $\pm 0.5$  standard deviations from the mean).

<b>Company</b>	<b>Underperformance rate (£/HH/minute per property)</b>	<b>Outperformance rate (£/HH/minute per property)</b>
AFW*	-0.229	0.209
ANH	-1.246	0.724
BRL	-0.199	0.197
HDD	-0.068	0.068
NES	-1.614	0.821
PRT	-0.038	0.048
SES	-0.923	0.857
SEW	-0.110	0.110
SRN*	-0.063	0.063
SSC*	-0.188	0.376
SVE	-0.321	0.321
SWB	-0.467	0.093
TMS	-0.961	0.894
UUW	-0.071	0.071
WSH*	-0.434	0.970
WSX	-0.066	0.118
YKY*	-2.096	2.096
<b>Mean</b>	<b>-0.507</b>	<b>0.360</b>
<b>Standard Deviation</b>	<b>0.542</b>	<b>0.352</b>
<b>Lower bound of range</b>	<b>-0.236</b>	<b>0.184</b>
<b>Upper bound of range</b>	<b>-0.778</b>	<b>0.536</b>

\*Rates for AFW, SRN, SSC, WSH and YKY excluded from calculation of mean and standard deviations due to issues of comparability.

5. Mains repairs - the out and underperformance ODI rates proposed by each company (expressed in repairs per 1000km of mains) are shown below, along with our current assessment of a lower bound underperformance rate (defined as **upper quartile**) and an upper bound outperformance rate (defined as **median**).

<b>Company</b>	<b>Underperformance rate (£/HH/repair per 1000km of mains)</b>	<b>Outperformance rate (£/HH/repair per 1000km of mains)</b>
AFW	-0.063	
ANH		
BRL	-0.037	
HDD	-0.069	0.069
NES	-0.097	0.051
PRT	-0.008	0.008
SES	-0.094	0.055
SEW	-0.093	
SRN	-0.073	0.051
SSC	-0.041	0.081
SVE	-0.167	0.167
SWB	-0.031	0.006
TMS	-0.037	0.055
UUW	-0.003	0.003
WSH	-0.033	
WSX	-0.131	
YKY	-0.274	0.274
<b>Median</b>	<b>-0.066</b>	<b>0.055</b>
<b>Upper Quartile</b>	<b>-0.095</b>	<b>0.075</b>

6. Unplanned outage - the out and underperformance ODI rates submitted by each company (expressed in % of maximum production capacity) are shown below along with our current assessment of a lower bound underperformance rate (defined as **upper quartile**).

<b>Company</b>	<b>Underperformance rate (£/HH/% of maximum production capacity)</b>
AFW	-1.217
ANH	-0.299

Company	Underperformance rate (£/HH/% of maximum production capacity)
BRL	-0.734
HDD	
NES	
PRT	
SES	
SEW	
SRN	-0.494
SSC	-0.388
SVE	
SWB	-1.601
TMS	-0.233
UUW	-0.897
WSH	
WSX	-0.002
YKY	
<b>Upper Quartile</b>	<b>-0.897</b>

7. Pollution incidents - the out and underperformance ODI rates proposed by each company (expressed in incidents per 10,000km of sewers) are shown below, along with the mean, standard deviation and our current assessment of a reasonable range (defined as  $\pm 0.5$  standard deviations from the mean).

Company	Underperformance rate (£/HH/incident per 10,000km of sewer)	Outperformance rate (£/HH/incident per 10,000km of sewer)
ANH	-0.149	0.108
HDD	-0.001	0.001
NES	-0.443	0.270
SRN	-0.176	0.167
SVE	-0.155	0.155
SWB	-0.126	
TMS	-0.198	0.157
UUW	-0.449	0.449
WSH*	-0.354	0.428

Company	Underperformance rate (£/HH/incident per 10,000km of sewer)	Outperformance rate (£/HH/incident per 10,000km of sewer)
WSX	-0.238	0.214
YKY	-0.404	0.203
<b>Mean</b>	<b>-0.234</b>	<b>0.192</b>
<b>Standard Deviation</b>	<b>0.150</b>	<b>0.122</b>
<b>Lower bound of range</b>	<b>-0.159</b>	<b>0.131</b>
<b>Upper bound of range</b>	<b>-0.309</b>	<b>0.253</b>

\*Rates for WSH excluded from calculations due to issues of comparability.

8. Internal sewer flooding - the out and underperformance ODI rates proposed by each company (expressed in incidents per 10,000 connections) are shown below, along with the mean, standard deviation and our current assessment of a reasonable range (defined as  $\pm 0.5$  standard deviations from the mean).

Company	Underperformance rate (£/HH/incident per 10,000 connections)	Outperformance rate (£/HH/incident per 10,000 connections)
ANH	-7.766	4.042
HDD	-0.789	0.789
NES	-1.444	1.444
SRN	-2.840	2.603
SVE*	-5.874	5.874
SWB	-13.154	8.623
TMS*	-0.007	0.005
U UW	-0.729	0.729
WSH*	-75.916	78.676
WSX	-10.110	5.836
YKY	-3.925	3.925
<b>Mean</b>	<b>-5.095</b>	<b>3.499</b>
<b>Standard Deviation</b>	<b>4.700</b>	<b>2.732</b>
<b>Lower bound of range</b>	<b>-2.745</b>	<b>2.133</b>
<b>Upper bound of range</b>	<b>-7.445</b>	<b>4.865</b>

\* Rates for TMS, SVE and WSH excluded from calculation of mean and standard deviations due to issues of comparability.

9. External sewer flooding - the out and underperformance ODI rates proposed by each company (expressed per incident) are shown below, along with the mean, standard deviation and our current assessment of a reasonable range (defined as  $\pm 0.5$  standard deviations from the mean).

Company	Underperformance rate (£/HH/incident)	Outperformance rate (£/HH/incident)
ANH	-0.431	0.431
HDD		
NES	-0.340	0.200
SRN	-0.798	0.397
SVE*	-2.422	2.422
SWB	-1.003	0.617
TMS		
UUW*	-0.066	0.066
WSH*	-0.220	0.216
WSX	-0.649	0.395
YKY	-2.075	2.075
<b>Mean</b>	<b>-0.883</b>	<b>0.686</b>
<b>Standard Deviation</b>	<b>0.632</b>	<b>0.693</b>
<b>Lower bound of range</b>	<b>-0.567</b>	<b>0.339</b>
<b>Upper bound of range</b>	<b>-1.199</b>	<b>1.032</b>

\* Rates for SVE, UUW and WSH excluded from calculation of mean and standard deviations due to issues of comparability.

10. Sewer collapses - the out and underperformance ODI rates proposed by each company (expressed in incidents per 1000km of sewer) are shown below along with our current assessment of a lower bound underperformance rate (defined as **upper quartile**) and an upper bound outperformance rate (defined as **median**).

Company	Underperformance rate (£/HH/incident per 1000km of sewer)	Outperformance rate (£/HH/incident per 1000km of sewer)
ANH	-0.845	
HDD	-0.289	0.289
NES	-0.020	0.020

Company	Underperformance rate (£/HH/incident per 1000km of sewer)	Outperformance rate (£/HH/incident per 1000km of sewer)
SRN	-1.521	
SVE	-0.255	0.255
SWB	-0.080	0.055
TMS	-0.085	0.090
UUW	-0.102	0.102
WSH	-0.103	
WSX	-0.156	
YKY	-0.049	0.049
<b>Median</b>	<b>-0.103</b>	<b>0.090</b>
<b>Upper Quartile</b>	<b>-0.272</b>	<b>0.052</b>

11. Treatment works compliance - the out and underperformance ODI rates submitted by each company (expressed in % compliance) are shown below, along with our current assessment of a lower bound underperformance rate (defined as **upper quartile**)

Company	Underperformance rate (£/HH/%)
ANH	-0.496
HDD	-0.093
NES	-1.112
SRN	-8.473
SVE	-0.409
SWB	-0.259
TMS	-0.346
UUW	-0.232
WSH	-0.515
WSX	-0.452
YKY	-0.196
<b>Upper Quartile</b>	<b>-0.505</b>

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