

Annual environmental performance report for Hafren Dyfrdwy 2023

Introduction

Our purpose is to pursue the sustainable management of natural resources in all our work. This means looking after the air, land, water, wildlife, plants and soil to improve Wales' well-being, and provide a better future for everyone.

We monitor the activities of water companies to minimise the impact their assets and activities have on the environment. We do this by checking their environmental performance throughout the year in areas such as reducing pollution incidents, complying with permits and licences and delivering environmental improvement schemes.

Hafren Dyfrdwy¹ came into existence on 1 July 2018, forming a water and sewerage company that is wholly within Wales' political boundary. All² assets that were previously owned and managed by Severn Trent Water and Dee Valley Water in Wales were transferred to Hafren Dyfrdwy.

This report focuses on Hafren Dyfrdwy's environmental performance for 2023. We also assess Dŵr Cymru Welsh Water's performance which you can find on our [website](#).

The Environment Performance Assessment (EPA) metrics used for the 10 largest water and sewerage companies in England and Wales are not applicable to Hafren Dyfrdwy. However, we use similar themes, for example pollution incidents and permit compliance.

¹ Companies House information: HAFREN DYFRDWY CYFYNGEDIG, Company number 0352762, registered office address: Packsaddle Wrexham Road, Rhostyllen, Wrexham, Clwyd, LL14 4EH.

² The only exception is Elan Valley water treatment works which, although located in Wales, will continue to be owned and managed by Severn Trent Water. NRW will regulate this site and provide environmental performance data to the Environment Agency, so that it can be included in Severn Trent Water reporting.

Headline performance messages

In 2023 Hafren Dyfrdwy:

- had continued good performance on serious pollution incidents with zero serious pollution incidents in 2023;
- reduced the total number of sewerage pollution incidents from two in 2022 to one in 2023;
- 100% compliance with numeric water discharge permit conditions;
- maintained a Supply Demand Balance index (SDBI) score of 100.

But the company need to improve:

- compliance with descriptive water discharge permit conditions;
- their levels of self-reporting incidents as they did not report an incident from a Water Treatment Works, only self-reporting 75% of incidents in 2023 (3 out of 4);
- Event Duration Monitoring (EDM) operability so that all EDMs are operating for at least 90% of the time.

Pollution incidents

As a regulator we respond to a wide variety of pollution incidents, some of which are from water company assets and networks. We report on how many incidents each water company is responsible for. This is to drive continued reduction in the number of pollution incidents, aiming to reduce incidents to zero. We expect no serious (High) incidents.

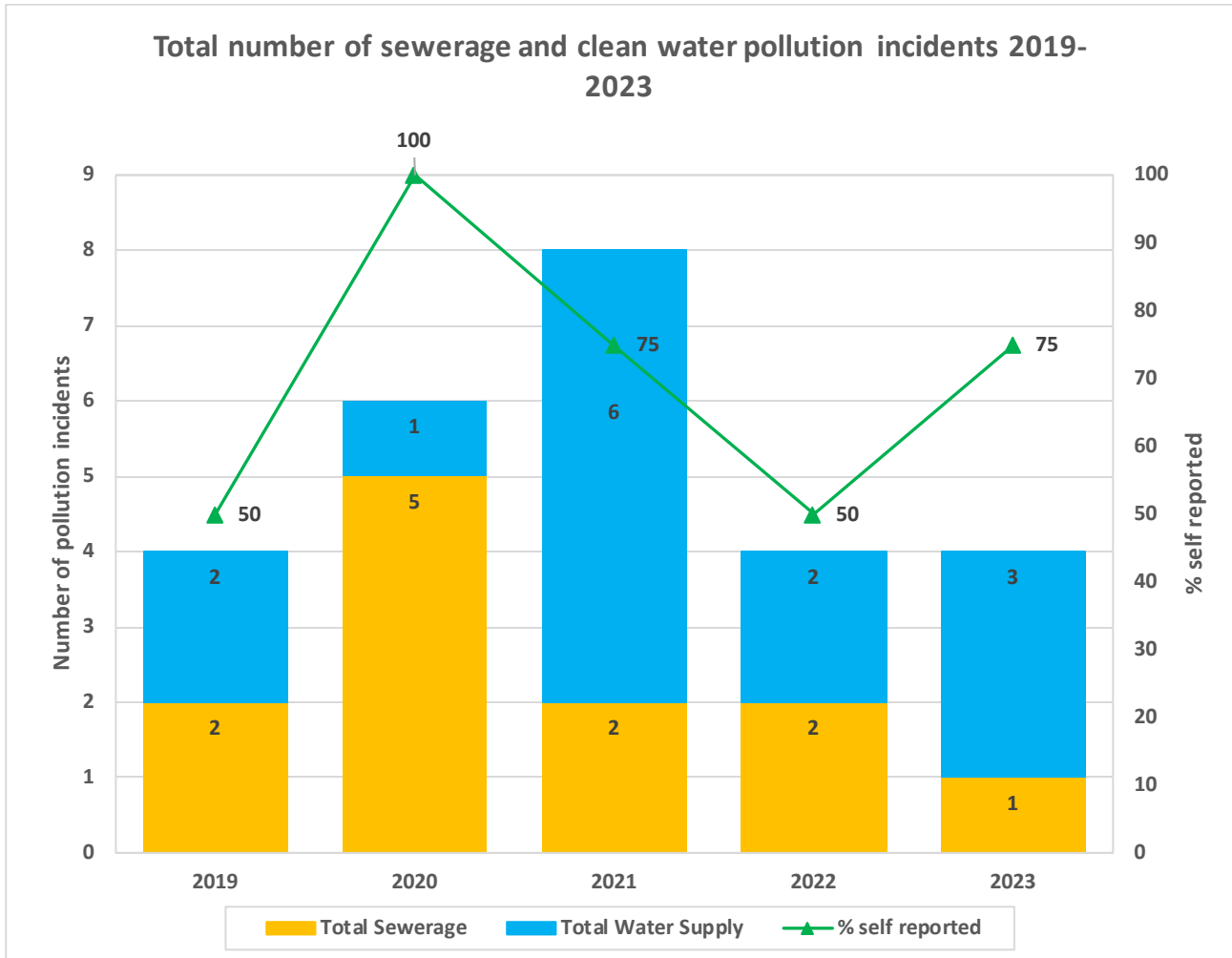
There are 4 different categories of incidents:

- Category 1 – Major: potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property;
- Category 2 – Significant: potential to have a significant impact or effect on the environment, people and/or property;
- Category 3 – Minor: potential to have a minor or minimal impact or effect on the environment, people and/or property;
- Category 4 – No impact: non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property.

As shown in the graph below, Hafren Dyfrdwy had improved their pollution incident performance in 2023. The company:

- maintained zero serious (High) pollution incidents;
- reduced sewerage incidents to one in 2023. This was a self-reported pollution from a sewage treatment works (STW) and had low environmental impact (Category 3);

However, there was an increase in incidents from water supply assets in 2023. There were three (compared to two in 2022). Two incidents were from the water distribution network and one from a Water Treatment Works. All three had a low environmental impact (Category 3).



Self-reporting incidents

We would like to see all water companies self-report³ at least 80% of their pollution incidents. This means we can be more confident that the water company:

- understands their assets and networks;
- continually looks for ways to improve how they predict pollution incidents, including using their own telemetry data to improve levels of self-reporting;
- uses their data to identify hot spots and target high risk locations and specific asset types;
- attends and reacts to incidents quickly to stop any impact as soon as possible.

Hafren Dyfrdwy’s self-reporting performance increased to 75% (three out of four incidents self-reported) after achieving 50% in 2022. We expect Hafren Dyfrdwy to self-report all

³ To report an incident to us, call our Incident Hotline on 03000 65 3000

incidents in 2024 and encourage them to consider initiatives used across the industry to improve and then stabilise their performance in this area.

It is disappointing that an incident at the permitted Water Treatment Works wasn't self-reported as this is a manned asset with telemetry where self-reporting should be achievable.

Water discharge permit compliance

We issue permits for water discharges, including treated discharges from water company STWs and Water Treatment Works (WTWs). The permits require the discharge to meet specific criteria to make sure there is no deterioration to the water environment. Water companies self-monitor their discharges and provide data to us, which we assess for compliance. We expect all permit conditions to be complied with.

For wastewater, Hafren Dyfrdwy operate:

- 39 numeric STWs (which have a total of 43 discharges)
- 11 descriptive STWs

For water supply, Hafren Dyfrdwy operate

- five numeric WTWs (three of which have a total daily flow of over 20m³/day)
- one descriptive WTW

Water quality numeric permit condition compliance

Using the principles of the EPA methodology, we assess the company's numeric compliance performance by looking at the percentage of discharges that failed their numeric quality limits. Therefore we look at the 43 numeric STW discharges and the three larger numeric WTW discharges.

In 2023, there were no numeric permit non-compliances for any of the 46 discharges, so they returned to 100% compliance as achieved in 2020 and 2019.

	Numeric condition compliance	Number of non-compliant discharges
2020	100 %	0
2021	97.9 %	1
2022	97.8 %	1
2023	100 %	0

Water quality descriptive permit condition compliance

Descriptive conditions relate to non-numeric aspects such as maintenance, management and reporting.

Overall, descriptive condition compliance at STWs and WTWs with numeric and descriptive permits in 2023 was 95%. This is a deterioration in performance compared to 2022 levels where they achieved 98.2%.

	Descriptive condition compliance	Number of non-compliant discharges
2020	96.7 %	2
2021	91.8 %	5
2022	98.2 %	1
2023	95.0 %	3

The non-compliant discharges in 2023 were mostly Category 3 non-compliances, all of which resulted in a Warning, and one Category 4 non-compliance. Descriptive condition compliance is only reported against STWs and WTWs.

We expect Hafren Dyfrdwy to aim for 100% compliance in this area and to maintain a consistently high level of performance.

Storm overflow permit compliance assessment

We also found one pumping station to be non-compliant with its permit conditions, caused by a re-occurrence of a blockage at a CSO causing an unregulated discharge to receiving waters. It had a category 3 non-compliance recorded, with a Warning issued.

The remainder were non-compliant mostly due to failing to supply adequate supporting information for sites which were ‘no flow’ at the time of sampling and were recorded with Category 3 non-compliances and Warning letters.

Flow compliance at sewage treatment works

Hafren Dyfrdwy provided Dry Weather Flow (DWF) data in accordance with their permit requirements.

Two Wastewater Treatment Works (WwTW’s) were reported as exceeding their DWF permitted limits in 2022, resulting in the sites discharging more treated sewage than permitted. The company are required to carry out investigations and report the cause of exceedance to us, and where appropriate complete remedial action within an agreed timescale.

One WwTW was reported as having experienced data issues in 2022 which Hafren Dyfrdwy is working to resolve.

We are unaware of any sites in Wales being investigated by Hafren Dyfrdwy due to queries over their flow to full treatment (FFT) permitted limits. Hafren Dyfrdwy continue to proactively investigate any sites they consider to be at risk of failing their FFT permitted limits, which means they may not be treating the amount of flow required by their permits.

Hafren Dyfrdwy has made progress with their internal management system for MCERTS certification, a system which independently audits and certifies the suitability and accuracy of their flow monitoring equipment. All their sites were compliant with MCERTS re-certification requirements in 2022.

In late 2021 the Environment Agency and Ofwat announced they would investigate potential non-compliances with FFT permit conditions from WwTWs in England. The investigations are analysing information submitted by water companies to regulators that highlight potential permit non-compliances.

In Wales, we do not plan to undertake a similar investigation at present, as we already have a compliance response in place. Hafren Dyfrdwy has been sharing similar information with us since 2014. This work identified sites that needed investigation by Hafren Dyfrdwy who then looked at the causes of non-compliance. We have worked with Hafren Dyfrdwy to ensure the sites return to compliance with their permit at the earliest opportunity.

We will continue to liaise with Ofwat to understand the outcomes of their investigation in England. We will review our current regulatory approach in Wales, if necessary.

Permitted storm overflows

Hafren Dyfrdwy have installed event duration monitors (EDM) to monitor the number and duration of spills, on all their permitted storm overflows. This means EDM will be installed on the following assets:

- storm overflows on the sewer network (combined sewer overflows);
- storm overflows from pumping stations;
- storm overflows at STWs.

In this section, we share data on permitted storm overflows only. For storm overflows currently operating without a permit, we have a programme of work underway to bring them within our regulatory framework, where appropriate. More information on storm overflows can be found on our [website](#).

In 2023 Wales experienced an exceptionally wet March (the fifth wettest March in over 180 years), followed by a prolonged dry spring. April – June (combined) saw 60% of the expected rainfall for the same three-month equivalent period and prolonged dry weather was declared for mid-June until early August. June was also confirmed as one of the hottest on record: [Climate change impacts June temperature records - Met Office](#).

The second half of July 2023 saw a return of wet weather. This resulted in July receiving 180% of rainfall expected – making this one of wettest July's on record. We declared a return to normal status (in respect to drought) by early August.

The latter six months of the year (July-December) saw above average rainfall receiving 134% (combined). This six-month period was also one of the wettest six months on record. The year as a whole saw 115% of the annual average expected rainfall. Met Office have confirmed that 2023 was also one of the warmest on record: [2023: The warmest year on record globally - Met Office](#).

Unusually wet periods have the potential to result in increased spill frequency and duration, whilst dry weather has the opposite effect. We are working on a robust method to identify when spills are occurring in dry weather that will allow us to better assess storm overflow performance.

EDM data we are reporting

The data presented in this section uses the 2023 EDM summary data submitted by the water company in their annual regulatory return to us. We use the data as received from the water company to produce the graphs and percentages below.

Hafren Dyfrdwy listed 39 permits with 49 storm overflow discharges in their 2023 return.

In 2023, 8 (16%) of the water company's EDMs were in operation for less than 90% of the year, which is below the agreed industry standard. We expect the water company to improve EDM operability so that all EDMs are operating for at least 90% of the time as soon as possible.

We expect the company to continue work to improve the data completeness and accuracy for the storm overflow data sets.

Number of spills

The number of spills is calculated using the block counting methodology⁴. The spill data from Hafren Dyfrdwy's 49 permitted storm overflows, on the number of spills, tells us:

- 10% (5) had 0 spills
- 12% (6) spilled between 1 and 9 times
- 41% (20) spilled between 10 and 39 times
- 31% (15) spilled between 40 and 99 times
- 6% (3) spilled between 100 and 300 times
- 0 spilled over 300 times

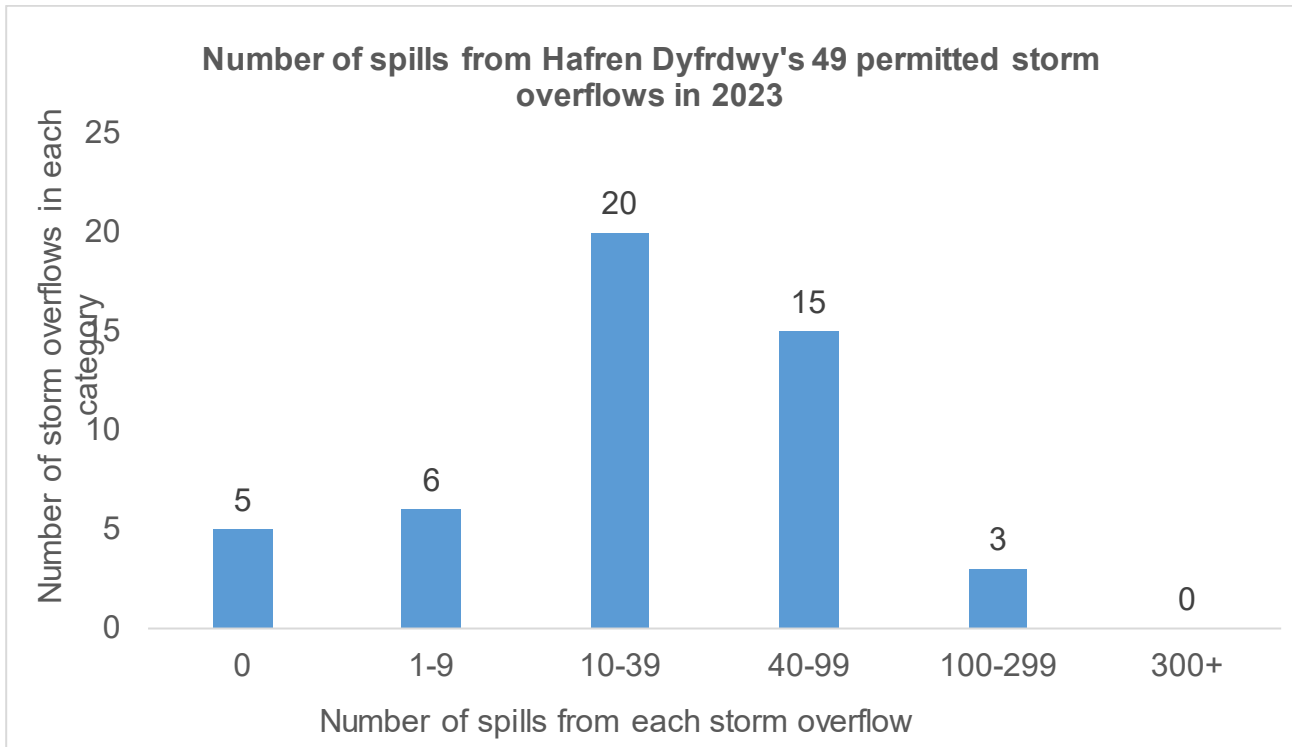
The graph below displays this data.

⁴ The block counting methodology used to count spills from storm overflows is the 12/24 counting method:

1. Start counting when the first discharge occurs.
2. Any discharge (or discharges) in the first 12-hour block are counted as one spill.
3. Any discharge (or discharges) in the next, and subsequent 24-hour blocks, are each counted as one additional spill per block.
4. Continue counting until there's a 24-hour block with no discharge.

For the next discharge after the 24-hour block with no discharge, you begin again with the 12-hour and 24-hour block spill counting sequence.

NRW and the Environment Agency use this same approach for consistency across water companies.

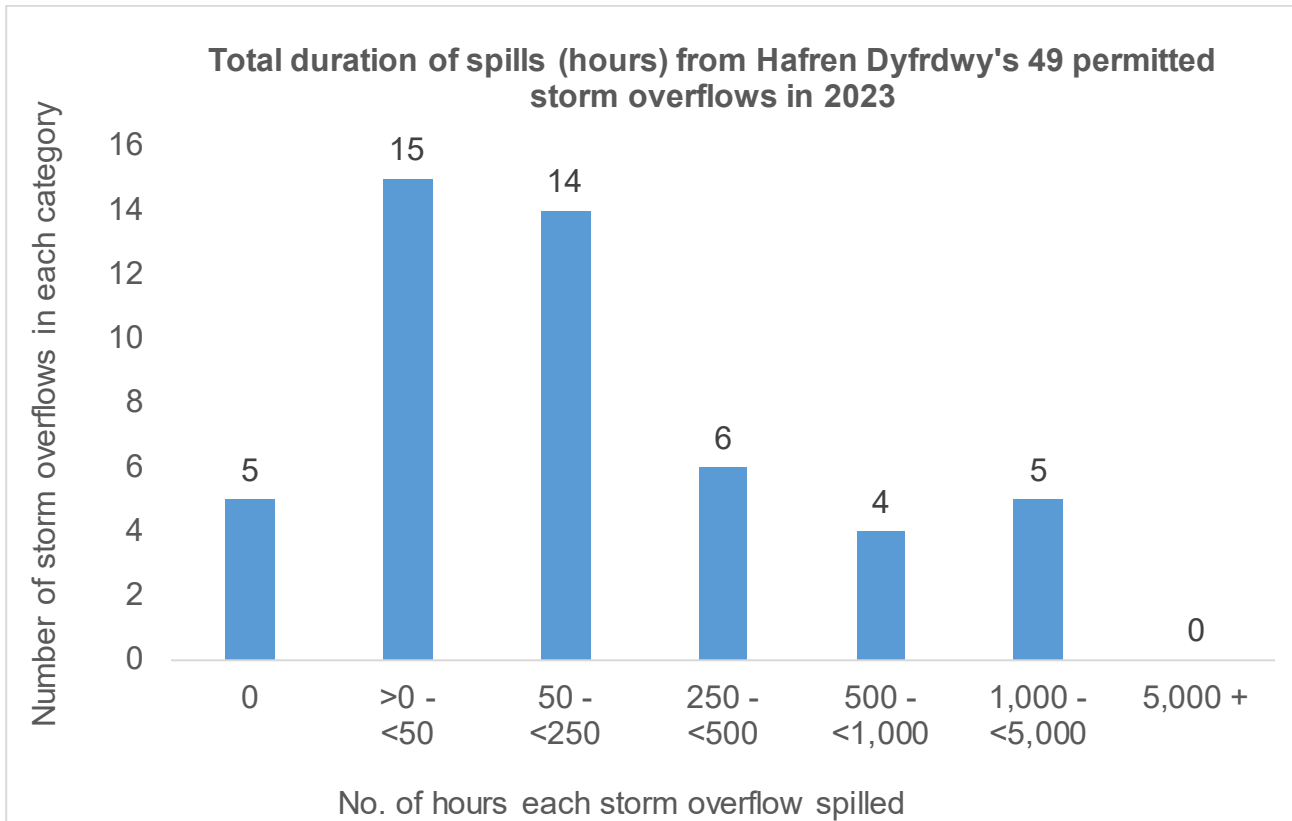


Duration of spills

The spill data from Hafren Dyfrdwy's 49 permitted storm overflows, on the duration of spills, tells us:

- 10% (5) had 0 hours of spills
- 31% (15) spilled for more than 0 but less than 50 hours
- 29% (14) spilled for at least 50 hours but less than 250 hours
- 12% (6) spilled for at least 250 hours but less than 500 hours
- 8% (4) spilled for at least 500 or hours but less than 1,000 hours
- 10% (5) spilled for at least 1,000 or hours but less than 5,000 hours
- 0 spilled for over 5,000 hours

The graph below displays this data.



More information

We continue our commitment to working with water companies and partners as part of the better River Quality taskforce. As part of our actions we have provided a detailed report of storm overflows alongside this report. You will be able to find it on our [Water Reports webpage](#) from 23 July 2024. For an overview of storm overflows, please read our [Storm Overflows webpage](#).

Water resources

Water resources licence compliance

In 2023 we carried out seven compliance assessment of Hafren Dyfrdwy water resources licences; four were assessed as compliant with no breaches of licence identified, but three were found to be non-compliant (two Category 3 non-compliances and one Category 4 non-compliance).

Drought planning & Water Resources Management Plans

Water companies have a duty to maintain water supplies in their area, without damaging the environment or affecting the needs of other water users. There is a statutory requirement for water companies to prepare, maintain and publish Water Resources Management Plans (WRMPs) and Drought Plans. The latest draft WRMP was published and consulted on in 2022 and expected to be finalised in Autumn 2024. The

latest Drought Plan was published in summer 2020 and the next draft is expected to be consulted on later this year. The plans are published every five years. For the latest information on Hafren Dyfrdwy's WRMP and Drought Plan, please see their website:

- [Water Resources Management plan 2024 \(draft\)](#)
- [Drought Plan 2020-2025](#)

Please also have a look at our webpages for more information on these topics:

- [Water Resources Planning](#)
- [Drought](#)
- [Drought plan guidance](#)

Supply Demand Balance Index

The Supply Demand Balance index (SDBI) metric measures how the actual supply demand balance has performed compared to what is set out in a water company's WRMP. We expect companies to have a score of 100. Hafren Dyfrdwy's SDBI score for 2023/24 is 100.

Leakage and water use

Water companies submit a wide variety of data to us and Ofwat, which includes leakage rates and water use. The revised leakage rates and water use information for 2023/24 should soon be available at www.discoverwater.co.uk.

Other regulatory work

AMP National Environment Programme delivery

Hafren Dyfrdwy did not deliver any schemes in year 4 from their Asset Management Plan 7 (AMP7) National Environment Programme (NEP), as planned. We will continue to work with Hafren Dyfrdwy to ensure the rest of their AMP7 programme is delivered by 2025.

Enforcement (higher than a Warning)

In 2023 we took no enforcement action higher than a Warning against Hafren Dyfrdwy.

Waste permit compliance

Water companies operate a variety of waste activities ranging from biowaste treatment, landfill, biogas combustion, sludge incineration and transfer stations. For permitted activities we assess compliance against permit conditions and score any non-compliances.

We did not carry out any compliance assessments in 2023. We target compliance based on operator performance and risk.

In 2023, there were no pollution incidents from waste activities Hafren Dyfrdwy operate.

Sludge

Hafren Dyfrdwy produce sludge in Wales. However, they are not responsible for any sludge use activities. Therefore their sludge use is reported through Dŵr Cymru's performance report and there is no performance requirement for sludge use/disposal for Hafren Dyfrdwy.

Reservoir Safety

Hafren Dyfrdwy manages 15 large, raised reservoirs in Wales, 13 of which are designated as high-risk reservoirs. We designate as a high-risk reservoir if we think human life could be endangered in the event the dam fails, causing an uncontrolled release of water.

We recorded full compliance with the construction, inspection, supervision, maintenance and record keeping duties imposed by the Reservoirs Act 1975.

We are informed that Hafren Dyfrdwy has a corporate commitment to its Board for maintaining this level of compliance. Hafren Dyfrdwy shares its own annual Dams and Reservoirs Annual Review with us as a matter of transparency and diligence which we welcome.

Since 2016, an amended Reservoirs Act and new regulations mean that more reservoirs have come into regulation and are being designated by us. Hafren Dyfrdwy (and Severn Trent) maintains a significant portfolio which includes reservoirs over 100 years old. We expect reservoir engineers to assess and apply modern standards to the older structures which inevitably results in additional, mandatory work and places additional burdens on the water companies to maintain them.

Operator Monitoring Assessment (OMA)

NRW carried out an OMA audit on 9th February 2024.

We carry out these audits of operators' self-monitoring arrangements to check that WaSCs are performing the required monitoring to the monitoring standards in our permits and via our Monitoring Certification Scheme (MCERTS). The Operator Monitoring Assessment (OMA) is the systematic tool that we use to carry out these audits in order to highlight areas for improvement and promote best practice.

Of the areas assessed, Hafren Dyfrdwy achieved either Good or Excellent in all areas. A number of actions were raised, to be completed prior to the next OMA audit.

Performance expectations for 2024

In 2024 we expect Hafren Dyfrdwy to:

- continue good performance on serious pollution incidents with zero serious pollution incidents;
- maintain an SDBI score of 100;
- continue to achieve 100% compliance with water discharge numeric limits;
- continue to deliver AMP improvement schemes to deadline.

And focus in the following areas to improve performance:

- reduce pollution incident numbers, aiming for zero incidents;
- achieve 100% self-reporting of pollution incidents;
- aim to achieve 100% descriptive condition compliance at STWs and WTWs, focusing on no flow evidence;
- reduce the impact of storm overflows by delivering their actions in the storm overflow roadmap action plans.