RHAYADER WASTE TRANSFER STATION

ODOUR MANAGEMENT PLAN - V3

EPR/DB3930AB

Version control information	
Title	Rhayader Waste Transfer Station Odour Management Plan – V3 *This document has replaced 'EP68 Rhayader depot odour Management Plan' and 'EP03 Odour Management Plan' as a result of moving to an in-house management system rather than ISO140001, as discussed with Liz Park.*
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	EP03 Waste Transfer Station Odour Management Plan V2 07/2020
	EP68 Rhayader depot Odour Management Plan 04/11/2016

Contents

1. Introduction

This Odour Management Plan (OMP) has been prepared to support the Environmental Permit (EP) for Rhayader Waste Transfer Station, hereafter referred to as 'the Site'.

NRW guidance Note *H4 Odour Management How to comply with your environmental permit*1 (hereafter referred to as 'H4 Odour Guidance') describes how the IPPC Directive includes odour in the definition of pollution and requires that *" […] all the appropriate preventive measures are taken against pollution […]"*.

This Directive has been transposed in the UK by the Environmental Permitting Regulations (EPR) and sites encompassed within these Regulations will have the following odour condition included within their permit:

2. *Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in an approved odour management plan, to prevent or where that is not practicable to minimise the odour.*
3. Powys County Council (PCC) as the Operator must therefore employ the appropriate measures necessary to prevent odour pollution or minimise it when prevention is not practicable. The measures that are appropriate will depend on the industry sector and the site-specific circumstances of the bulking facility and will take costs and benefits into account.

1.1 Objectives

As defined within the H4 Odour Guidance, the objectives of an OMP is to;

- Identify potentially significant odour sources at the facility and any foreseeable situations which may compromise the operators ability to prevent and/or minimise odour releases from the sites activities.
- Identify and employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution.
- Identify and employ appropriate control measures and actions that the operation will take to minimise the impact in the event tat odour incidents occur
- Prevent unacceptable odour pollution at all times
- Reduce the risk of odour releasing accidents or incidents by anticipating them and planning accordingly
- Provide a working document for on-site staff

1.2 OMP approach

The methodologies presented take full account of NRW guidance documentation 'H4 Odour Management, how to comply with your environmental permit'. According to NRW guidelines an OMP should contain the following elements:

- An assessment of the risks of odour problems, form normal and abnormal situation, for example weather, temperature, breakdowns, accidents
- The appropriate controls (physical and management) needed to manage those risks

- Suitable monitoring
- Actions, contingencies, and responsibilities when problems arise
- Regular review of the effectiveness of odour control measures
- Emissions limits (where appropriate)

The OMP is also required to include clear statements to demonstrate that the operator understands and accepts its responsibilities. In particular, it should show:

- That the operator, either directly or through its contractors or subcontractors, ensures that the equipment on site is operated and maintained such that it is always effective in the control of odour
- That the operator is familiar with the characteristics of the processes and equipment on site and have identified the areas of risk emissions from odour
- How the operator will reduce or cease operations, if necessary to avoid serious odour pollution
- How the operator will engage with neighbours to minimise their concerns and complaints and
- How the operator will respond to complaints

2.0 Sources, releases, and impacts

This section provides an inventory of potential odour sources, release points, pathways and receptors relevant to the bulking facility.

Rhayader Waste Transfer Station receives and stores a variety of material types prior to bulk removal. The material types received at the Site are primarily mixed municipal waste, food waste, dry recyclables (cans, plastic, paper and cardboard), glass and green waste. Material is received at the Site via road by a fleet of Recycling and Refuse Collection Vehicles (RRVs and RCVs).

The table below identifies the waste types received at Rhayader Waste Transfer Station, their maximum storage times and the maximum volume of material that will be stored on site at any one time.

Table 1 Waste Storage

Waste stream	**Collection frequency**	**Maximum storage time (under normal operating conditions)**	**Maximum quantity of material on site at any one time**
Food waste	Collected daily under normal working practices.	Three days	20 tonnes
Residual waste	Three times per week	Four days	60 tonnes
Glass	Once – twice weekly	Seven days	60 tonnes

Mixed paper/card	Four – five times per week	Three days	50 tonnes
Mixed plastics/cans	Three – four times per week	Four days	45 tonnes
Green waste	Twice weekly	Four days	40 tonnes
Bulky waste	Twice weekly	Four days	30 tonnes

Mixed municipal waste, bulky waste and dry recyclables are offloaded within the bulking sheds on site. Food waste is tipped (from the collection vehicles pods) into sealed skips on site. The food waste skip is located at the rear of the site and food waste is collected from site daily.

Green waste and glass are offloaded outdoors in designated bay. All handling activities associated with these materials (tipping, stockpiling and loading) take place outdoors within the designated bays.

The bulking shed is accessed via 4 roller shutter doors and air from within the building will be extracted by 5 ventilation fans fitted to the bulking shed.

A design air change rate of 4 air changes per hour has been selected in line with the rate for factories and warehouses (Building regs F, CIBSE guide B). Replacement air will be provided by natural entrainment through the roller shutter doors when they are open during normal working hours, and low level louvered grilles when the roller shutter doors are closed overnight and weekends.

Building volume – 6885m³
Design air change rate – 4/hour
Total duty – 27,540m³/hour
Fan selection – 4 plate axial fans with duty at 2.02m³/s @50Pa each

The Site also contains a number of facilities associated with supporting the fleet of RRVs and RCVs such as an office, welfare facilities, a weighbridge, collection vehicle parking, a refuelling station, a vehicle wash and a staff carpark. None of these facilities are considered to pose a significant source of odour emissions.

The bulking facility currently receives and processes approximately 12000 per annum (tpa) but is permitted to accept up to 50,875 tonnes of material. Received materials are removed from the site in bulk via road (majority articulated lorries) for further recovery or disposal.

The site operates from 7am and 6pm Monday – Saturday, including bank holidays.

2.2 Potential Odour Sources

The application of good working practices and process control is of fundamental importance in eliminating and minimising the quantities of odours formed on Site and their subsequent release to

atmosphere. This section provides an inventory of all potential odour sources under the full range of normal operating conditions.

The overall aim in the operation of the site is to apply Best Available Techniques (BAT) at all stages of the material transfer process. For this reason, the bulking facility is operated and managed in accordance with the accepted hierarchy of preferred controls, that is:

1. Prevent the formation or emission of odorous compounds in the first place;
2. Where this is not practicable, minimise the release of odour;
3. Abate excessive emissions; then
4. Dilute any residual odour by effective dispersion in the atmosphere.

There are three primary potential odour sources associated with the site;

- Materials as received (vehicles)
- Ventialted/fugitive releases from the bulking shed on site
- Material types stored and handled outdoors

The release of odour from vehicles using the public highway are typically outside the control of the Operator. Material is received primarily by RRCVs, or in covered / sheeted or otherwise contained vehicles. Notification will be given to the relevant party if particularly odorous materials are received.

2.3 Received materials

As above, the site is permitted to receive 50,875 tonnes of general, recyclable and green waste.

Material transfer is an odorous process, however with the correct controls and working practices in place, odours can be contained and reduced. The sources of potential odour generation on site are:

- Delivery of incoming material
- Storage of material on site
- Bulk removal of material offsite

Putrescible material is generally regarded as being offensive in nature when perceived at sufficiently high concentrations. Recyclables are generally regarded to have a low odour potential (inoffensive and low intensity odour) due to the low organic content of the material.

2.4 Stored materials

The purpose of the Site is to receive material from local waste and recycling collections and to store the received materials prior to bulk removal off-site. Therefore, the storage time of materials at the Site is minimised as much as possible. Under normal operational conditions material delivered to the Site is stored in accordance with Table 1, Waste Storage.
Storage bays are cleaned down regularly to avoid older materials building up and degrading and potentially releasing odours.

2.5 Removed materials

Material is periodically removed from the site in bulk within covered, sheeted or enclosed vehicles.

2.6 Release points

The release points for the odour sources are detailed in Table 2 below

Table 2 Odour Generation Sources

Odour generation activity	Location	Waste types	Factors affecting source	Odour risk
Delivery of material	Within bulking shed	Mixed municipal waste, paper and cardboard, cans and plastics	State of decomposition on arrival	High
	Outdoors within the designated bays	Green waste and glass	Organic content	Low
	Outdoors adjacent to sealed food waste skip	Food waste	Organic content	High
Storage of material	Within the bulking shed	Mixed municipal waste, paper and cardboard, cans and plastics	State of decomposition on arrival and retention time	High
	Outdoors within the relevant bays	Green waste and glass	Organic content and retention time	Low
	Outdoors adjacent to sealed food waste skip	Food waste	Organic content, retention time, time skip left open for loading/unloading	High
Bulk removal of material	Within the bulking shed	Mixed municipal waste, paper and cardboard, cans and plastics	State of decomposition on arrival and retention time	High
	Outdoors within the relevant bays	Green waste and glass	Organic content and retention time	Low
	Outdoors adjacent to sealed food skip	Food waste	Length of time taken to load/unload the container	High

2.7 Receptors

The likelihood and frequency of exposure to odour arising from the facility is determined by the magnitude of release, the prevailing meteorological conditions, and the distance and direction of receptors in relation to the facility.

Potentially sensitive receptor locations for odour are typically defined as locations where people spend time and expect a reasonable level of amenity. Therefore, residential properties are generally regarded as receptors of high sensitivity.

The site is located close to the edge of the town, Rhayader. The closest receptors are residential properties located adjacent to the site, along Station Road and B4518 within close proximity to the permit boundary.

3.0 Site Operations

The overall aim of the OMP is to ensure that *All Appropriate Measures* are applied; for this reason, the facility is operated and managed in accordance with the accepted hierarchy of preferred controls, that is:

1. Prevent the formation or emission of odorous compounds in the first place; and
2. Where this is not practicable, minimise the release of odour.

3.1 Reception Building

The received mixed municipal waste and food waste has the potential to arrive at the Site in an advanced state of decomposition, due to collection frequencies from householders' properties. The receipt, bulking and bulk removal of municipal waste only takes place within the bulking shed, where a greater degree of containment of odours can be afforded.

Food waste is deposited into a sealed skip to also contain the odour. The skip is only opened to load or unload material, the lid is closed at all other times.

During the working day the 4 roller shutter doors are opened to facilitate the entry / exit of collection vehicles. The roller shutter doors remain closed with the exception of when vehicles enter and exit as far as practicable; thus reducing the fugitive emissions of odour during vehicle entry / exit. Training is provided to all relevant staff to ensure that:

- Where possible only one door is open at any one time
- Where possible doors are only opened to allow vehicles and mobile plant to enter the reception building once the vehicle is aligned to reverse and to unload.
- Vehicles are to reverse slowly into the building (less than 5mph) to minimise air displacement
- Doors are to be closed as soon as vehicles have left the building

3.2 Waste acceptance procedures

The maximum amount of time for material to be stored prior to being sent off site for onward recovery or disposal is 3 days (food waste) and 3 days for all other materials deposited at the site.

Waste acceptance procedures are followed as per the management system.

Certain materials accepted receive priority in the bulking facility process, these include:

- Any material designated as high risk on site
- Materials which are classified as high odour risk potential and
- When the site operative is alerted to material being particularly odorous

During peak operational periods, if the anticipated tonnage has been accepted for the facility for that day, the facility only accepts additional materials following an evaluation of likely tonnages over the coming days to ensure that a backlog of material in storage in the reception building does not occur.

3.3 Material storage and transfer control

Material is stored on site in accordance with Table 1, Waste Storage, and are stored in designated bays and/or skips.

3.4 Bulking shed floor cleaning

The incoming waste vehicles carrying mixed municipal waste and food waste reverse into the relevant storage bays and unload within the Bulking Shed. However, there may be occasions, where material is tipped onto the floor in front of the bays for inspection prior to transfer into the relevant storage bays. There may also be occasions where driver error leads to material falling onto the floor of the tipping area.

The tipping hall floor is swept daily and washed down weekly. Cleaning takes place during off-peak periods where possible to minimise disruption to material deliveries.

3.5 General housekeeping

Regular cleaning of operational areas such as the outdoor bay areas (i.e. green waste and glass) is undertaken. Site haul roads and drainage channels are cleared out to minimise odour generation from degrading residual waste materials on these surfaces.

3.6 Loading and removal of material

Loading of mixed municipal waste is undertaken within the Bulking Shed. Loading of the remaining material types (of a lower odour potential) is undertaken outside, except for paper, mixed plastic/cans and cardboard recycling which is located within the Bulking Shed. This is except for food waste which is loaded into the sealed food waste skip outdoors.

All material vehicles leaving the site are securely always sheeted (or enclosed).

3.7 Mitigation of community impacts

The following measures are in place to ensure a ‘good neighbour’ approach to residents:

- Engagement with residents and stakeholders
- A telephone number has been made available for residents to contact PCC

- Engagement with residents should odour problems be anticipated to keep the public informed of progress, remedial measures and timescales
- Responding to odour complaints promptly and keeping the complainant informed of outcome of investigation
- Meetings held with residents and stakeholders if required, PCC to liaise with NRW as necessary

3.8 Monitoring and maintenance

Monitoring of process controls, odour containment, odorous releases, and dispersion pathways are as described in the sections below.

The material received and stored is monitored in the following ways:

- The material is subject to checks at the weighbridge to ensure it conforms to permitted waste types at the site
- The material is subject to visual inspection as part of the material reception protocols to ensure all materials conform to the permitted waste types at the site
- The Site Supervisor and site operatives are responsible for visually monitoring and noting the placement of received material to ensure older material is processed/hauled from site as a priority
- The Supervisor and operatives monitor, via a sniff test to determine particularly odorous loads which require removal from site during the next available collection.

Monitoring of ambient odours from the Site provides a broad indication of the effectiveness of the odour management as a whole, i.e. odour minimisation and containment. This is a reactive process and is considered as a final indicator of odour control effectiveness.

Sniff testing is employed for the following reasons:

- As part of a survey at the site boundary (inside and outside) during normal operations, to confirm the effective performance of odour management measures
- At the site boundary (inside and outside) to evaluate the effectiveness of the control measures in place and the likelihood of odour complaints being received
- In the event that complaints are received, at the locations of sensitive receptors as part of the complaint's investigation procedure. Complaints to be logged within Appendix 3 – Odour Complaint Form).

Sniff tests/odour assessment will follow the procedure set out in NRWs H4 guidance and will be undertaken.

- Daily by trained site management with any issues recorded in the site logbook
- On a weekly basis by a team member (non-bulking shed staff) accompanying the Supervisor and results recorded
- On an ad-hoc basis out of hours, as and when staff are in the area and available to do so

Odour assessment forms (Appendix 1) will be completed daily by the Site Supervisor, using consistent monitoring points, as identified on the Odour Management Plan (Appendix 2). Monitoring/assessments will be completed at different times of the day throughout the week to

ensure that all aspects of site monitoring are included within the assessment time frames. These forms will be filed on site and kept for inspection by NRW, if requested.

The Site Supervisor will record the daily weather conditions at the time of the assessment, on Odour Assessment form and in the Site Diary, sourced from weather channels (www.metoffice.gov.uk) and observations.

The recording of meteorological data is an effective management tool and can be used for the following reasons:

- During routine operations (to assess odour impacts) to plan where boundary monitoring should be focused
- During abnormal events (i.e. breakdowns) to predict where odour impacts could occur
- In the investigation of odour complaints, or to verify community observations

In the event that odour is detected at the site boundary, this will be noted on the forms and also in the site diary. The Supervisor will be informed to allow for the appropriate steps to be taken to mitigate the odour. The results of the daily odour monitoring will not be reported to NRW, unless required or requested.

As seen in Appendix 1, the records include.

- Results of odour assessments
- Weather conditions
- Operational issues on site
- External factors impacting on the site

4.0 Contingency

In accordance with NRW's Guidance on OMPs, contingency plans have been defined to react to situations where monitoring indicates that a potential odour source is not completely under control, or that adverse impact has occurred.

This includes accidents (or incidents) which would result in the loss of control of odorous substances and have the potential to cause an unacceptable short-term impact on the local community but are not considered an emergency.

It is considered unlikely that any material received is of sufficient magnitude to cause unacceptable odour impacts outside the site boundary. However, should any particularly odorous materials be received, these will be isolated (within the Bulking Shed) and removed from site at the next available collection. Material that is considered to potentially cause an odour impact, that is received prior to a weekend will be removed before the end of the working week, so will not be left on site across a weekend.

Odour containment may be compromised by damage to the building fabric or doors (extraction is dealt with separately).

In the case of a roller door motor malfunction, the doors will be operated manually whilst repairs are undertaken.

If doors are stuck open or building fabric is damaged, then the following contingency measures will be implemented:

- Arrangement made to re-establish containment
- Requirement for more odours activities to be reviewed and/or suspended as appropriate e.g., loading/unloading
- Minimise the presence of odorous materials e.g., transferring existing material off site as soon as is practicable

Odour surveys will be undertaken 3 times a day until an effective fix is implemented. If odour detected during surveys is considered likely to lead to adverse impacts at sensitive receptors, then consideration will be given to ceasing material acceptance if this would alleviate the problem. NRW and neighbours will be notified of the investigations and actions being taken.

4.1 Temporary Odorous activities

Each day the Site Supervisor will review the stock of waste on site in comparison to expected incoming material and material removal to determine the capacity available on site.

If the material storage areas are not considered to have sufficient capacity, the Site Supervisor will consider the option for diverting incoming material to other waste management facilities to prevent build-up of material beyond capacity.

No routine temporary odorous activities are anticipated to occur at the site under normal operating conditions. However, it is noted that temporary odorous activities could occur as a result of equipment malfunction or breakdown or (i.e., jamming of roller shutter doors and subsequent repairs). Should any temporary odorous activities be undertaken at the Site, the Site Supervisor or Waste & Recycling Area Manager will contact NRW and other interested parties (e.g., residents) before such actions are taken to advise them of the operation being undertaken and that any odour will be of a temporary nature.

Additional Control measures will incorporate:

- Where possible, timing operations wen the prevailing wind direction is away from nearby sensitive receptors
- Ensuring prompt re-establishment of containment

If such operations unavoidably coincide with unfavourable meteorological conditions (i.e. warm and still conditions) additional off-site odour monitoring will be undertaken to clarify the significance of offsite impact.

5.0 Complaints

A phone number for members of the public to contact PCC with any complaints is visible on the Site board at the entrance. Following the receipt of a complaint (either from a resident or NRW) PCC will

endeavour to contact the complainant to provide feedback on actions taken to both assess the event and convey any remedial actions.

All complaints made directly to the Site/staff will be recorded on an Odour Complaint Form such as that presented in Appendix 3 and forwarded onto the Site's NRW Officer. Information that will be recorded will include the following:

- Date and time at which the odour complaint was received and detected
- Location/address of complainant (where provided)
- Description of the odour observed by the complainant (where provided)

Following an odour complaint, a trained member of staff will undertake a sniff test/odour assessment, recording the results on the Odour Assessment Form such, see Appendix 1. Where possible the sniff test will be undertaken by a member of staff that does not routinely work within the Bulking Shed and will not therefore be accustomed to the characteristic malodours that might arise from the Site. If an odour (which can be attributed to the Site operations) is encountered during the sniff test, the source of the detected odours will be investigated by site management and the outcome recorded.

Investigations will include the likely source and cause of the odour and a review of the meteorological data. Suitable remedial action will be investigated, where required. The complainant will be informed of any action taken and all actions will be recorded.

Should no odours (which can be attributed to the Site operations) be observed, a record of the sniff test will be made, the meteorological conditions will be checked, a report provided to NRW and suitable feedback provided to the complainant.

On receipt of an odour complaint, the following actions will take place:

1. The Site Supervisor will be informed of the details of the complaint as soon as possible
2. The Site Supervisor and/or the Area Manager will undertake the following assessment:

- Review of the site operations and control systems at the site prior to and at the time of the complaint
- Determine if material was being received at the Site at the time of the complaint
- Determine if highly odorous material was being received, stored or removed at the time of the complaint
- Determine if ay abnormal operating conditions were occurring
- Determine if any emergency situation occurred at the time
- Review of the meteorological conditions (wind speed) prior to and at the tme of the complaint – to establish whether a pathway can be linked between the site and the complainant
- Review the previous history of complaints at the location identified

The Site Supervisor (or appointed representative) will visit the complaint location as soon as is possible in order to subjectively determine odour presence / absence and, if present, odour characteristics and intensity and complete a complaint form, see Appendix 3.

NRW will be informed.

6.0 Emergency Plans

This section details the emergency actions that will be undertaken in case of accidents (or incidents) which could result in the loss of control of odorous substances and could have an unacceptable short-term impact on the local community.

The section considers the emergency scenarios, measures taken to minimise their occurrence and short-term measures to minimise impacts.

6.1 Prolonged Mobile Plant Failure

In the unforeseeable event of complete site mobile plant failure for a prolonged period (greater that the agreed maximum material retention time) consideration will be given to the diversion of incoming material to alternative permitted facilities.

6.2 Fire

Regarding management of odour impact, the key principles are prompt responses that contain the fire and attempt to extinguish it, minimise damage to containment and extraction infrastructure. NRW will be informed of any such an occurrence, information would be made available to local residents if requested by NRW with regard to the measures being taken and the timescale to completion.

6.2.1 Explosion
The risk of the explosion is considered to be extremely unlikely.

6.3 Major Spillage / Leak

NRW will be informed of any such an occurrence, information will be made available to local residents if requested by NRW with regard to the measures being taken and the timescale to completion.

6.4 Flooding

The risk of flooding is considered to be extremely unlikely due to the drainage arrangements on the site. If the site becomes flooded, this would inhibit effective storage of material. Material will be removed from site where possible for storage or processing elsewhere.
Widespread flooding may prevent access to site. In such a situation, no further material will be accepted at the Site and priority will be given to removal of stored material (where possible).

6.5 Power Failure

The bulking facility emergency systems have battery backups which will be sufficient to ensure operations can continue in the event of an external power cut.

6.6 Staff Absence

Short-term staff shortages (such as a few days illness) will not affect the ability of the Site to operate effectively as other staff members can be reassigned to critical operations. In the event of prolonged

absence of staff members, temporary staff will be recruited and appropriately trained to fulfil non-critical roles whilst other more experienced staff members are reassigned.

7.0 Document updates and reviews

It is the responsibility of every manager/supervisor, with the support of the environmental professionals, to identify environmental risks that are relevant to the site and determine if a particular activity or service is environmentally significant.

Once identified, it is the responsibility of the Site Supervisor to highlight the significant aspects to all relevant employees and contractors. The Site Supervisor is also responsible for monitoring and managing all activities under PCC's control to improve environmental performance.

Work instructions, job descriptions and procedures exist for critical areas of PCC's activities and have been issued to or made available to personnel responsible for undertaking these tasks.

7.2 General Procedures for Training and Competency of Staff

Staff competency and the need for training is continually assessed by the Site Supervisor and the Waste & Recycling Area Manager and under all circumstances will be reviewed (at least) annually and formally recorded.

7.3 Odour Management Plan Review

The OMP will be reviewed and/or updated In line with the recommendations of NRW's H4 Odour Management guidance, this takes place on an annual basis, as a minimum.
The OMP is a live document and will be updated more frequently should the following occur:

- Significant changes made to the plant or operational practice
- A change to the management structure, designation of responsibility or training provision
- NRW requests that the OMP is updated
- Complaints are received which on investigation result in the identification of further control measures or remedial action, in addition to those set out within this OMP.