

Compliance Assessment Report CAR_NRW0046178

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: Report/Data Review,

Reason: Routine.

On: 31/12/2024.

Parts of permit assessed: Annual Returns.

NRW Lead Officer: Lewis Evans.

Report sent to: Keith Harris, AD Performance Manager, on 06/02/2025.

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	3.1.2

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
IR3A(2)	Please ensure that the stack is re tested to show that the CO is below the permitted limits. Confirm with NRW when testing has been booked for by the 14th March 2025.	14/03/2025

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.

We are currently considering taking enforcement action against you for the non-compliance recorded above. We will contact you in due course.

4. Details of our assessment

Dŵr Cymru Welsh Water Cardiff East CHP

Permit Reference – FP3232KG

Annual Returns

-

Air Emissions

The operator submitted the annual returns on the 31st January 2025. Emission points A1, A3 were all below the permitted limits. However, the Carbon Monoxide limits were breached for A2. A9 (Flare) was not tested as the operational time was below the 10% threshold.

Emission Point	Parameter	Limit	Result
A1	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500mg/m ³	288.45mg/m ³
	Sulphur Dioxide	340mg/m ³	55.46 mg/m ³
	Carbon Monoxide	1100mg/m ³	739.04mg/m ³
A2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500mg/m ³	333.82mg/m ³
	Sulphur Dioxide	340mg/m ³	25.14mg/m ³
	Carbon Monoxide	1100mg/m ³	1193.96mg/m ³
A3	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500mg/m ³	407.77mg/m ³
	Carbon Monoxide	1100mg/m ³	1036.25mg/m ³
	Sulphur Dioxide	340mg/m ³	30.92mg/m ³

Given that the carbon monoxide result (1193.96mg/m³) had exceeded the permitted limit of 1100mg/m³, this is a breach of the following permit condition:

3.1.2 The limits given in schedule 3 shall not be exceeded.

As a result of the carbon monoxide breach a **Category 3 non-compliance** will be scored against the permit condition 3.1.2.

Action – Please ensure that the stack is re tested to show that the CO is below the permitted limits.

Confirm with NRW when testing has been booked for by the 14th March 2025.

Water usage

Water usage on site was 21,242.27m³/year.

Energy 1

The total energy usage on site in 2024 was 64,413MWh by a combination of Electricity and Natural Gas.

Performance 1

Parameter	Result
Power Output – Heat	14,789.68MWh
Power Output – Electricity	13,998.60MWh
Energy efficiency (MWh/m ³ biogas)	0.004
Electrical energy drawn from the grid (MWh)	19,766.67
Electrical energy exported to the grid (MWh)	1,189.7
Water Usage (m ³)	21,242.27
Water Generated	0
Energy Usage (MWh)	37,366
Generation of residues (tonnes)	10,979
Generation of wastewater (m ³)	130,148,944
Total raw material used (tonnes)	19,844
Operational time of waste gas burner (emergency flare) (% of operational time)	8.28%

Operator comments from the reporting forms: “2024 started with 1 of the engines un-operational, but with the other 2 working well and largely dealing with site throughput until April when another engine started to show ill effects of being near the end of its interim service cycle and the biogas

being untreated. During the delayed delivery phase of the CHP optimisation programme there were multiple enforced periods of downtime which were arranged to keep the strongest sets running and utilised to carry out servicing works. This meant very little flaring through the summer. The inlet works were completed middle of October meaning all biogas is chilled to remove moisture and filtered to remove siloxanes which has greatly assisted in minimising downtime and the engines have coped well with site throughput since. There are still commissioning works ongoing with regard to optimising CHP performance and heat recovery and we hope to see continued benefits from the investments made at Cardiff in 2025. Engines 1 & 3 continue to operate within permitted emission limit values, 2 tested outside these at the time of test which was communicated via schedule 5 part A submission which details actions taken and plan for rectification. The flare was not tested due to not reaching the de-minimis threshold”

Waste Returns

All waste returns were received and compliant.

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 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

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.