

Compliance Assessment Report CAR_NRW0041608

Permit being assessed: AB3096CP.

For: Lamby Way Open Windrow Composting Facility, held by Welsh Water Organic Energy (Cardiff) Limited

At: Lamby Way, Rumney, Cardiff, CF3 4EQ.

Type of assessment carried out: Report/Data Review, Reason: Other.

On 27/03/2023.

Parts of permit assessed: Odour Management

NRW Lead Officer: Geraint Harris.

Report sent to: Adrian Thomas, Contracts Manager on 27/03/2023.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
F1 - Amenity - Odour	Action only (X)	
F1 - Amenity - Odour	Action only (X)	
C4 - General Management - Storage, handling labelling and Segregation	Action only (X)	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	C3 Minor (Suspended)	Permit condition 2.4.1

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

Total number of non-compliances recorded	Total non-compliance score
1	0

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
F1	Action 1: Please can you update your odour management plan with details on how you intend to reduce the chance of anaerobic conditions developing within these oversize piles.	20/04/2023
F1	Action 2: Please can you update your odour management plan with details on how you intend to manage seasonal peak volumes.	20/04/2023
C4	Action 3: Please update you FPMP and operations to reflect the above distances.	20/04/2023
G1	Please provide results of analytical monitoring and the completed H1 assessment required to complete Improvement Condition 4.	02/10/2023

Action 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

Welsh Water Organic Energy (WWOE)

EPR-AP3096CP

Odour Management Plan (OMP)

NRW received WWOE's latest OMP following actions in Car forms CAR_NRW0040809 and CAR_NRW0040817. Action 3 from CAR_NRW0040809 is now considered complete. Action 2 from CAR_NRW0040817 states "Please can you update your odour management plan with details on how you intend to reduce the chance of anaerobic conditions developing within these oversize piles and how you will manage seasonal peak volumes. Due 1st February 2023"

In response to the above action WWOE provided Freeland's Compost Oversize (COS) Storage and Treatment plan. The plan outlines the background around composting oversize and stipulates a plan to reduce the amount of oversize going forward. This plan involves the operators being more proactive in reception during the sorting process to determine and sort all material that needs to be shredded before batch formation. It also includes an additional shredding stage. Freeland's are optimistic that the amount of COS will be dramatically reduced, enabling them to comply with stipulations in the FPP.

NRW are satisfied that this plan has the potential to reduce the amount of COS on site in the near future. However, the purpose of action 2 was to ascertain how the existing and any future piles of COS are prevented from going anaerobic. Within the latest OMP it states that a wireless monitor will be placed in each of the piles to continuously monitor their temperature. During a previous site visit the oversize material was found to be approximately 75°C, indicating the presence of biological activity and therefore the risk of anaerobic conditions developing. Since a single monitor in a pile approximately 10m x 4m x 18m isn't going to fully representative of the entire mass, NRW require WWOE to have a plan on how they will monitor the waste for anaerobic conditions and the actions they will take to mitigate these conditions from occurring. For example, the piles could be periodically monitored using the compost manager probes with 'take action' trigger levels for both oxygen and temperature. Actions following these triggers could include turning of these piles or removal of this material from site.

Action 1: Please can you update your odour management plan with details on how you intend to reduce the chance of anaerobic conditions developing within these oversize piles. **Due 20th of April 2023.**

Temperature Control

It is well documented that there is a positive correlation between temperature and emissions' rate, where a higher rate of emissions was recorded with high temperatures and, more specifically, in the thermophilic ranges (45–70 °C)¹. These conditions enhance the equilibrium between ammonium and NH₃ towards gaseous

NH₃, whereas low temperature inhibits microbial ammonization, thus reducing NH₃ emissions¹. This thermophilic population will cease in the temperature range of 70°C - 80°C². Where temperature profiles are allowed to increase to 70-80°C, the production of NH₃ will be unavoidable and therefore can produce poor organic stabilisation and objectionable odours². Above this temperature chemical decomposition takes place which can produce undesirable malodorous materials and increase the risk of fire².

NRW does not agree with the temperature controls stated within WWOE's OMP. BAT 36 states that "in order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters". By allowing your windrows to be maintained above temperatures of over 70°C for prolonged periods and even reaching temperatures exceeding 80°C you are increasing the likelihood of generating malodorous compounds. Upon investigating incidents of odours released from composting sites, if it is observed that windrows are being maintained above temperatures of over 70°C. NRW will deem that the operator is not employing appropriate measures and the appropriate enforcement actions will be taken.

1. Sayara, T.; Sánchez, A. Gaseous Emissions from the Composting Process: Controlling Parameters and Strategies of Mitigation. *Processes* **2021**, *9*, 1844. <https://doi.org/10.3390/pr9101844>
2. How to comply with your environmental permit. Additional technical guidance for: composting and aerobic treatment sector. 17th November 2013. Page 35.

Seasonal Peak Volumes of Waste

As already mentioned in CAR_NRW0040817. The plan does not state how the site's adequate provisions are made for the acceptance of seasonal peak volumes of waste. Adequate provision must be made for the acceptance of seasonal peak volumes of delivery such as those occurring during the spring and autumn seasons. In the event of a sudden summer green waste "surge" that's has the ability to overwhelm the treatment capacity what would your actions be?

Action 2: Please can you update your odour management plan with details on how you intend to manage seasonal peak volumes. **Due 20th of April 2023.**

Please be aware that the text below taken from the Freeland's Compost Oversize (COS) Storage and Treatment plan is incorrect. As you will know from CAR_NRW0039649 the separation between waste storage piles 18 metres in length should be between 9 and 10metres.

"In 2022 we submitted our FPP to the NRW, within that plan we agreed to limit the size of the stockpiles to 10m x 4m x 18m with a 7m gap (fire break)".

Action 3: Please update you FPMP and operations to reflect the above distances. **Due 20th of April 2023.**

CAR NRW0040809 Moisture Levels

Action 1: Provide NRW with an update on the suitability of the water from the adjacent lagoon and or the installation of a water source. Due 30th of January 2023. (please advise if you need longer).

Action 2: Provide NRW with a plan on how moisture levels within the windrows will be maintained within BAT limits going forward. Due 30th of January 2023. (please advise if you need longer).

The two actions above were issued in CAR_NRW0040809 on the 10th of October 2022 and are related to the moisture levels within the piles of waste and compost being handled on the site. An update was provided by WWOE on the 30th of January 2023. In the update provided on the 30th of January 2023 by WWOE they state "The source(s) of any water sprayed onto input materials, batches being formed or formed batches shall not

be from surface water capture tanks, after a batch has completed its sanitisation phase because this could re-introduce pathogens. The water will either come from the lagoon adjacent to the site (awaiting confirmation of samples to determine values), or from portable water storage units that will be stored on site. Equipment has been identified and arrangements are in place for a quick deployment if irrigation is required on the windrows". During a Microsoft Teams meeting on the 17th March 2023, WWOE explained that they had tested the water from the lagoon and found it suitable for composting purposes. NRW consider these actions complete and expect moisture levels to be appropriately controlled going forward.

Improvement Condition 4 (CAR NRW0040817)

Due to the continued dry weather in 2023 coupled with issues with the samples sent in late 2022, WWOE have been granted more time to complete this improvement condition.

Action 4: Please provide results of analytical monitoring and the completed H1 assessment required to complete Improvement Condition 4 by the **2nd of October 2023**.

A noncompliance category 3 score is being applied against permit condition 2.4.1. since the BATC implementation date in August has now passed. However, NRW will suspend this score since WWOE are taking steps to satisfy improvement condition 4 requirements. If WWOE fail to complete the required work the suspension maybe lifted, and the score applied.

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.

What are suspended scores?

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 and Waste action criteria (used in section 1 and 2):

A: Permitted activities

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance 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 20 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 – 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.