Compliance Assessment Report CAR_NRW0053330

Permit being assessed: BB3891CG.

For: Cog Moors Wastewater Treatment Works, **held by:** DWR CYMRU CYFYNGEDIG

At: Green Lane, Dinas Powys, CF64 2TR.

Type of assessment: Site Inspection,

Reason: Routine.

On: 08/10/2026 between 13:00 and 14:30.

Parts of permit assessed: Site .

NRW Lead Officer: Lewis Evans.

Report sent to: AAD Operational Manager, AAD Operational Manager, on 22/10/2026.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR1A - Installations - Management - General Management	Assessed (A)	

Result types are explained in more detail in the 'Important Information' section below.

Total non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

No action required.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

Dwr Cymru Welsh Water - Cog Moors Site Visit

On the 8th of October 2026, Officer Evans visited DCWW's Cog Moors site. The purpose of the site visit was to discuss the recent schedule 5 notifications the operator had submitted to Natural Resources Wales (NRW).

Issues had arisen from the AD process, specifically at the sludge distribution manifolds which feed the four digestors on site.

The operator discussed on the day that, following consultation with the Original Equipment Manufacturer (Cambi), investigations are ongoing into the potential for the Sludge Distribution Manifold (SDM) to be allowing a higher sludge feed rate to individual digesters than intended. To support this work, the operator has also engaged with another operator (Severn Trent Water) and undertaken a visit to their site in Finham, where a comparable SDM arrangement is in operation and where overfeeding issues have not been observed to the same extent. This shows good practice and learning to try and figure out what the issues may be at Cog Moors.

Information and advice gathered from both the OEM and Severn Trent Water have informed a series of positive corrective actions.

These include;

- The cleaning and scouring of Coolers C and D, which resulted in the removal of approximately one tonne of non-organic material, with similar works on Coolers A and B scheduled for November. The operator reports that these activities have improved system balance and reduced pressure associated with digester feed rates.

- In addition, the digester feed flowmeters on Digesters A and B have been replaced and repositioned in accordance with Cambi's recommendations to improve measurement accuracy.

- Flowmeters have also been installed on Digesters C and D to provide more accurate feed monitoring and operational control.

The operator provided an update on the measures implemented to reduce the likelihood and impact of digester foaming events. New automated digester feed inhibits have been installed and tested on all digesters. Each digester is now fitted with a high-level detection system that automatically inhibits sludge feed when activated, with the operator reporting that the system has been successfully tested and is intended to prevent foam expansion events. The operator also advised that the foam suppression system valves have been transferred onto a dedicated power supply, separate from the wider digester systems, including feed pumps, mixers and instrumentation. This modification is intended to improve the reliability of the foam suppression system during power fluctuations and reduce the risk of process disruptions associated with electrical failures.

The operator further advised that the digester restart procedure has been revised and

automated following power cuts or brownout events. The updated procedure is designed to facilitate a more controlled restart of the digesters and prevent rapid volume expansion caused by a sudden increase in biological activity. The revised procedure has reportedly been dynamically tested and proven successful. In addition, a new automated feed inhibit linked to potable water storage levels has been implemented. The system prevents digester feeding where potable water reserves fall below predefined levels, ensuring sufficient water remains available to operate the foam suppression system if required.

During discussions, the operator explained that additional anti-foaming measures have been introduced to enhance operational response times. Two level probes are installed within each digester to provide early warning of rising foam levels. The upper probe, positioned approximately 900 mm below the digester roof, is configured to generate an alarm condition, while the lower probe, positioned approximately 700 mm below the roof, automatically initiates foam suppression measures. The operator advised that the previous alarm level was set at approximately 750 mm below the roof. Increasing the alarm trigger point by 150 mm provides earlier warning of developing foam conditions and additional time for operational staff to implement mitigation measures before foam reaches critical levels.

The operator also advised that a new circuit breaker with improved load-handling capability has been installed to reduce the risk of electrical faults and associated power interruptions affecting the digestion process. These measures, together with the revised restart procedures and enhanced foam detection systems, are intended to improve process resilience and reduce the likelihood of future foaming incidents.

The operator outlined a number of further improvements that are planned to reduce the likelihood of future foaming incidents and environmental breaches. These include the installation of service water flow meters to enable accurate monitoring and measurement of water used within the foam suppression system. Enhanced in-house training will also be delivered to operational staff to improve understanding of digester operation, foaming mechanisms, and appropriate response procedures. In addition, all digester feed control valves are scheduled to be replaced with "V"-notch style valves following recommendations from Cambi and observations made during the operator's visit to the Finham wastewater treatment works. The operator advised that the new valve design is expected to provide improved flow control and more consistent digester feeding. The feasibility of installing uninterruptible power supply (UPS) systems for the foam suppression system is also being evaluated to improve resilience during power interruptions. Finally, the operator intends to increase the length of the roof-space level probes to provide earlier detection of rising foam levels, allowing additional time for automated and manual intervention measures to be implemented before critical foam levels are reached.

Site Walkover

Following the completion of discussions within the site office, a site walkover inspection was undertaken. The inspection focused primarily on the Solids Dosing Module (SDM) and the anaerobic digestion (AD) plant digesters.

During the walkover, the operator identified the current location of the flow meter and discussed proposals for its potential relocation as part of the ongoing improvements being considered for the site. The purpose of these changes, as explained by the operator, is to

improve the monitoring and measurement of process water used within the facility.

The inspection then followed the digestate transfer route from the SDM towards the digesters. Along this route, observations were made of the relevant infrastructure and process equipment. At the digesters, the operator demonstrated the limpet box situated at the top of the digester vessel and provided an explanation of its function during site operations. The operator also outlined the procedures followed when Schedule 5 notifications are submitted to NRW, including the actions taken on site following the identification and reporting of an incident.

Once the site walkover had been completed, all parties returned to the site office where a final debrief was held. This provided an opportunity to summarise the matters discussed during the visit and to confirm the actions and commitments arising from the meeting.

Overall, the site was observed to be in a good state of housekeeping, with operational areas appearing tidy and well maintained. No significant or abnormal odours were detected during the inspection. Based on the observations made, there were no immediate environmental concerns identified at the time of the visit.

The operator confirmed that they would continue to liaise with NRW regarding the progress of the proposed modifications to the SDM and the installation and positioning of flow monitoring equipment. NRW requested that updates on the implementation of these improvements be provided as they become available.

END.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action required for the permit condition assessed to avoid non-compliance. No non-compliance scored at this time
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores
The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

If your assessment result in Section 1 is suspended, what does this mean?
In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry compliance criteria (used in section 1 and 2):

1. Management
- IR1A – General management
- IR1B – Finance (only applicable to Landfill)
- IR1C – Energy efficiency
- IR1D - Efficient use of raw materials
- IR1E - Avoidance, recovery and disposal of wastes produced by the activities
- IR1F - Multiple operator installations

2. Operations
- IR2A – Permitted activities
- IR2B – The site
- IR2C – Operating techniques
- IR2D – Technical requirements
- IR2E – Improvement programme
- IR2F – Pre-operational conditions
- IR2G – Landfill engineering (only applicable to Landfill)
- IR2H – Waste acceptance (only applicable to Landfill)
- IR2I – Leachate levels (only applicable to Landfill)
- IR2J – Closure and aftercare (only applicable to Landfill)
- IR2K – Landfill gas management (only applicable to Landfill)

3. Emission and Monitoring
- IR3A(1) – Emissions to water
- IR3A(2) – Emissions to air
- IR3A(3) – Emissions to land
- IR3B – Emissions of substances not controlled by emission limits
- IR3C – Odour
- IR3D – Noise and vibration
- IR3E – Monitoring
- IR3F – Pests
- IR3G – Air quality management plans
- IR3H – Monitoring for the purposes of the Industrial Emissions Directive (this heading includes Large Combustion Plants)
- IR3I – Fire

4. Information
- IR4A – Records
- IR4B – Reporting
- IR4C – Notification

Enforcement response
Any non-compliance with a permit condition is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice
You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line
If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within twenty working days to let you know if we agree to your request.

Disputing the Content of this Compliance Assessment Report Form
If you disagree with the content of this Compliance Assessment Report form, you should submit your concerns, in writing, to the regulating officer who issued it within **15 working days** of its issue. This will be treated as a **Stage 1 review**.

If you are not satisfied with the outcome of the stage 1 review, you may request a **Stage 2 appeal**. This request must be submitted **within 21 working days** of receiving the response from the stage 1 review.

Further details on our review and appeal process are available at: Natural Resources Wales / Appeal a regulatory decision from Natural Resources Wales

Concerns Not Related to the Content of this Compliance Assessment Report Form
If your concerns do not relate to the content of the Compliance Assessment Report form, you should first attempt to resolve the issue with the regulating officer or their line manager.

If the issue remains unresolved, please contact our **Customer Contact Team**:

- **Telephone**: 0300 065 3000 (Monday to Friday, 09:00–17:00)
- **Email**: enquiries@naturalresourceswales.gov.uk

They will provide details on how to escalate your concerns through our **Complaints and Commendations procedure**.

If you are dissatisfied with our response, you may contact the **Public Services Ombudsman for Wales**:

- **Telephone**: 0300 790 0203
- **Email**: ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.