

Compliance Assessment Report CAR_NRW0052651

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: Other,

Reason: Other.

On: 12/08/2026.

Parts of permit assessed: Schedule 5 Notification.

NRW Lead Officer: Lewis Evans.

Report sent to: Site Manager, Site Manager, on 12/08/2026.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR3B - Installations - Emissions and monitoring - Emissions of substances not controlled by emission limits	C3 Minor	3.2.1

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

Total non-compliances recorded	Total non-compliance score
1	4

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?

Criteria	Action needed	Complete by
IR3B	Upgrade MCB on site to prevent tripping.	Already completed

Compliance criteria codes are listed in the 'Important information' section below.

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.

You are non-compliant with your permit.

At this time, we are issuing you with a warning for the non-compliance recorded above. Warnings may influence future enforcement response for continued or further non-compliance.

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

Dŵr Cymru Welsh Water – Cog Moors Wastewater Treatment works - Schedule 5 Notification

Permit Number: EPR-BB3891CG

Permit Holder: Dŵr Cymru Cyfyngedig

Schedule 5 Notification of incident occurring 18th May 2026

On the 18th of May 2026, a release of biogas occurred from Digester B, with gas being discharged to atmosphere via the foam mitigation system located at the top of the digester. The substance released was biogas comprising approximately 60% methane and 40% carbon dioxide, with an estimated release volume of around 2,000 m³. The release was short-term and dispersed directly to air, with no known impacts to land, surface water, groundwater, local habitats, or human health reported at the time of the incident. There were no associated spillages of digestate or process liquors, and no off-site effects have been identified.

Upon identification of the incident, feed to the digester was immediately stopped and the digester foam trap was bypassed to re-establish the gas seal and prevent further emissions. A full investigation will be completed prior to submission of the Part B report. Initial findings indicate that gas was released through the foam box safety system. At the time of the incident, the foam suppression system had been operating as designed, spraying water into the digester in response to elevated foam levels. However, failure of a miniature circuit breaker (MCB) within the control section of MCC4 caused the foam suppression system to stop operating, resulting in the gas seal being compromised and allowing biogas to escape to atmosphere.

Following the event, DCWW investigated further into the biogas release. The investigation identified that the incident occurred during a significant foam event within Digester B. The foam suppression system responded as designed to elevated foam levels by activating a number of solenoid-operated spray nozzles intended to reduce foam accumulation and maintain safe operation of the digester. During the original design of the control system, the miniature circuit breaker (MCB) protecting the control circuit was selected with a rating marginally above the normal operating load, ensuring that the circuit would trip under fault conditions and provide appropriate electrical protection. However, under the abnormal conditions associated with this foam event, a larger than normal number of solenoids were energised simultaneously, creating a higher electrical demand than the control circuit would typically experience.

As a result, the MCB tripped, not because of an electrical fault, but because the current draw exceeded the capacity of the installed device. The trip isolated the control section of the electrical panel within MCC4, causing critical process equipment, including the digester mixing pumps, to stop operating. With mixing suspended, process conditions within the digester changed, allowing foam levels to increase further. Following attendance by site personnel, the MCB was reset to restore operation of

the affected equipment. The restart of the mixing system disturbed the accumulated foam layer, which resulted in a further significant foam event. This subsequently compromised the gas seal within the foam box safety system and allowed biogas to escape to atmosphere through the safety relief arrangement. The investigation concluded that the foam suppression system itself functioned correctly and was responding appropriately to process conditions prior to the MCB trip. The underlying cause was the inadequate rating of the MCB for the peak demand placed upon the control circuit during a severe foam event.

To prevent a recurrence, an immediate review of the electrical protection arrangement was undertaken. The existing C2-rated MCB was replaced on the day of the incident with a higher-rated C6 MCB, enabling the control circuit to accommodate the increased electrical load associated with the simultaneous operation of multiple solenoids during foam suppression events while continuing to provide suitable circuit protection. This modification is intended to prevent nuisance tripping of the control circuit under foreseeable operating conditions and thereby maintain operation of the foam suppression system and associated mixing equipment. The effectiveness of this corrective action will continue to be monitored, and any additional findings, recommendations, or longer-term improvements identified through the ongoing investigation will be detailed within the Part B report.

Non-Compliance

The fugitive emission of biogas is a breach of permit condition 3.2.1 which states:

“Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.”

The amount of biogas lost to atmosphere has a significant impact on the environment due to its high GWP and therefore a Category 3 non-compliance has been scored against permit condition 3.2.1.

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.