

## Compliance Assessment Report CAR\_NRW0050280

**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:** 29/10/2025.

**Parts of permit assessed:** Emissions.

**NRW Lead Officer:** Lewis Evans.

**Report sent to:** Advanced Digestion Performance Manager, Advanced Digestion Performance Manager, on 06/01/2026.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C3 Minor	3.2.1
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	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
2	8

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
IR3A(2)	ACTION: Please provide a root cause summary of the breach and submit the part B when available.	31/03/2026
IR3A(2)	ACTION: Please provide results from the external contractor on the PRV valve.	31/03/2026

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.

**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

#### **Dŵr Cymru Welsh Water – Cardiff East Wastewater Treatment Works CHP Facility**

**Permit Number: EPR/FP3232KG**

#### **Schedule 5 Notifications of Biogas release**

On the 3<sup>rd</sup> of September and 29<sup>th</sup> of October 2025, Dŵr Cymru Welsh Water (DCWW) notified (via email) Natural Resources Wales (NRW) through a schedule 5 notification of a biogas release which occurred on site.

#### **Incident occurring 2<sup>nd</sup> of September 2025**

The first Schedule 5 notification received was due to the failure of surplus gas burner and combined heat and power engine (CHP) which meant that the gas holder filled up and excess biogas was vented via pressure relief valves (PRV) as per the safety design of the digestors, this occurred on both digester tanks on site.

The event occurred at approximately 16:00 on the 2<sup>nd</sup> of September 2025 and lasted until 23:00 on the same day. The operator noticed the event at around 18:00 on the 2<sup>nd</sup> of September 2025.

Approximately 5,400m<sup>3</sup> of biogas was released. The make-up of the biogas is approximately 60% methane and 40% carbon Dioxide.

To reduce the emissions getting worse, the operator reduced the feed into the digester to slow down reactions within. Due to the failure of surplus gas burner and combined heat and power engine (CHP) meant that the gas holder filled up and excess biogas was vented via pressure relief valves (PRV) as per safety system design.

No root cause has been identified from this event to date.

**ACTION: Please provide a root cause summary of the breach and submit the part B when available.**

#### **Incident occurring 29<sup>th</sup> of October 2025**

The second Schedule 5 notification received was due to the PRV leaking on the gas safety system on digester number 2 on site. The operator had a visual inspection and noted that a seal was not seated correctly in place. As a result of this approximately 18,000m<sup>3</sup> of biogas was vented out. The make-up of the biogas is approximately 60% methane and 40% carbon Dioxide. Once the PRV was checked it was isolated and operations continued on site utilising the other PRV on the gas safety system. A contractor was then appointed to come and fix the leaking PRV.

The operators investigation concluded that the sealing ring on the PRV became partially unseated following activation of the valve. The activation occurred as a result of a short-term power loss, which interrupted mixing within the digester. This interruption led to elevated internal pressure, triggering the PRV to operate. When the PRV ceased operation, it failed to close properly due to the sealing ring being displaced.

On 31 October 2025, the operator appointed 'Marches Biogas' to attend the site to inspect and reseal the sealing ring, after which the PRV was returned to service. An external contractor has been engaged to consult with the PRV manufacturer to determine whether a manufacturing defect contributed to the issue. Should a defect be confirmed, the PRV will be replaced.

The PRV was originally commissioned in September 2025 and underwent its annual service in October 2025 using manufacturer-supplied parts. Lessons learned from this incident will be documented and implemented across all AAD sites to prevent recurrence at other sites.

**ACTION: Please provide results from the external contractor on the PRV valve.**

### **Non-Compliances**

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 **two** Category 3 non-compliance has been scored against permit condition 3.21. for the two exceedances occurring 2<sup>nd</sup> September and 29<sup>th</sup> October.

**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 only relating to the activity assessment
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 – Emissions to water, air or 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.

### **What do I do if I disagree with the report or have a complaint?**

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 to 18:00), or email [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk) for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at [ask@ombudsman.wales](mailto: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.