

Compliance Assessment Report

Report ID:
CAR_NRW0033825

This form will report compliance with your permit as determined by an NRW officer

| | | | | | |
|------------------------------|----------------------------------|-------------|------------|-----|-----|
| Site | Hafod Quarry Landfill | Permit Ref | PP3139GB | | |
| Operator/Permit holder | Cory Environmental (Central) Ltd | | | | |
| Regime | Installations | | | | |
| Date of assessment | 20/08/2018 | Time in | N/A | Out | N/A |
| Assessment type | Check Monitoring/Sampling | | | | |
| Parts of the permit assessed | 3.6.1 | | | | |
| Lead officer's name | McClymont, James | | | | |
| Accompanied by | | | | | |
| Recipient's name/position | Ian Craven/ Area Manager | Date issued | 20/08/2018 | | |

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS Scores can be consolidated or suspended where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

| Permit conditions and compliance summary | CCS Category | Condition(s) breached |
|--|--------------|-----------------------|
| G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment | C3 | 3.6.1 (d) |

KEY: See Section 5 for breach categories, suspended scores will be indicated as such.
A = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only,
O = Ongoing non-compliance, not scored.

| | | | |
|-----------------------------|---|--|---|
| Number of breaches recorded | 1 | Total compliance score (see section 5 for scoring scheme) | 4 |
|-----------------------------|---|--|---|

If the Number of breaches recorded is greater than zero, please see Section 3 for our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- The part(s) of the permit that were assessed (eg. Maintenance, training, combustion plant, etc)
- Where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- Any non-compliances identified
- Any non-compliances with directly applicable legislation
- Details of any multiple non-compliances
- Information on the compliance score accrued inc.
- Details of advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

This CAR form relates to the responses received from the Operator to actions listed in CAR_NRW33172, regarding the Environmental Monitoring Review (January - December 2017).

The 7 Actions from CAR_NRW33172 are listed below, along with our comments:

Action 1

Provide NRW with a drawing showing contour lines and elevations, by 31/05/2018. Also provide NRW with a copy of drawing reference 2425/2/013 showing approved pre-settlement levels, by 31/05/2018.

This information has been received.

Action 2

Provide NRW with the information required by (h) and (i) above, by 31/05/2018.

This information has been received.

Action 3

This apparent increasing trend in methane concentrations at these locations should be assessed during the review of quarterly data during 2018.

It is noted in monitoring data submitted for Q1 and Q2 2018, that methane concentrations in boreholes GB12 and HA10 have generally shown a decreasing trend.

Action 4

Ensure that, in future, all gas wells and all other items of in-waste infrastructure are surveyed as part of the FID walkover.

Compliance with this action will be assessed upon receipt of the next set of results.

Action 5

Confirm when the last quantitative flux box survey was undertaken at the site, by 31/05/2018.

You responded to this in your e-mail on the 3rd of August 2018, stating:

"In the 10 years that Cory and Enover have operated Hafod we have never done any flux box surveys. I have discussed the issue of flux box surveys with Phil Hopkins, our old Environmental Manager who does consultancy work for us and he had the following comments:

The flux box test can only measure the ground surface directly under the flux box, and the variability

of the ground surface means that in order to get enough coverage of a site that it would be truly representative, you would need many repeated tests. The rate of gas emissions through the capped surface is directly affected by soil moisture / saturation and atmospheric pressure, and as these are constantly changing variable, tests taken at different times (and therefore under different condition) cannot be directly compared. In addition, the principal route of escape of gases from a capped site (fugitive emissions) is via infrastructure that penetrates the capping layer - i.e. around gas wells and leachate monitoring wells. These are the very areas where a flux box cannot be used. In the absence of accepted, workable guidance, a decision was reached amongst most Operators that FID walkover surveys would be preferable. Whilst the absolute accuracy of emissions detected through a walkover survey will be less than a flux box, this is more than compensated for by the area of the site that can be covered in a single survey, and the ease by which high-risk areas of site can be targeted (i.e. around cap penetrating structures).

With this in mind we perhaps need to discuss and agree an approach moving forward that is accepted by NRW, what actually adds benefit, and what is also considered reasonable by ourselves".

It should be noted that there is accepted guidance for surface emissions monitoring, namely LFTGN07 'Guidance on monitoring landfill gas surface emissions' v2 2010. This second edition of LFTGN07 was the result of a collaborative review involving the Environment Agency, SEPA and representatives of the landfill gas industry forming a sub-group of the Environment Agency and Environmental Services Association Landfill Regulation Group. The document gives considered technical guidance and explains the regulatory framework behind the requirement for this monitoring. The information on the emissions of methane obtained through this surface monitoring is an integral part of demonstrating compliance with your EPR permit for the site, and Article 1 of the Landfill Directive.

Please see new Action 1 at the end of the comments section.

Action 6

Confirm whether this sampling was undertaken during 2017 and provide a copy of the monitoring report to NRW, by 31/05/2018.

We have reviewed the 'Compound Bulk and Trace' gas monitoring results, sampled on the 15th of February 2017, received by NRW on the 3rd of August 2018.

Table S4.7 in the Permit requires trace gases to be sampled at a representative location on an annual basis. This sampling should be undertaken in accordance with LFTGN04 'Guidance for monitoring trace components in landfill gas', Environment Agency, September 2004. It is concluded that this trace gas sampling has not been undertaken in accordance with the requirements of LFTGN04. In summary:

- Sampling and analysis of trace components must be carried out by MCERTS or UKAS certified individuals, equipment and laboratories. It is not clear from the received report if these standards have been adhered to;
- Hydrogen sulphide and carbon monoxide concentrations have not been reported as part of the preliminary checks and field measurements;
- Nine priority trace components of landfill gas are missing from the results (see full list in LFTGN04 Table 1.1);
- It appears that all gases were analysed from a Tedlar Bag. This is not the recommended method for most of the priority trace components (see LFTGN04 Table 1.3);

- Detection limits for some components are higher than recommended detection limits (see LFTGN04 Appendix 3); and
- The submitted report does not include all reporting requirements (see LFTGN04, Appendix 4).

The concentration of trace components obtained through this monitoring is an integral part of demonstrating compliance with Article 1 of the Landfill Directive. The data are used:

- in developing source term values for a site-specific risk assessment of gaseous emissions and the resulting Gas Management Plan;
- in developing source term values for gas generation models such as GasSim, which estimate the emissions of landfill gas and are used to produce the Pollution Inventory of specified substances released from a permitted site;
- to provide compositional data to the annual review and refinement of the current Gas Management Plan.

Data must be assessed for consistency with previously reported data and other sources of information as identified in LFTGN04 Section 2.1. The report must highlight instances where variation from normal procedure has been necessary and should inform future monitoring requirements.

The above is a CCS Category 3 breach of Permit condition 3.6.1 (d).

Please see new Action 2 at the end of the comments section.

Action 7

Provide NRW with the particulate matter monitoring results for 2017, by 31/05/2018.

This information has been received. All particulate matter concentrations remained below the permitted limit of 200 mg/m²/day.

Please see new Action 3 at the end of the comments section.

New Actions

Action 1

Operator to review LFTGN07 'Guidance on monitoring landfill gas surface emissions' v2 2010, with regard to FID walkover and flux box monitoring methodology. We will have the opportunity to discuss this monitoring during the upcoming landfill gas audit, later this year.

Action 2

Operator to ensure that 2018 trace gas monitoring results are collected, reported and assessed in accordance with the requirements of Permit Table S4.7 (and LFTGN04), and included in the 2018 Annual Performance Review (APR).

Action 3

Operator to ensure that the 2018 APR, and all others thereafter, include a review of the results of all of the monitoring required by the Permit, as outlined in condition 4.2.1 - this includes surface emissions, trace gas and dust monitoring results. In addition, ensure that all other information

required by 4.2.1 is also included in the APR.

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0033825**

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| | | | |
|------------------------|----------------------------------|------------|------------|
| Site | Hafod Quarry Landfill | Permit Ref | PP3139GB |
| Operator/Permit holder | Cory Environmental (Central) Ltd | Date | 20/08/2018 |

Section 3 – Enforcement Response

You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

| Criteria Ref. | CCS Category | Action required/advised | Due Date |
|---------------------|--------------|-------------------------|------------|
| See Section 1 above | | | |
| G1 | C3 | See comments section | 31/12/2018 |

Section 5 – Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- Advise on corrective actions verbally or in writing
- Require you to take specific actions verbally or in writing
- Issue a notice
- Require you to review your procedures or management system
- Change some of the conditions of your permit
- Decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and/or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- Ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- Ensure you comply with other legislative provisions which may apply

Non-compliance scores and categories

| CCS category | Description | Score |
|--------------|--|-------|
| C1 | A non-compliance that could have a major environmental effect | 60 |
| C2 | A non-compliance which could have a significant environmental effect | 31 |
| C3 | A non-compliance which could have a minor environmental effect | 4 |
| C4 | A non-compliance which has no potential environmental effect | 0.1 |

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General information

Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- Offering/providing you with its literature/services relating to environmental matters
- Consulting with the public, public bodies and other organisations (eg. 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 its service
- Freedom of Information Act/Environmental Regulations request

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within fifteen working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with officer's line managers using the informal appeals procedure. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00 – 18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.