

December 2019

# PR19 final determinations

**Yorkshire Water – Delivering outcomes for customers additional information appendix**

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# 1 Internal sewer flooding

## 1.1 Introduction

This performance commitment measures the number of flooding incidents per 10,000 connections. Internal flooding is flooding that occurs within the boundaries of a dwelling (flooding outside a dwelling e.g. in garden is considered as external). The PR19 definition includes flooding that happens in severe weather events. This is a common performance commitment. We set out in our PR19 methodology that we expect all companies to meet forecast upper quartile performance for this measure. See 'PR19 final methodology' and 'Delivering outcomes for customers policy appendix' for more information on the reasons for setting standard levels for this measure.

## 1.2 Our draft determinations

At the draft determination we intervened to set performance commitment levels for Yorkshire Water to be consistent with the rest of the industry for internal sewer flooding. These were as follows: 2020-21 = 1.68; 2021-22 = 1.63; 2022-23 = 1.58; 2023-24 = 1.44; 2024-25 = 1.34. For these purposes the relevant unit is the number of internal sewer flooding incidents per 10,000 properties.

These levels are based on the upper quartile of the forecasts provided by all companies in their September 2018 business plans.

## 1.3 Stakeholder representations

In its August representation the company accepts the draft determination performance commitment levels. However, in a later representation the company proposes to meet the levels set at the draft determination at a later date and proposes a new profile with the following values: 2020-21 = 3.43; 2021-22 = 3.17; 2022-23 = 2.92; 2023-24 = 2.66; 2024-25 = 2.41 (Units: internal sewer flooding incidents per 10,000 properties).

In its later representation, the company explains that the change is due to unique operating circumstances that it has due to the fact that it has an atypically high proportion of cellars in its area (around 4.6 times the national average). The

company states that this means that it has around 200,000 properties of this type at a higher risk of sewer flooding compared to other water companies. It states that the most efficient method of reducing this risk is to install individual control devices to these properties. Whilst the company is confident that it can achieve its performance commitment level in time, it has learned that gaining access to cellars to carry out this work can take a lot longer than it originally predicted. The company considers that this new learning is a product of it proactively contacting customers regarding this issue, whilst its prior approach had been based on customers approaching the company to carry out the work. In the case of proactive contact, the company has seen a take up rate of around 10% and it is actively trying different methods of increasing this percentage.

The company states that in light of recent work it has undertaken to analyse and understand the issue and recognising what it needs to do to address it in the most effective way, it requests a revised glidepath that still challenges it to improve significantly but takes account of the actual timescales it is experiencing. Due to its improved understanding the company also requests that the enhanced incentive rate be removed from this measure.

It says that the step change in the internal sewer flooding performance required by the PR19 performance commitments is unachievable since the company requires a longer programme of work than it expected in order to address the risk of sewer flooding at the cellared properties using alternative methods.

## **1.4 Our assessment and reasons**

We consider it appropriate to set a high bar for exceptions to performance commitment levels on this common performance commitment where we expect all companies to achieve the same level. Nevertheless, we consider evidence put forward by companies of company-specific circumstances which they consider make those common performance commitments inappropriate. We consider this high bar is appropriate because it is important on these common performance commitments for all companies' customers to receive the same standard of performance. We consider that all companies should be able to achieve the same level of performance. This is because we consider that significant improvements in performance can be achieved through changes in operational strategies and practices to align with most efficient companies. As a result we consider that poor performance in these measures is more likely to be as a result of ineffective operational practices rather than company specific regional or asset related issues. In relation to the three

common performance commitments, the only exception we have allowed for company-specific circumstances has been in relation to the impact of pollution incidents on Hafren Dyfrdwy due to its small size.

In relation to whether the company has an atypically high proportion of cellars in its area, the company submitted evidence to us about the proportion of cellars in its area in the context of a cost adjustment claim at the initial assessment of business plans. The cost claim is of c.£105m for a programme of work to reduce flooding incidents. We rejected the cost claim because we did not consider that the evidence on the high proportion of the cellars was sufficiently convincing. This was because Yorkshire Water did not justify how the survey results that were used to demonstrate they had more cellars can be considered to be representative of their supply region as a whole. The company accepted that decision at the initial assessment of business plans and did not resubmit a new claim or further evidence in its April business plan. It does not provide any new evidence in its later representation.

Even if Yorkshire Water were to have an atypically high proportion of cellars in its area, we do not consider that having more cellars than other companies would be sufficient reason to allow it to provide worse performance for its customers. Other companies also have factors specific to them that impact their performance, such as higher property density (more properties can be impacted by a single incident).

At PR14, internal sewer flooding was a common performance commitment and companies were set an upper quartile level to achieve (based on actual performance at the time). However, adjustments were made to the level for some companies to include transferred sewers. For Yorkshire Water an adjustment was made to allow for repeat flooding that occurs due the high number of cellars in its area. We no longer consider it is appropriate to include an adjustment that effectively allows for customers to suffer repeat flooding and we rejected the evidence on the atypically high number of cellars at the independent assessment of plans stage.

The company is currently outperforming its 2015-20 performance commitment levels (but this was adjusted to allow for repeat flooding, see above) and is on course to earn an outperformance payment, but it is the worst performer on internal sewer flooding on a comparative basis (based on the common 2020-25 definition of the measure). It has the second lowest improvement of just 15% over a period from 2014-15 to 2018-19 (the maximum improvement over the same period was South West Water improving by over 50%).

We recognise that it has a significant level of improvement to meet the performance commitment. However, we have seen from other companies that the performance in internal sewer flooding can be improved dramatically over a short period of time with targeted operational improvement programmes. Moreover, all companies have been aware of the common definition for this performance commitment since 2017. Therefore, Yorkshire Water should have been aware that the improvement in performance for internal sewer flooding was expected, and should have been able to undertake preparatory work to improve its performance in sewer flooding.

We do not consider that the representations provide sufficient evidence to justify the change of the performance commitment levels. We consider that the company needs to do more to bring its performance in line with the rest of the sector, as its customers suffer repeat flooding far more than customers of other companies.

Nevertheless, for Yorkshire (and two other companies who are poor performers on internal sewer flooding relative to other companies), we are amending the underperformance collar that will apply, to reduce the downside risk for the company in the first two years of the 2020-25 period and increase it in the last two years. This will provide a similar level of exposure over the five years as other companies, but reduces the downside risk for the first two years as the company progresses towards the 2024-25 level, while maintaining a strong incentive over the period.

## 1.5 Our final decision

There is no change from the draft determination to the performance commitment levels.

However we are amending the collars. We set the underperformance collars to the following levels: 2020-21 = 2.75; 2021-22 = 3.00; 2022-23 = 3.40; 2023-24 = 3.60; 2024-25 = 4.00. (Units = Number of incidents per 10,000 sewer connections)

We set outperformance caps to the following levels: 2020-21 = 0.82; 2021-22 = 0.81; 2022-23 = 0.80; 2023-24 = 0.69; 2024-25 = 0.63. (Units = Number of incidents per 10,000 sewer connections)

At final determination we also remove the enhanced ODI rate, as requested by the company.

## 2 Mains repairs (bursts)

### 2.1 Introduction

This performance commitment measures the number of repairs on the water mains network per 1,000 km. Mains repairs is the primary measure of the asset health of the water network. It has been reported against a relatively stable definition for over 20 years. Historically, the requirement was to maintain stable performance. However, in the PR19 methodology we stated that we expect companies to not only maintain stable performance, but to improve performance. Performance on mains repairs is an important indicator of water network asset health.

### 2.2 Our draft determinations

At the draft determination we intervened for this company since it had poor comparative performance. We set performance commitment levels for mains repairs based on an average of the historical best three years since 2010-11. For Yorkshire Water this was 164.1 mains repairs per 1,000km in all years from 2020-21 to 2024-25. We considered that this level represented a stretching level of service that had been previously achieved by the company. Sector-wide, we did not make any adjustments to account for additional mains repairs that might be required to reduce leakage as the evidence provided by the companies to quantify the link was inconclusive and not convincing.

### 2.3 Stakeholder representations

In its August representation, the company accepts the levels set at the draft determination. However, in a later representation the company proposes to meet the levels set at the draft determination at a later date and proposed a new profile with the following values: 2020-21 = 236.1; 2021-22 = 227.5; 2022-23 = 218.9; 2023-24 = 210.3; 2024-25 = 201.7 (Units: Number of repairs per 1,000km of mains).

In its later representation, Yorkshire Water states that the mains repairs performance commitment levels set at draft determination are unachievable. The company considers that with the 38% immediate reduction of mains repairs required (from 2019-20 forecast to 2020-21 draft determination performance commitment level), there is a conflict between achieving the leakage and mains repairs performance

commitment levels. The company states that the draft determination level would require it to improve its performance by 100 repairs per 1000km which would be equivalent to the replacement of approximately one third of its water network (12,550 km) at a cost in excess of £1bn. It states that the inability to proactively find and fix leaking mains to achieve the draft determination mains repair level would lead to a failure to achieve the leakage level.

The company references the newly published UK Water Industry Research (UKWIR) report<sup>1</sup> which shows that the overall number of mains repairs is likely to increase if proactive mains repairs are increased to reduce leakage. It considers that this supports the evidence in its initial business plan submission which showed that a planned reduction in leakage levels leads to an increase in proactive leakage repairs but does not reduce the number of reactive leakage repairs, thereby increasing the overall number of mains repairs completed. The company states that historically it has conducted active leakage control as the most efficient and effective way of reducing leakage, but it states that it will need to do more customer side repairs which are not as beneficial for leakage reduction as those on the mains network. It also states companies with higher meter penetration can find and repair those leaks more easily which, it says, means they can reduce leakage without an adverse impact on the asset health measure.

It states that the three years used to set the performance commitment level are based on years where the level of mains repairs conducted by the company was not enough to arrest the natural rate of rise of leakage (and therefore leakage increased). It also states that some of those years are associated with benign weather and are not representative. In its representation, it provides information that shows a stable but lower level of mains repairs between 2012-13 and 2016-17, while the four years before 2012-13 show a higher level of mains repairs. The company states that over the last two years it has also significantly increased (by around 200%) its pro-active mains repairs in order to reduce leakage. However, the effectiveness of this additional activity in 2018-19 was reduced due to atypical weather. It shows that the end of year leakage position would have been around 7% better without the weather impact. To calculate this figure, the company quantifies the impact of mains repairs on leakage from its own data. It implies that it will need to maintain this higher level of mains repairs it has had in the last two years, and before 2012-13, in order to address meet its leakage target.

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<sup>1</sup> THE IMPACT OF REDUCTIONS IN LEAKAGE LEVELS ON REPORTED AND DETECTED LEAK REPAIR FREQUENCIES - Report Ref. No. 19/WM/08/68 published October 2019



## 2.4 Our assessment and reasons

Based on the data and evidence provided by several companies and the related UKWIR report, we acknowledge that there is a link between increasing pro-active mains repairs and reducing leakage. However, we consider that the data on the impact of reducing reactive repairs are too inconsistent and inconclusive to enable us to quantify the future impact of conducting additional mains repairs on leakage levels, for the purposes of setting performance commitment levels. Nevertheless, we increase the performance commitment levels for mains repairs by a reducing percentage, for all companies, in all years, making it easier to achieve. We allow for an increase in mains repairs by 8% in 2020-21 with a linear profile reducing to 2% in 2024-25, which is applied to the levels for all companies. This to allow for some additional flexibility should the company choose to increase its pro-active mains repairs to help reduce leakage.

We have also considered further our approach to using the best three years (from 2010-11 to 2017-18) for setting the performance commitment levels. We amend the base levels of mains repairs (before the leakage allowance is added) to an average of the best five years performance (from 2010-11 to 2018-19, additional shadow reporting year included). We consider that the best five years incentivises the companies to maintain their own better historical performance over PR19. We consider this is stretching but achievable and aligns with the expectations set out in the PR19 methodology (using an average of all years, including potentially very poor performance, does not suitably incentivise the company to improve the health of its assets).

Please see the 'Delivering outcomes for customers policy appendix' for more details on these sector-wide changes.

We agree that there can be a reduced benefit of leakage reduction through fixing leaks on customer side pipes and not using mains repairs. However, other companies will face similar issues. In particular, we do not think the evidence shows that other companies with higher levels of metering will find customer side leaks easier to find was convincing. The company provided data showing a positive correlation between external meter penetration and leakage levels but this was based on only one year of data. Moreover, it is not clear that meter penetration is a major factor in determining levels of leakage. Other factors are also important including the type of metering technology, analytical approaches and operational practices that allow identifying potential leaks on customer supply pipes.

We also consider whether Yorkshire's historic mains repairs profile means that we should adopt a different approach to setting its mains repairs target. Analysis of historical mains repair performance from several other companies shows very similar trends in performance to Yorkshire Water, namely poor performance during the periods 2010-2011 and 2011-2012 followed by a dramatic improvement in 2012-2013, which is sustained until 2017-2018 and 2018-2019 when performance deteriorates again. Data from our 2018-19 Service Delivery Report, shows that during this stable mains repairs period Yorkshire Water's leakage performance deteriorates by more than 12% (2012-13 to 2016-17), which is more than any other company in percentage terms.

The company indicates that during the 2012-13 to 2016-17 period it did not conduct enough mains repairs to maintain stable levels of leakage and that it has purposely increased its pro-active mains repairs rate in the last two years to help arrest this rise, but it has had limited impact due to severe weather events. The increased activity on mains repairs was around 30% from its PR14 performance commitment level, far higher than any other company forecasts, in order to reduce leakage (South East Water is the next highest at 12%). Moreover, there were limited incentives for Yorkshire Water to reduce its mains repairs as the PR14 mains repair measure as it was a part of a "basket" of associated service measures, and failure of one measure in this basket did not automatically trigger an underperformance payment. It was therefore able to increase mains repairs without triggering a PR14 underperformance payment.

We therefore do not consider that Yorkshire's historical profile of mains repairs means that we should adopt a different approach since nothing in their mains repair historical data set is significantly different to that of other companies. Indeed, we consider it important that there are appropriate incentives for the company to improve its mains repairs performance from its current outlier position and that it is important that the company is held to account for its historical decisions such as reduced investment which resulted in a lower level of performance and customers do not have to pay twice to improve performance alongside the rest of the sector.

The company states that its proposed profile is based on the assumption that active leakage control (ALC) is the core method for reducing leakage, and that this reflects that mains repairs will need to continue to rise because smaller and smaller leaks will need to be found and fixed. We consider that this issue will be faced by all companies. However, the impact of the diminishing benefits of increasing mains repairs on leakage should be limited since we would expect that once the leakage benefits from repairing smaller and smaller leakages become cost prohibitive (e.g.

costs are larger than benefits), companies should switch to alternative methods of reducing leakage (for example, customer side replacements, pressure management, 'calm' networks, and other innovations). The company has not provided evidence that it has sufficiently considered the implementation and quantification of benefits from alternative solutions for leakage reduction. It also does not use the quantified benefits determined from its historical analysis (used to determine the weather impact) to inform future levels of mains repairs. We therefore consider our sector wide increase to the performance commitment levels for mains repairs is sufficient to account for the need to conduct more mains repairs to meet the leakage target.

We consider that the levels proposed by Yorkshire Water for its mains repairs performance commitment are not supported by a quantified assessment of benefits of leakage reduction from additional mains repairs, other activities and the impact on reactive repairs. Therefore, we consider it appropriate to set the levels on the same basis as other companies.

## 2.5 Our final decision

We set the baseline level of mains repairs for Yorkshire Water based on its best five years of performance since 2010-11. The level is 172.4 mains repairs per 1,000km, based on performance from 2012 to 2017.

We set the final determination performance commitment levels taking into account an additional allowance for leakage reduction of 8% in 2020-21 with a linear profile reducing to 2% in 2024-25. The final determination performance commitment levels are: 2020-21 = 186.1; 2021-22 = 183.6; 2022-23 = 181.0; 2023-24 = 178.4; 2024-25 = 175.8. (Units: Number of repairs per 1,000km of mains).

When considering the performance commitment package as a whole, we consider whether the balance of incentives for particular performance commitments is appropriate at both an industry and company level. This approach is set out in the 'Delivering outcomes for customers policy appendix'. This leads us to set all companies' outcome delivery incentive underperformance rates at the normalised (per household) industry average on mains repair to provide a more balanced spread of incentives and risks. We therefore change the company's outcome delivery incentive underperformance rate to -£0.167m per number of repairs per 1,000km mains. This means that Yorkshire Water's underperformance rate is significantly lower than it proposes, reducing its financial exposure from potential underperformance.

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