

**NORTHUMBRIAN WATER
RESPONSE: CONSULTATION ON
STORM OVERFLOWS
PERFORMANCE COMMITMENT
DEFINITION FOR PR24**

MAY 2023

INTRODUCTION

We have reviewed the Storm Overflow Performance Commitment consultation and provide responses below to the specific questions within the document.

Question 1: 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 agree with the overall proposed performance commitment (PC) that is based on the average spills each year as the total number of spills divided by the number of storm overflows (SOs). This measure comprises of the regulatory annual Event Duration Monitoring (EDM) data return and uses the Environment Agency's (EA) 12/24hr counting method.

We also agree that the PC applies to all SOs that are permitted by the EA for a storm discharge. We would also include overflows that we are in the process of permitting that are reported in our EDM Data Return. SOs where the overflow has been abandoned (i.e., overflow capped off) in the reporting year should be removed from the measure once the permit has been revoked by the EA.

In consideration of harm, we support Ofwat's view that spills alone do not reflect harm to the environment. As part of our Water Industry National Environment Programme (WINEP), we have committed to undertake just over 1,000 investigations by April 2027 to understand harm and to see if we need to go further than 10 spills per annum improvement target. These investigations are based on the Urban Pollution Manual (UPM) standards as set out in version 2 of the Storm Overflow Assessment Framework (SOAF). It is worth noting that our topography in the North East of England consists of steeply sloped and fast running watercourses that offer greater dilution and mixing of SO discharges compared to other parts of the country that have flat slow running rivers. Therefore, our expectation is that harm will be limited to areas with low dilution or more complex situations with several overflows discharging in the same stretch of watercourse.

As Ofwat points out, the monitoring of SOs is connected to the pollution PCs. We started installing battery operated Sewer Level Monitoring (SLM) in our sewer network SOs in 2007 for operational control and pollution prevention purposes. Since then, pollution incidents associated with network SOs have fallen significantly through our leading pollution management approach. This also meant that our SLM coverage was already very high at ~85% when EDM was introduced in 2015. For our sewage pumping stations and sewage works, monitoring was typically already in place to detect an issue early, such as a warning level, and intervene to stop a discharge happening. We have upgraded, modified, or fitted new monitors to these overflows for EDM data reporting requirements.

Finally, as per Ofwat's definition of Storm Overflows¹, **we agree that financial ODIs are applied to those companies that either out or under performance against the target set.**

Question 2: Do you agree with our proposed approach to unmonitored storm overflows?

We understand for this measure, Ofwat considers unmonitored overflows to mean those where EDM monitoring has not been installed or is not operating.

In terms of overall coverage, we are on target to attain 100% SOs monitored commitment by December 2023. Currently we have over 99% coverage through EDM that builds on our strong performance in this area over the past 15 years.

¹ https://www.ofwat.gov.uk/wp-content/uploads/2022/12/Storm_overflows_PC_definition.pdf

For periods when data was not available or the monitor was not working, we measure this as operability or availability of data. The operability score of an Event Duration Monitor is a measure of the percentage of data points received compared to that expected in a calendar year if it were functioning and communicating perfectly all-year round. For example, an EDM device with a 2-minute monitoring interval requirement would have to attain 262,800 accurate data points for 100% operability score in a year. A high score is an indication of the health of a monitor and its communications. We judge an individual monitor to be operable at a score of 90% or more.

We continuously scrutinise operability and have made significant improvements over the past 15 years, such as in processes, procedures, maintenance provision (e.g., service level agreements) and newer technology. Our average operability score for battery operated EDMs has risen from 72% in 2012 to 90% in 2022.

We disagree with Ofwat's inclusion of the proposed unmonitored overflows adjustment. The allocation of an assumed level of spills for those sites for those with no effective monitor or those not achieving 100% operability will create a different data set to that published by the Environment Agency. This could lead to confusion by our customers and stakeholder groups.

Importantly, EDM or SLM units on our network SOs consist of battery powered units containing SIM cards that transmit data across the GSM mobile network for inclusion in our systems. The operability of these units can be affected by various issues, such as battery/unit failure, mobile network outages, signal strength and signal quality. Many of these are outside of our direct control as telecommunication companies turn down signal strength to reduce their costs. We therefore experience chronic signal strength/quality issues across our SLM stock.

The majority of our SOs are on the sewerage network and the EDM devices installed have not been designed to meet 100% operability standards. They are short-life assets (3 -5 years) that are economical to fit and maintain to provide operational visibility for pollution prevention and EDM monitoring. To deliver 100% operability confidently, the design would require powered sites and fixed wired communications into telemetry outstations (e.g., broadband) that would entail excessive costs.

In comparison, for most of the EDMs associated with our STWs and SPSs monitoring devices are hard-wired into the telemetry outstation, powered via electricity supply and data is received reliably. The operability for these EDM units is typically very high towards 100% unless there are data issues.

Communications and equipment failures are inevitable for large scale operation and maintenance of short-life battery operated monitoring devices over third-party communication networks. We follow the recently updated [CIWEM EDM Good Practice Guide](#) which states *'It should also be considered that no system is likely to have 100% reliability in spill recording, when viewed over the long term'* and *'It is understood that no monitoring equipment is ever 100% accurate and free of erroneous signals'*.

There may also be extreme instances outside of our control when national infrastructure is lost as recently seen in Storm Arwen, such as power lines and communication masts.

Furthermore, in 2019 the Environment Agency and water companies put in place further guidance on the completion and standardisation of EDM annual data returns. This included the agreement for operability where comments would only be needed for sites with less than 90% operability. This was thought to be reasonable level of operability, particularly for battery operated units. Further development in terms of reliability of data returned was to be developed and reviewed by the water companies and regulatory bodies.

The challenge for both planned and reactive responses are those risks which are outside of our control, primarily the local environmental conditions influencing safety concerns of our employees and contractors to complete the task in addition to access permissions which could delay repairs (e.g., in the highway or Network Rail land).

We have assessed the impact on our 2022 EDM data return from using the assumed 50 spills on a sliding scale basis. Ofwat's proposed unmonitored overflows adjustment would increase the overall spills from 29,697 (20.29 average) to 38,619 (24.69 average) which is equivalent to a 28% increase or 8,922 additional spills. In fact, for the majority of our sites at 90% or more operability this will add around 7,500 spills. Even if a site is at 99% operability, 0.5 spills would still be added.

We suggest that an operability threshold is set at 90% and additional spills are only added below this level. This considers that the current design, technology and monitoring systems installed in the majority of SOs will not be capable of providing 100% operability.

Question 3: Do you agree with our proposed approach to mid-period changes?

We agree that the number of SOs for the period should change as certain sites are closed or abandoned and permits are revoked with the EA. We consider that all SOs, either permitted or in the process of being permitted, should be within scope for this measure. This reflects the sites and data reported in our annual regulatory EDM data return to the EA.

We also agree that closed SOs should remain in the denominator to incentivise the reduction in the total number of SOs. Our process for closing SOs considers the risk to the operation of the sewerage network, including risks of flooding to properties and businesses. We only close SOs that do not pose a significant risk and maintain those sites that might not spill often (i.e., zero spillers) to mitigate risks, such as in extreme weather events. For example, some of our SOs are associated with storm retention systems that protect blue flag bathing beaches and are designed to only spill once every 5 years.

Question 4: Do you agree with our proposed approach to emergency overflows?

We agree with the proposal to keep the reporting requirements for emergency overflows separate from the SO performance commitment as they are different permitted activities.

We follow the EA's 16_02 Operational Instruction in self-reporting pollution incidents to the Environment Agency. Through our telemetry systems for sewage pumping stations, we notify the EA immediately when our alarms show an emergency overflow in operation due to a service breakdown of the station (e.g. mechanical breakdown or power failure). We review the incident with the EA who then sets the final category level which is recorded in our pollution PCs.

We currently have measurement devices for emergency overflows that are typically set at a warning level. Our investment plans under WINEP for Periodic Review 2024 includes the upgrade, modification and installation of measurement devices to meet the EDM requirements at all permitted emergency overflows to MCERTS standard. As part of this investment, we are also installing flow pass forward MCERTS flow measurement to pumping stations that also have a permitted storm overflow.

We currently complete an annual emergency overflow regulatory data return for the EA. This data will be used in to complete the proposed new reporting requirements in the annual performance reports from 2023-24. The investment in EDM MCERTS monitoring after 2025 will provide a complete dataset under this measure by 2030.

Question 5: Do you have any further comments on this performance commitment?

We support the overall measure definition and are committed to reducing spills and eliminating harm from our overflows. In our Vision for Coasts and Rivers we included a pledge to reduce spills to 20 on average by 2025 and are planning significant investment in our PR24 Business Plan in meeting the Government's Storm Overflows Discharge Reduction Plan targets.

In our AMP7 WINEP, we have around £10m investment under the Storm Overflow Assessment Framework (SOAF) where we have investigated 127 high spilling overflows – 97 inland and 30 in estuaries and coastal waters. These studies determine the reasons for frequent spills together with an assessment of environmental impact. Any identified maintenance issues affecting spill performance are programmed for resolution under our base allowance, such as cleansing to remove siltation.

Our WINEP SOAF investment also includes at least 5 spill reduction schemes that are being delivered by March 2025 and to the new spill standard of no more than 10 spills events per year.

The overall aim is to meet the expectations of the public and our customers by enabling our region to benefit from the best rivers and beaches in the country.

We provide a written data assurance report to the EA alongside our EDM data returns. This sets out how the information in the return has been prepared in accordance with the methodology prescribed the EA and is audited by our Internal Audit Team. It includes information on the operability of our monitors and highlights those that are less than the 90% operability threshold. The report also details how we:

- Have properly assessed actual spills and reported them accurately using the EA's 12/24hr spill counting methodology.
- Maintain EDM monitors, such as through reactive and planned work (e.g., inspection and calibration).
- Make sure that EDMs are operating correctly with high levels of operability – this is also important for visibility of our network, operational control and pollution prevention.
- Have reliable and accurate information through approved and competent contractors together with procedures for dealing with spurious data and monitoring issues.
- Take corrective actions to identify erroneous or missing data – we try to recover data wherever possible in providing complete data sets.

It is important that we have credible, accurate and robust EDM datasets. The incentive should be to attain high level of operability above 90% and to recognise that the system of monitoring, that is largely based on battery operated devices reliant on telecommunication networks and in challenging environments, are not designed to provide 100% operation.

We are also concerned how Ofwat will assess the starting point and upper quartile position for companies for the start of AMP8 using this new methodology.

This measure is directly impacted by the amount of annual rainfall and intensity of storms across our region each year. Hence, the average number of spills can vary widely. As an example, EA's Water Situation Reporting shows that for 2020 and 2021 we experienced normal or above normal rainfall whereas in 2022 it was below normal. From previous years reporting, we can expect to see highly exceptional rainfall once every 10 to 14 years and this will be reflected in a higher average spill numbers for this measure and consequently the potential for higher underperformance payments. This variability in rainfall should be considered under this measure.