

Compliance Assessment Report CAR_NRW0045303

Permit being assessed: BU77661C.

For: Bryn Posteg Landfill , **held by:** Sundorne Products (Llanidloes) Ltd

At: Bryn Posteg Landfill Site Tylwch Road , Llanidloes, Powys, SY18 6JJ.

Type of assessment: Audit,

Reason: Routine.

On: 24/04/2024 - 25/04/2024 between 09:00 and 17:00.

Parts of permit assessed: 2.10 Landfill gas management.

NRW Lead Officer: Jamie Blythin, accompanied by Paul Challender, Mostyn Wall, Susan Francis.

Report sent to: Site Manager, Site Manager, on 11/10/2024.

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)	Action only (X)	
IR2K - Installations - Operations - Landfill gas management (only applicable to landfill)	C3 Minor	2.10.1 (a)
IR2K - Installations - Operations - Landfill gas management (only applicable to landfill)	Action only (X)	
IR2K - Installations - Operations - Landfill gas management (only applicable to landfill)	C3 Minor	1.1.1
IR1A - Installations - Management - General Management	Action only (X)	
IR2I - Installations - Operations - Leachate levels (only applicable to landfill)	Action only (X)	
IR2G - Installations - Operations - Landfill engineering (only applicable to landfill)	Action only (X)	
IR2C - Installations - Operations - Operating techniques	C3 Minor	2.3.1 (a)

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	3.1.1

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	Ensure the site is operated following the site's gas management plan.	08/11/2024
IR2K	Provide NRW with an action plan that addresses each of the recommendations raised in the LERP Landfill Gas Audit Report (including those that refer to recommendations outlined in the Gas migration report 5695-CAU-XX-XX-RP-V-0302, written by Caulmert). For each recommendation, the operator needs to state how they intend to resolve each issue and provide a reasonable completion date	08/11/2024
IR2K	Following the submission of the action plan (see Action 2), provide NRW with a written progress update for each recommendation on the last day of each month until all recommendations have been completed.	08/11/2024
IR2K	Update the EMS to ensure compliance with the permit requirements. Staff must be trained on gas management, inspection and maintenance of the gas infrastructure.	06/12/2024
IR1A	Provide NRW with an up to date staff organisational chart for the site with clearly defined roles and responsibilities. This should include all aspects of landfill gas and leachate management.	08/11/2024
IR2I	Wells must be dipped to find the leachate level or areas of perched leachate within the gas field. Provide results to NRW	06/12/2024
IR2G	Repair holes identified in the capping across the site. See Action 2	06/03/2025
IR2C	Repair all damaged gas infrastructure as identified by the NRW LERP audit and from the annual FID surveys.	06/03/2025
IR3B	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	08/11/2024

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

A landfill gas audit was undertaken on the 24th and 25th April 2024 by Mostyn Wall and Susan Francis. The audit was attended by NRW officers Jamie Blythin and Paul Challender on the 24th of April.

The objective of the audit was to assess whether the landfill gas collection system installed at the site is :

- Capable of collecting and treating the gas generated at the site
- Being operated and maintained to maximise gas collection efficiency and minimise fugitive landfill gas emissions.
- Treating the gas in a manner that minimises point source emissions.

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

During the site visit an audit of the gas infrastructure, capping and gas field was undertaken by NRW officers. During the site visit it was noted that a new gas utilization engine was being installed. A future audit of the gas compound will be undertaken.

Capping

The site's capping infrastructure was inspected during the two-day visit. A large area of the landfill in the southwestern corner remains uncapped, phases 9C and 9D. This area includes the large tipping face. The extent of the uncapped area can be seen in plan 3428-BP-SRA-5-03 P2 and makes up approximately ¼ of the landfill area. Significant fugitive emissions were recorded in the uncapped area, bubbling landfill was observed from flooded areas of the uncapped area (10,000ppm) and from cracks in the uncapped areas surface (19,000ppm).

The uncapped area is a significant source of landfill gas emissions from the site and a potential way for oxygen to enter the landfill gas field.

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 large southern area away from the tipping face has been left untouched for several years and must be capped to a) control and capture landfill gas and b) reduce rainwater ingress and leachate generation.

Eastern Slope

The eastern slope of the landfill (phase 9B and 9A, plan 3428-BP-SRA-5-03 P2) is capped with a Geotextile/LLDPE without any soil cover. During the audit and from reviewing previous annual FID surveys, numerous holes and defects have been found in the capping. The holes and tears are significant point source emissions of landfill gas (holes were found to have up-to 15% methane gas). Capping must be repaired where holes or defects are identified to ensure landfill gas is collected.

Landfill Gas infrastructure

Gas wells, pipes and leachate wells/towers were inspected during the two-day visit. Numerous defects were observed and indicate poor operating techniques and maintenance of the gas infrastructure. The Bryn Posteg LERP landfill gas audit report details the defects in more detail. Common defects observed 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.
- Two open wells were found to be detached from the gas pipe network. Leaking raw 47% methane landfill gas into the atmosphere.
- Pumps and air vents were found to be leaking landfill gas into the atmosphere.
- Gas valves were found to be leaking or poorly connected to the flexi-hose.
- Leachate / condensate build up in gas pipe work due to poor falls and depressions in the pipework.
- Wells had poor boot seals where landfill gas was being emitted.
- Repairs on the gas wells around boot seals and wellheads completed using expanded foam and were all found to be leaking landfill gas on inspection.

The use of expanded foam is not best practice in repairing landfill gas infrastructure as the expanded foam is quickly degraded by the weather and UV exposure making it ineffective.

Leachate wells

Leachate towers/wells were observed to have poor sealing to the capping layer with boot seals and concrete joins repaired with expanding foam. Concrete leachate towers had ill-fitting well head lids and casing forming emission points for landfill gas. Leachate wells in the tipping face had exposed perforations allowing direct emissions of landfill gas into the atmosphere.

Overall, the condition of the gas wells, leachate wells and gas infrastructure observed was poor. Maintenance and repair have been lacking resulting in many defects. Significant work is required to repair the wells, to collect gas and to stop fugitive emissions. It is also clear from wells with disconnected pipes leaking raw landfill gas and wells with exposed perforations that there is a management failure to identify, notify and repair gas infrastructure defects. The gas wells and infrastructure have not been maintained in

accordance with the site's gas management plan.

Leachate

Leachate was observed to be breaching out of the site on the Northwestern, Eastern and Southern slope. This is an indication of high leachate levels or perched leachate within the waste mass. To effectively extract landfill gas leachate must be removed. One manifold was flooded with either surface rainwater or leachate.

Management

The root cause of many of the issues identified during the audit including the poor state of the gas infrastructure, damaged or absent capping and issues with leachate management is considered to be a failure to follow, and update where necessary, the site's Environmental Management System (EMS) and Site Operational Procedures (SOPs) with respect to permit condition 1.1.1.

Non-compliances

A minor non-compliance CC3 is being applied for a failure to collect landfill gas from large, uncapped areas of the site in respect of permit condition 2.10.1 (a). Failure to comply with an environmental permit is an offence under regulation 38(2) of the Environmental Permitting Regulations (consolidated) 2016.

A minor non-compliance CC3 is being applied for a failure to manage and maintain landfill gas infrastructure in respect of Permit condition 1.1.1. Failure to comply with an environmental permit is an offence under regulation 38(2) of the Environmental Permitting Regulations (consolidated) 2016.

A minor non-compliance CC3 is being applied for a failure to operate the landfill using the agreed operating techniques, in respect of Permit condition 2.3.1 (a). Failure to comply with an environmental permit is an offence under regulation 38(2) of the Environmental Permitting Regulations (consolidated) 2016.

A minor non-compliance CC3 is being applied for fugitive emissions of landfill gas to air in respect of permit condition 3.1.1. Failure to comply with an environmental permit is an offence under regulation 38(2) of the Environmental Permitting Regulations (consolidated) 2016.

Actions

- **Action1:** Ensure the site is operated following the site's gas management plan.
- **Action2:** Provide NRW with an action plan that addresses each of the recommendations raised in the LERP Landfill Gas Audit Report (including those that refer to recommendations outlined in the Gas migration report 5695-CAU-XX-XX-RP-V-0302, written by Caulmert). For each recommendation, the operator needs to state how they intend to resolve each issue and provide a reasonable completion date. Due 08/11/24.
- **Action 3:** Following the submission of the action plan (see Action 2), provide NRW with a written progress update for each recommendation on the last day of each month until all recommendations have been completed.
- **Action 4:** Update the EMS to ensure compliance with the permit requirements. Staff must be trained on gas management, inspection and maintenance of the gas infrastructure. Due 06/12/24

- **Action5:** Provide NRW with an up to date staff organisational chart for the site with clearly defined roles and responsibilities. This should include all aspects of landfill gas and leachate management. Due 08/11/24
- **Action 6 :** Wells must be dipped to find the leachate level or areas of perched leachate within the gas field. Provide results to NRW. Due 06/12/24.
- **Action 7 :** Repair holes identified in the capping across the site. See Action 2. Due 06/03/25
- **Action 8:** Repair all damaged gas infrastructure as identified by the NRW LERP audit and from the annual FID surveys. See Action2. Due 06/03/25
- **Action9:** 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. . See Action 2. Due 08/11/24

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.