Ofwat's updated PR24 storm overflows PC definition

United Utilities response – 23 May 2023

We welcome Ofwat's continued engagement on the proposed approach to the storm overflows incentives for PR24. To date we have engaged on this matter with Ofwat through consultation responses, our response to previous PC definition questions and through the Outcomes Working Group.

We also submitted an extensive paper to the Future Ideals Lab in November 2022. This set out why a common "average spills per overflow" target would, if not appropriately normalised, lead to some companies (operating in more beneficial environments) achieving high levels of outperformance with minimal effort but put others (operating in more challenging environments, with more rainfall, a greater proportion of combined sewers, etc.) in a position of material underperformance with no prospect of improvement through management action.

We proposed that the appropriate adjustment to make was that company targets should be baselined against those overflow activations that management could control in the near term (i.e. maintenance and operational issues) and that targets should then be progressively tightened so that they moved in step with improvements delivered through programmes specified as part of WINEP. This approach would provide the right incentives to drive effective management behaviour in controlling activations that could be avoided through correct use of existing infrastructure whilst also delivering the efficient timely delivery of new infrastructure. This would also mean that the targets set would meet both the "stretching but achievable" and "affordably delivered" criteria that underpin Ofwat's approach to PCs; the same could not be said of a non-normalised approach to "average spills per overflow".

We also expressed concern that a simplistic "average spills per overflow" approach to performance commitment metrics could materially mislead stakeholders about the relative effectiveness of management action and performance.

It remains our view that the document sets out a clear case as to why an "average spills per overflow" metric would not be appropriate and we believe that Ofwat should take steps to engage with the approaches described, none of which were reflected in its published methodology. The report is available at https://www.ofwat.gov.uk/wp-content/uploads/2022/11/UUW-Future-Ideas-Lab-submission-Storm-overflow-incentives-for-PR24.pdf.

Nonetheless, we welcome the improvements that have been made to the proposed PC definition and consider that there are some further improvements that should be made to the proposed PR24 definition. In this response we propose that Ofwat should recognise the need to further normalise the measure across companies, based on a spills/km of network approach. Given the pragmatic nature of this approach to normalisation, we also propose a cap/collar be set at +/- 30%, in line with modelling results from 2018 that showed that rainfall variations would lead to variations of performance of +/-30%. By making incremental improvements to the metric for PR24, we see that wider improvements can be made to the measurement and regulation of the use of storm overflows in future price reviews – with a particular focus on reducing the environmental harm of overflows to the environment.

Ofwat's updated PR24 storm overflows performance commitment definition – United Utilities response

Q1: Do you agree with our proposals to set a performance commitment based on average spills, with financial consequences for companies that do not meet their targets?

We consider that, ultimately, best value for customers would be achieved by incentivising reductions in harm to the environment rather than a simplistic approach to counting spills. We would expect that, over time, the PC could be further developed to better reflect the amount of harm a discharge causes rather than simply counting the discharges themselves. However, we recognise both that the government's target in the Environment Act is set on the basis of an average number of spills and that Ofwat's proposed methodology also embeds this approach to targeting.

We have previously set out that the best approach to normalising targets – and the approach that would best meet Ofwat's PC criteria and act as a strong but achievable incentive – would be to set targets that reflect the scope for company action to a) avoid spills due to maintenance and operational issues and b) the extent to which companies should have delivered reductions in spills through funded WINEP interventions.

If Ofwat is not minded to adopt such an approach then it does need to consider the most appropriate way in which it can normalise performance targeting and assessment under this metric. As we have previously set out in our November paper, to do otherwise would over reward some companies (operating in more beneficial environments) who are taking no additional action to reduce the number of activations but would penalise others (operating in more challenging environments, with more rainfall, a greater proportion of combined sewers, etc.) despite their best efforts to reduce the number of activations.

The normalising metric should take into account the unique regional operating circumstances faced by companies. By promoting comparison of companies based on a simplistic "spills per overflow" basis, there is a high likelihood that users of this data will take it for granted that all companies operate with the same infrastructure design and configuration, identical rainfall patterns and intensities, and the same ground conditions to then absorb that rain into ground water. In reality, none of these things is true and so the comparability of a single metric across companies – without further normalisation – is strictly limited. For example, where the proportion of combined sewers differs or where the size and geography of receiving watercourses means companies have a small number of large overflows (as opposed to a large number of small overflows), simplistically normalising by the number of overflows would provide an inappropriate comparison between companies, whereby spills is assumed to equate only to performance and not to network characteristics or natural geography. A relatively high level of spills is not necessarily indicative of poor company performance, and an apparently low level of spills is not necessarily indicative of good company performance, unless those environmental factors have been used to provide an appropriate degree of normalisation to the measure.

By using a more suitable normalising factor to express company performance, stakeholders and customers can make a more meaningful comparison of company performance. If our proposal above is not acceptable, then (recognising that it may be complex to normalise against all the environmental factors outlined above) we suggest that sewer length could be a better normalising factor for this PC. This is a normalising factor already used across other wastewater network performance metrics such as total pollution and internal flooding. It reflects the length of sewers being operated and a proxy for the load placed on the overflow system (as set out below) and unlike overflows – which can be closed, constructed or maintained where not required – the length of the sewer network cannot be easily extended in short timescales to favourably adjust the normalisation.

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It is important to note that this discussion only pertains to the definition of the measure, and not to how targets should be set for each company. Targets should be set on a company specific basis, from a 2025 level that reflects the expectation value of company spill frequency (i.e. excluding any impact of maintenance issues, and not a benchmarked value across companies that face different environmental challenges) and then the expected future improvements resulting from AMP8 (and beyond) WINEP overflows investment.

Case for normalisation

To understand the case for normalisation, it is necessary to consider a hypothetical case where all companies have identical network capacities with an identical number of overflows, uniformly distributed and sized. The number of activations of overflows for each company would only vary based on a) management action in relation to the network and b) the level of rainfall affecting the network.

In order to assess the number of recorded spills with a view to identifying variances in management action, the number of activations of overflows in each network would need to be adjusted by the level of rainfall. This would then provide a like-for-like comparison of the number of activations for each company, adjusted for rainfall, but revealing the effectiveness of management action.

The issue in the real world, of course, is that the hypothetical conditions do not hold true. Each company has a different sized network, with different network capacities. Each network has a different number of overflows, differently sized and distributed based on local conditions and historical decisions. There is a further complication in that some networks have a greater prevalence of combined sewers whereas other networks have a greater prevalence of separate surface water and foul sewers. It is obvious then, that to best incentivise management action, the ideal performance metric should adjust the target for each of these factors individually. This is because, for example, a company with a high level of instantaneous rainfall and a large proportion of combined sewers would – all other things being equal – have a higher level of underlying spills than a company which had lower levels of rainfall and a separated sewer system but which was subject to the same effectiveness of management action.

Simplifying network characteristics to the point of only normalising by the number of overflows (as Ofwat currently proposes) is a poor measurement as it materially misrepresents the true capacity and characteristics of the network. For example, this normalisation would treat London's Thames Tideway overflows – serving a huge population over a very large land mass – as equivalent to an overflow in Cumbria serving a population of c.2000 and a network amounting to a few hectares of coverage.

Just as the hypothetical example – where all companies are the same – does not exist in reality, we accept it is unrealistic to expect that it would be possible to adjust for all the necessary variables to derive a fully comparable variable. However, given that a comparison based purely on "average spills per overflow" would – for the reasons we have set out – be simplistic and substantially misleading in revealing the effectiveness of management action, a pragmatic approach to normalisation should be adopted to at least try and provide some acknowledgement of the regional differences.

The length of combined sewer would be a strong candidate as a normalisation factor. This would mean that the measure would be expressed as the **average number of spills/km of combined sewer**. This metric would prevent performance comparisons being skewed by performance from networks with no overflows, and it would offer a proxy for number of overflows, size of overflows, storage volumes, and network capacity. In addition, it would allow for various combinations of those characteristics (e.g. many small overflows or one large one, both achieving the same overall relief point) without penalising companies or their predecessors for those historical design choices in response to their unique geographical or

topographical challenges. However, the length of combined network alone would not adequately deal with hybrid networks and it would change relatively quickly as new development occurs.

On this basis, a pragmatic approach for PR24 would be to normalise based on total sewer network length and set targets based on the **average number of spills/km of sewer network.** Further improvements could be made to refine the measure in AMP9.

Weather will also have a very large impact on company performance under this PC. Rainfall is a significant driver of storm overflow performance, but it doesn't fall uniformly across the country. Met Office regional rainfall data shows the North West of England has 800-3200mm per year, compared to the South with 550-950mm per year, or Eastern England with 400-700mm per year[1]. These significant regional differences can lead to areas of rain stress such as in East Anglia as highlighted in the Environment Agency's 2022 water situation report [2, 3] – compared to areas of the North West which saw above normal rainfall in 2022.

Where the rain falls can also have a significant impact on performance – the North West has urban rainfall that is 40% higher than the England and Wales average. Rainfall clearly has an impact on storm overflows but it does not fall uniformly across the country. UUW analysis conducted[4] on 82 high spilling overflows from across the North West region identified an annual performance variation of +/- 30% due to rainfall. This was based on three years (2016-18) of EDM data plus the corresponding 10 year model spill results.

To further customer and stakeholder support for this new measure, it is vital that incentives are structured so that companies incur penalties and earn rewards due to their own performance. **We therefore propose that a cap and collar is set for this ODI in line with the +/- 30% rainfall impact, in order to maintain confidence that performance is attributed appropriately by this measure.** As the approach to this performance measure develops in future AMPs there would be the opportunity to review the level and/or need for the cap and collar.

Setting forward looking targets whilst WINEP investment is ongoing

We also expect that PC levels should reflect the investment programmes the companies will be delivering in 2025-30 as part of their WINEP, and therefore reflect the company specific trajectory of spill frequency reduction resulting from those programmes. This will incentivise prompt delivery of programmes and the corresponding reduction in the number of spills. The integration of this into PCLs will need to reflect the delay between making the investment and the performance coming through in the published EA data returns. For further commentary on this, please refer to our response to Q5 below.

Determining incentive rates

In setting incentive rates, we note again that the *number* of spills does not necessarily correlate with environmental harm – hence the need to focus this PC as quickly as possible on environmental harm. Ofwat notes that other PR24 PCs, such as for serious and total pollution incidents, should also provide additional incentives on companies to prevent harmful discharges. Whilst this is true, we therefore note that the ODI

[1] https://www.metoffice.gov.uk/research/climate/maps-and-data/regional-climates/index

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128447/Water_Situation_Report_for_England_December_2022.pdf

[3] As noted by the EA alongside its EDM data publication on 31 March 2023, the 19% reduction in the number of sewage spills in 2022 is largely due to the below average rainfall that year https://www.gov.uk/government/news/environment-agency-publishes-event-duration-monitoring-data-for-2022

[4] Analysis produced by UUW and presented to the January 2021 Intermittent task and finish SOAF Practitioners Implementation Group, to test the EA's hypothesis that a variation greater than 10% would be appropriate to trigger an investigation.

rates for storm overflows, serious and total pollution incidents should not penalise companies twice for environmental harm caused by storm overflows. At the time of our response, Ofwat has not published the marginal benefit rates for these three PCs or the final mapping process from customer valuation to the marginal benefit rates. To avoid double jeopardy in penalty rates, we would expect to see Ofwat has removed customer valuation of environmental harm from the storm overflows ODI rate, if it expects serious and total pollution PCs to provide additional incentives on companies to prevent harmful discharges. Companies should not be penalised twice for the same discharge.

Treatment of treated storm overflows and discharges

We also consider that the design of the PC could be improved to deal more appropriately with treated storm overflows, in line with the aims of the Government's storm overflows discharge reduction plan. This plan acknowledges that in some instances the treatment of storm discharges may be more appropriate than a solution to reduce spill frequency. This may be required where even low spill frequencies could result in harm or where infiltration from ground water discharges are causing a high number of dilute spills but repairs may be prohibitively expensive and often long-term success can be low.

Treated storm discharges do not have the same environmental impact as untreated storm discharges and so should not be considered alike within the performance commitment. Treatment should be defined as any process required to reduce the environmental impact of storm overflows and is required under the permit for a storm overflow and reported within the EDM annual return. We recommend that treated storm discharges should be excluded from this PC. This would enable some element of environmental harm to begin to be reflected into the current measure for 2025-30. This would be one step towards the eventual aim of focusing the PC on environmental harm and it is a step which can be taken now. Such a move would also incentivise companies to install such storm treatment, in line with the Government's plan.

Q2: Do you agree with our proposed approach to unmonitored storm overflows?

We agree with Ofwat's proposals for estimating spills from storm overflows without installed monitors however we propose that Ofwat's approach could be improved to appropriately factor in EDM operability.

We welcome Ofwat's focus in this updated PC definition on the operability of EDMs. We observe that whilst UUW maintains focus on achieving sector leading operability for our installed EDMs – as Ofwat notes in their proposal – there is wide variation in EDM operability across the industry.

Our storm overflows will be 100% monitored by December 2023. We respond to this consultation having delivered the highest level of operability in the industry with 98.5% of our monitors recording data at more than 90% operability in 2023 (YTD).

For installed EDMs we propose that the unmonitored storm overflows adjustment in the PC is applied to match the operability requirements set out by the environmental regulator on companies. The EA sets a 90% operability requirement in company permits.

We propose that the unmonitored storm overflows adjustment is applied to those EDMs which have operability of less than 90%, rather than 100%.

By setting a 90% operability threshold the EA in effect reflects the practicalities of monitors and technology - sensors need maintenance, calibration, testing, their signal and connectivity to our remote networks are subject to national communications network issues. Whilst we design our remote monitoring systems to overcome issues – such as poor connectivity in very rural areas – we rely on a national network which is not optimised to serve the location of our infrastructure. We would therefore advocate that the unmonitored

storm overflows adjustment is applied where operability on installed EDMs falls below 90% in that year, in line with the EA's requirements, and where there is no other data to confirm actual spill numbers.

We note that the current stated industry performance – and company performance commitments out to 2025 – do not reflect this operability adjustment and question whether a similar approach to reflect non-operability should be incorporated into 2025 spill commitments and PR24 submissions, to ensure consistency with AMP8 reporting.

Q3: Do you agree with our proposed approach to mid-period changes?

We agree with Ofwat's proposed approach to mid-period changes. As companies continue to investigate and act to reduce the use of such assets, the number of storm overflows is likely to change. Having the ability to make mid-period changes for this PC is therefore an appropriate approach to this particular area.

Q4: Do you agree with our proposed approach to emergency overflows?

We agree with Ofwat's proposed approach to exclude emergency overflows from this PC. Such assets are designed to operate in a very different way to storm overflows as noted by Ofwat in their email. Discharges from emergency overflows outside of an emergency would constitute a permit breach and would therefore already be covered by one or both of the pollution PCs, as noted by Ofwat. Additionally, given that company networks should not be operating under emergency conditions as standard, the data set for emergency overflows is understandably limited. Any PC would therefore have to be devised on such a limited data set which itself creates issues particularly around the efficacy of financial incentives.

Q5: Do you have any further comments on this performance commitment?

In PR24, UUW will be proposing a significant investment programme for 2025-30 with a substantial portion of this earmarked to tackle spills. Once operational, this investment will enable the reduction in spills sought by the company, customers and stakeholders. However, reporting cycles mean that there will be a lag between: 1) completing the work required for the investment; 2) a reduction of spills from the overflow; 3) the collation of a full year's data for EA reporting; and, 4) spill performance being reported to the EA. This is in contrast to most other WINEP investment (e.g. to meet new wastewater treatment standards), whereby compliance is confirmed following construction, without the need for a full year of compliance data being recorded.

In effect, for some investments, there could be a delay of 23 months between making the improvements "on the ground" and the improvements showing through in the full year data being reported to the EA, through the EDM annual return. This is because EDM data is recorded in calendar years and reported to the Environment Agency in the following year, so an improvement to a CSO in January 2025 would not be fully captured in the EDM return until the data for the year ended December 2026 was compiled and published. Calendar year reporting to the EA is a feature of several performance commitments. However, due to the significant step-change in performance we expect as a result of the 2025-30 investment programme, this particular reporting delay is expected to have a significant impact on reported performance. Where companies are making significant investments to improve CSOs, and the PC definition relies upon the calendar year EDM returns, the performance commitment levels will need to be set so as to reflect this reporting delay.