

Compliance Assessment Report CAR_NRW0045947

Permit being assessed: PP3139GB.

For: Hafod Quarry Landfill Site, **held by:** Enovert North Limited

At: Hafod Quarry Landfill Bangor Road, Johnstown, Wrexham, LL14 6ET.

Type of assessment: Audit,

Reason: Routine.

On: 12/11/2024 - 13/11/2024 between 10:00 and 16:00.

Parts of permit assessed: Site inspection.

NRW Lead Officer: Jamie Blythin, accompanied by Mostyn Wall, Susan Francis, Carter Shone.

Report sent to: Regional Manager, Regional Manager, on 12/02/2025.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR2K - Installations - Operations - Landfill gas management (only applicable to landfill)	C3 Minor	2.9.1(a)
IR1A - Installations - Management - General Management	C3 Minor	1.1.1
IR3B - Installations - Emissions and monitoring - Emissions of substances not controlled by emission limits	C3 Minor	3.2.1
IR2I - Installations - Operations - Leachate levels (only applicable to landfill)	C3 Minor	2.7.1

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

Total non-compliances recorded	Total non-compliance score
4	16

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
IR2K	See Actions 1-9 in CAR	31/01/2025
IR1A	See Actions 1-9 in CAR.	31/01/2025
IR3B	See Actions 1-9 in CAR.	31/01/2025
IR2I	See Actions 1-9 in CAR.	31/01/2025

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

A landfill gas audit was undertaken on the 12th and 13th of November 2024 by Mostyn Wall and Susan Francis at Hafod Landfill from NRW's Landfill Emissions Reduction Project (LERP) Team. The audit was attended by Natural Resources Wales (NRW) officers Jamie Blythin and Carter Shone. Present from Enovert was the Head of Landfill Gas and the Regional Manager.

The aims of the audit were to:

- Assess if the operator can collect and treat landfill gas generated at the site.
- Assess if the site is being operated and maintained to maximise gas collection efficiency and minimise fugitive landfill gas emissions.

This audit is part of NRW's Landfill Emission Reduction Project that aims to audit all major landfill gas sites in Wales. This Compliance Assessment Report (CAR) summaries the main findings of the Hafod Landfill LERP gas audit. An in-depth audit report is contained in a separate document and should be read in conjunction with this CAR.

During the site visit an audit of the gas infrastructure, gas compound, capping and gas field was undertaken by NRW officers.

Capping

The site's capping infrastructure was inspected during the two-day audit.

At the time of the audit approximately 65% of the site (71,663m²) was covered by temporary or permanent geosynthetic capping (see landfill status plan ref Haf323C). Approximately 35% of the site (38,060m²) does not benefit from temporary or permanent geosynthetic capping. This includes the cell where active tipping of waste is being carried out and 12% of the site (13,329m²) which is covered by 0.5m of clay soils (northern face of Cell 4 and western flank of Cell 5b).

Fugitive emissions of landfill gas were recorded in uncapped areas and areas that do not benefit from being capped by a geosynthetic liner (see associated LERP audit report for locations). There is also the potential for oxygen and rainwater to be drawn into the landfill in these areas of the site.

UK.Gov landfill guidance states:

"You must install a temporary cap where you:

- stop disposing of waste in part of the site*
- will not return disposal operations to that part of the site for more than 6 months".*

The areas of the site not part of active waste disposal operations in the next 6 months must be capped to a) control and capture landfill gas and b) reduce oxygen and rainwater ingress and leachate generation.

Following the audit, Enovert have provided NRW with plans to extend temporary capping by 8% across the site (8,860m²) (Appendix B of gas audit report). This a significant improvement to reduce uncapped areas of the landfill outside of the active tipping cell.

Temporary Capping

The northern flank and top of Cell 5a is capped with Geotextile/ Linear Low-Density Polyethylene (LLDPE) without any soil cover. During the audit, some holes and defects were identified in the capping. The holes and tears are a significant source of point source emissions of landfill gas (holes were found to have up-to 8.5% methane gas). Capping must be repaired where holes or defects are identified so that landfill gas with high levels of odorous hydrogen sulphide gas is collected.

The western flank of Cell 5a is covered with 0.5m of clay soils.

Landfill Gas infrastructure

Gas wells, pipes and leachate wells/towers were inspected during the audit. The Hafod

LERP landfill gas audit report details the defects / issues observed in detail. Common defects identified were:

- Wells with missing or a poor bentonite seal at the base of the well allowing the fugitive release of landfill gas via the well casing.
- Poor weld joins onto temporary capping.
- Suction at the compound and at the gas wells is very high, circa 100mbar.

Leachate wells

Leachate towers/wells were observed to have poor sealing to the capping layer with gaps within the boot seals and concrete joins. Concrete leachate towers casing were conduits for fugitive landfill gas emissions where landfill gas travels along the rigid concrete casing from depth.

Leachate

Leachate breakouts were observed on the northern flank of Cell 4 and from the base of Cell5b. This is an indication of high leachate levels or perched leachate within the waste mass. To effectively extract landfill gas, leachate must be removed.

Perimeter Gas

Perimeter gas at the southern boundary of the site recorded high levels of methane during the gas audit. This reading is consistent with the monitoring undertaken by the site.

Non-compliances

NRW has identified the following breaches of the environmental permit and non-compliance scores have been applied:

- Failure to collect landfill gas from uncapped areas of the site, breach of condition 2.9.1(a) (IR2K-Landfill gas management-C3)
- Failure to manage and maintain landfill gas infrastructure, breach of condition 1.1.1 (IR1A-General Management-C3)
- Fugitive emissions of landfill gas to air, breach of condition 3.2.1 (IR3B-Emissions of substances not controlled by emission limits-C3)

- Leachate levels above permitted limits, breach of condition 2.7.1 (IR2I-Leachate levels-C3)

Actions

- **Action 1:** Provide NRW with an action plan that addresses each of the recommendations raised in the LERP Landfill Gas Audit Report. For each recommendation, the operator needs to state how they intend to resolve each issue and provide a reasonable completion date. **Due 31/01/25.**
- **Action 2:** Provide data for all gas wells that have been dipped in the last 12 months, pump out leachate and record volumes of liquid in wells. **Due 31/01/25.**
- **Action 3:** Investigate the high negative pressures in the gas wells across the site and provide NRW with the outcome of your investigation in writing. **Due 31/01/25.**
- **Action 4:** Repair holes identified in the capping across the site. **Due 31/01/25.**
- **Action 5:** Repair all damaged gas infrastructure as identified by the NRW LERP audit and from the annual FID surveys. **Due 28/02/25.**
- **Action 6:** Implement suitable measures to reduce landfill gas emissions around leachate wells and towers. Provide NRW with a written update once these have been completed. **Due 31/01/25.**
- **Action 7:** Provide NRW with a plan and a timeline for the installation of temporary capping on areas of the landfill that won't be tipped on in the next 6 months. **Due 24/01/25.**
- **Action 8:** Check all wells and gas infrastructure in southern perimeter are working effectively to stop gas migrating off site. Provide NRW with a written update once this has been completed. **Due 31/01/25.**

- **Action 9:** Provide NRW with an updated Surface Water Management Plan. **Due 28/02/25.**

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.