

Compliance Assessment Report CAR_NRW0052649

Permit being assessed: FP3232KG.

For: Cardiff East Wastewater Treatment Works CHP Facility, **held by:** Dwr Cymru Cyfyngedig

At: Dwr Cymru Welsh Water, Tide Fields Road, Rover Way, Cardiff, Cardiff, CF24 2RX.

Type of assessment: Other,

Reason: Routine.

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	Improvements made to enhance operational resilience.	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 – Cardiff East Wastewater Treatment Works - Schedule 5 Notification**

Permit Number: EPR-FP3232KG

Permit Holder: Dŵr Cymru Cyfyngedig.

Schedule 5 Notification – Biogas Release

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On the 28th of April 2026, Dŵr Cymru Welsh Water (DCWW) notified (via email) Natural Resources Wales (NRW) through a schedule 5 notification of a release of gas from digester number 2 via the whessoe relief valve. On the 16th of July 2026 the Part B was submitted to NRW, via email.

Incident occurring 27th of April 2026

Dŵr Cymru Welsh Water (DCWW) submitted a Schedule 5 notification to Natural Resources Wales (NRW) regarding an incident that occurred on 27 April 2026 at the facility.

According to the information provided, during normal operational activities there was a simultaneous failure of both the Combined Heat and Power (CHP) engine and the surplus gas burner. These systems are the primary mechanisms for managing and utilising biogas generated through the anaerobic digestion process. As a result of both units being unavailable, biogas continued to be produced and accumulated within the site gas holder.

With no available route for gas utilisation or combustion, the gas holder approached its maximum storage capacity. In line with the facility's designed safety systems, excess biogas was subsequently released to atmosphere via the pressure relief valves (PRVs) to prevent over-pressurisation of the gas storage infrastructure and to maintain safe operating conditions.

Upon identifying the equipment failures and associated risk of continued gas generation, site personnel implemented corrective actions to minimise further emissions. Feed to the digester was stopped in order to reduce ongoing biogas production, and the gas holder fans were shut down as part of the site's operational response.

The release occurred between approximately 17:00 and 23:00 on 27 April 2026, giving an estimated duration of six hours. DCWW estimated that approximately 4,200 m³ of biogas was vented to atmosphere during this period. The released gas was reported to comprise approximately 60% methane (CH₄) and 40% carbon dioxide (CO₂), reflecting the typical composition of biogas produced by the

digestion process.

The incident was reported to NRW through the Schedule 5 notification process, with DCWW providing details of the equipment failures, the quantity and composition of gas released, the duration of the event, and the actions taken by site staff to control the situation and prevent further gas generation.

Part B – Additional Information

Cardiff experienced an unusual operational situation during March and April 2026 when two of the site's three steam boilers developed steam leaks within a short period of time. Boiler 3 suffered a steam leak on 27 March 2026, followed by Boiler 1 on 25 April 2026. In both cases, the boilers were immediately taken out of service to allow repairs to be undertaken safely. Draining the boilers for repair work activated the low-water interlock system, which consequently inhibited operation of the associated CHP units. During this period, only CHP 2, paired with Boiler 2, remained operational, with excess gas being managed by the flare system.

A further operational issue occurred on 27 April 2026 when the flare developed an ignition fault and failed to ignite. As gas holder levels subsequently reached 100% capacity and no alternative gas utilisation route was available, the Whessoe relief valves operated as designed to safely vent the excess gas. Contractors attended site on 28 April 2026 to investigate the fault and identified debris within the pilot light assembly of the waste gas burner. The obstruction was removed, restoring normal operation, and no further flare-related issues have been experienced since.

Following these events, several improvement measures have been implemented to enhance operational resilience and monitoring capability. On 7 May 2026, new pallets fitted with proximity switches were installed on the Whessoe valves to provide improved indication of valve operation. In addition, level instrumentation on both gas holders has been replaced to improve the reliability and accuracy of gas storage monitoring. The site's SCADA system has also been upgraded and now provides operators with a clear visual indication of flare operation.

Extensive repair works have since been completed on Boilers 1 and 3, and all three boilers are now fully operational and available for service.

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. for the exceedance occurring 27th of April 2026.

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.