Odour Management Plan

For the application of EWC 19 06 06 wastes at:

Pentwyn Farm, Three Cocks, Brecon, Powys, LD3 0SW

Environmental Permit: EPR/GP3792SK

Reviewed by Dawn Loos – March 2026

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1 Introduction

This Odour Management Plan (OMP) has been drawn up in line with the Environment Agency's *H4 Odour Management – How to Comply with Your Environmental Permit* guidance to address potential odour concerns arising from the spreading activity. This OMP is concerned with the spreading of waste materials (19 06 06), under the SR2010 No4 landspreading permit EPR/GP3792SK.

2 Site Location & Potential Odour Receptors

The grid reference for the farmyard is SO 18821 37877. The deployment area under consideration amounts to *49.24* ha. The site plans for the deployment are provided in the deployment contractor pack (map reference 2. Spreading Maps_Pentwyn (2026)).

Odour exposure of potential receptors using local roads will be low or transitory under normal circumstances because users will pass the site quickly. Risks of unacceptable odour impact are therefore relatively low. However, the nearest local residential and amenity areas to the operation may be affected by odours arising from the application of the material to the site. Table 1 below summarises the main receptors surrounding the application areas.

Table 1. Key potentially sensitive receptor areas around the overall site

Red = High Sensitivity Amber = Moderate Sensitivity Green = Low Sensitivity

Locations	Distance from site[1]	Description and potential sensitivity to odours
Residential properties and farm buildings adjacent to deployment fields.	Within 100m of fields 21 Acres, Ram Field, and Pentwyn Corner	Medium risk due to proximity to site.
Ancient Woodland	Adjacent Pentwyn fields	Medium risk due to proximity to site.
Brecons Beacon National Park	Adjacent to Old Gwernyfed fields	Medium risk due to proximity to site.

2.1 Factors affecting off-site odour impacts

The risks of odour from the handling, transport and application to the site is governed by a range of factors including:

a) Distance from the operation (separation distances)

[1] In assessing the distance from the site, the closest point of the spreading area has been measured therefore this assessment takes consideration of the *worst-case scenario*.

b) Wind direction (which varies from time to time)

c) Relative orientation of operation to receptors

d) The area (and duration) of odorous materials exposed during any particular operation

e) Ambient temperatures

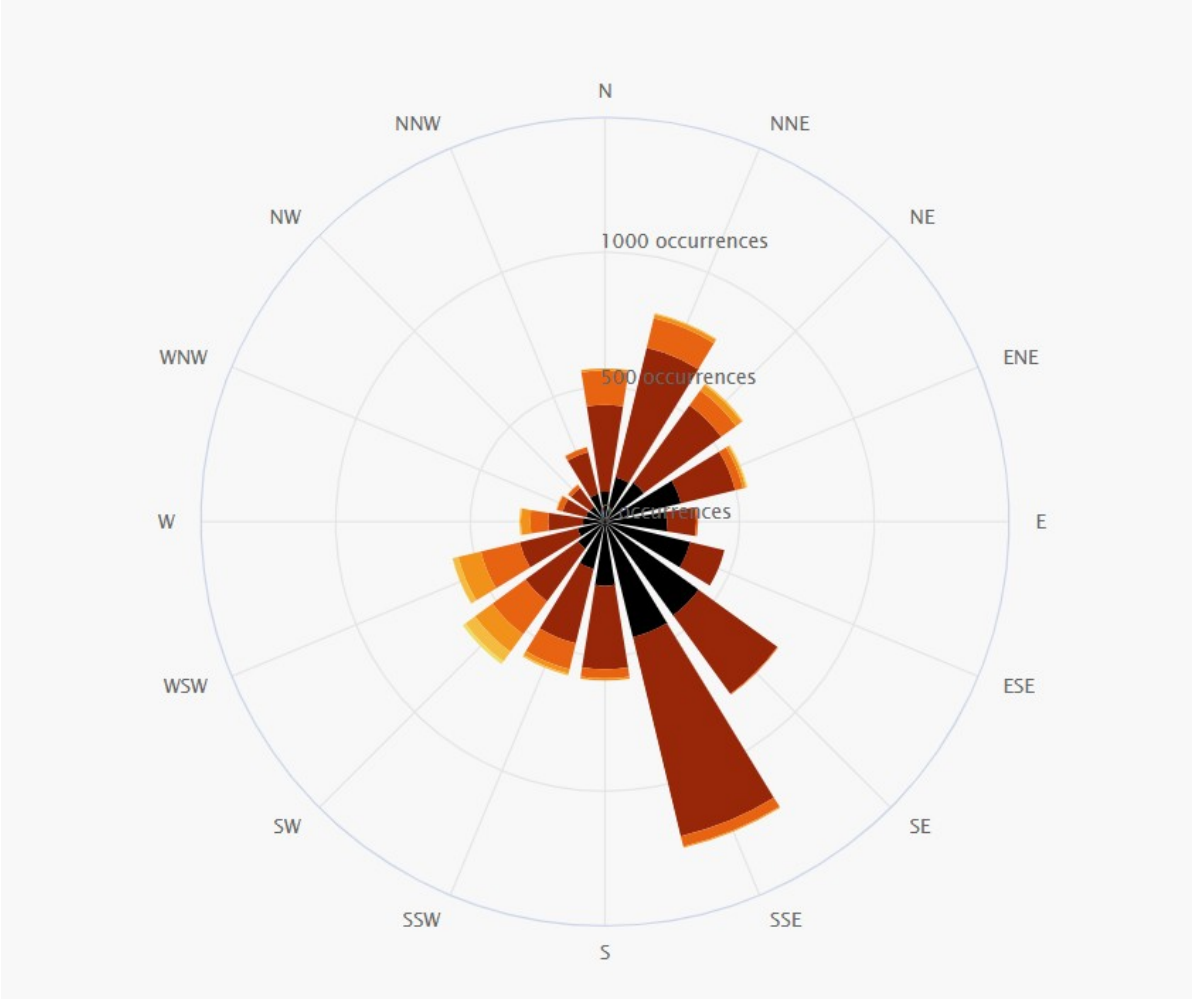
Separation distances are a key factor. It is acknowledged that the further a receptor is from a particular odorous operation, then the lower the risk of adverse effects. However, the benefits of greater separation distance are greater than being simply proportional to distance. In fact, the benefits are approaching an inverse square relationship, so that doubling separation distance provides substantially greater benefit than "halving" of off-site odour impacts. The effects of doubling separation distance approach a factor four reduction in the off-site odour perception. For this reason, a very important factor in the control of odour impacts is avoiding carrying out any particularly odorous operations near local receptors.

Ambient temperatures affect the odour emission rates from the materials, but perhaps a more important factor is the effect on receptor sensitivity. House windows more likely to be open in summer than in colder weather and residents are much more likely to be out in their gardens in warm weather, so that odours are more likely to be detected under these circumstances. This means that there are significant benefits from carrying out potentially odorous operations outside the warmer, summer months of the year, and avoiding sensitive times like weekends and bank holidays.

The surface area of emitting material has a large effect on the rates of odour emissions. Odour emissions are minimised by controlling the area of material exposed to the atmosphere during handling and land applications and particularly by incorporating material that has been applied to land.

Wind direction at the time of any material handling or disturbance activity is important in determining if odours will be carried towards sensitive receptors. Prevailing wind directions for this site are predominantly from SSE directions. This means that there is higher proportion of wind blowing from these directions than other wind directions around the compass. It does not mean that the wind does not blow from other directions. See Figure 1 below for a wind rose from Powys.

Figure 1. Wind direction for Powys



3 Inventory of Odorous Materials

There are two wastes (EWC codes) registered for potential application at Pentwyn and these can be grouped according to odour generation potential (Table 2).

Table 2. Odour generation potential of the wastes to be applied at Pentwyn.

EWC Codes	***Waste Source***	***Odour Generation Potential***
19 06 06	Liquid digestate from anaerobic treatment of source segregated biodegradable waste.	Med

3.1 Potential sources of odour

3.1.1 Delivery

Delivery of the liquid materials will be transported using a tractor and tanker, and spread on delivery. Waste will not be stored on site. During this operation of movement, there is potential for generation of some localised odours in the area from freshly tipped material as any mechanical activity causes the release of odorous compounds from organic waste when it is disturbed. Once the disturbance ceases then the potential for odour generation significantly reduces.

3.1.1.1 Controls of odour

The site will be managed in accordance with the management system. Operations will be overseen by the technically competent/nominated competent site manager. All staff will receive training relevant to their role and a record of this training will be logged.

A key objective of the management controls will be to ensure that any activity which may give rise to unacceptable odours will only be carried out when the wind direction is away from the most sensitive of the receptors. The use of daily weather forecasts will help work to be planned and managed to reduce the impact of odours on sensitive receptors and to make site personnel aware of the wind direction and changes in wind direction.

Operations including delivery and application of wastes will take place when both the weather and ground conditions are acceptable.

3.1.1.2 Minimising annoyance of neighbours

To minimise annoyance to neighbouring properties, proactive monitoring is a key measure in identifying when additional odour control measures may be needed, such as suspending activities until conditions are more favourable.

3.1.1.3 Emergencies or incidents

There are no obvious emergencies or incidents which might adversely affect odour emissions from the materials other than those set out in section 4 below.

3.1.2 Storage & loading

3.1.2.1 Containment and controlling/preventing odorous emissions and evaporation

Material will not be stored on site. A key odour control measure will be to minimise the exposed surface area of disturbed materials.

3.1.2.2 Improving dispersion

Please refer to section 3.1.1.2 above.

3.1.2.3 Minimising annoyance of neighbours

The Technically Competent Manager (TCM) will monitor odours in the areas around the site during spreading and periodically once the material has been spread.

3.1.2.4 Emergencies or incidents

If there are significant off-site odour complaint episodes, then spreading will be suspended, providing that such a suspension would not be in contravention of any permit obligations.

3.1.3 Application

3.1.3.1 Containment and controlling/preventing odorous emissions and evaporation

Odour control measures to prevent odorous emissions during spreading will be as follows:

Materials will be collected and spread as delivered. Wastes will be spread at the appropriate application rate by agricultural application methods that have been approved in the deployment application by the regulator.

Following this spreading operation, a 3 week lay off period will be in place, for all grazing livestock and silage cuts. The wastes will be worked in with chain harrows before animals are allowed back to graze or a cut of silage is taken.

Spreading activities could be suspended if the wind is blowing towards residential receptors within close proximity. If more favourable winds (to aid dispersion away from the most sensitive areas) are forecast or likely to occur, then it may be feasible to suspend application and incorporation activities until there are more favourable wind directions.

3.1.3.2 Minimising annoyance of neighbours

The TCM will monitor odours in the areas around the site during land application and incorporation, and periodically at times when material is being spread. The most critical factors in minimising annoyance will be utilising the correct application methods, prompt incorporation post application (if possible) or if necessary, suspending land application activities if there are unfavourable wind conditions and/or if unacceptable odours are detected off-site in residential areas. Proactive monitoring is a key measure in identifying when additional odour control measures are needed, such as suspending activities until conditions are more favourable.

3.1.3.3 Emergencies or incidents

There are no obvious emergencies or incidents which might adversely affect odour emissions from the storage and application activities other than those set out in section 4.

If there are significant off-site odour complaint episodes, then land application activities will be suspended, providing that such a suspension would not be in contravention of the permit requirements.

3.1.3.4 Application equipment

The application operations will be actively managed to reduce and minimise the odour risk. Wind speed and direction are potentially difficult to predict as these conditions can change frequently during the day and the operation needs to be managed effectively from a cost point of view. Whenever possible, application of potentially odour emitting materials adjacent to sensitive receptors will be carried out during the cooler periods of the year.

3.1.3.5 Table of control measures and odour risks

Control measures and odour risks associated with application of materials are outlined in Tables 3 and 4 below respectively. These have been drawn up using risk assessment guidelines based on the approaches outlined above.

Table 3. Out-loading from stockpiles for on-site land application – Controls and risks

Hazard	Receptor	Field	Pathway	Control Measures	Probability of exposure	Consequence	Overall risk
Odours due to the out-loading of wastes for land application	Neighbouring residential and other receptor areas surrounding the site	All	Air Winds blowing odours towards residential properties	Off-site monitoring of odours during operations so that out-loading activities can be suspended or modified if odours are detected until wind and other conditions are more favourable. Cleaning the area of any spills during and after each work shift.	Possible, but will be limited by managing the duration and timing of operations with respect to any detection off-site and weather conditions	May cause odours to be detected at sensitive receptors for intermittent periods Baseline odour will make less noticeable some operations as the area is rural and agricultural practices commonplace	Not significant if managed carefully with appropriate monitoring and reactive control measures

Table 4. On-site land application – Controls and risks

Hazard	Receptor	Field	Pathway	Control Measures	Probability of exposure	Consequence	Overall risk
Odours due to the land application of the materials	Neighbouring residential and other receptor areas surrounding the site	All	Air Winds blowing odours towards residential properties	The 19 06 06 wastes will be spread using low trajectory spreading to improve spreading accuracy whilst reducing nutrient loss and odour (section 8 in NVZ Guidance Leaflet 8). 3 week lay off period before any grazing or cutting is taken. Monitoring of odours during operations so that application can be suspended or modified if odours are detected until wind and other conditions are more favourable. Keeping the soil around the application area clear of any spills during work and at the end of each work shift.	Possible, but will be limited by managing the duration and timing of operations with respect to any detection of odours off-site and weather conditions	May cause odours to be detected at sensitive receptors for intermittent periods	Not significant if managed carefully with appropriate monitoring and reactive control measures, including prompt incorporation, appropriate methods of application and suspension of activities during unsuitable wind/weather conditions.

4 Odour Monitoring & Overall Control Measures

4.1 Management controls

The site will be managed in accordance with a management system. Operations will be overseen by the technically competent site manager. All staff will receive training relevant to their role and a record of this training will be logged.

The objective of the management controls will be to ensure that any activity which may give rise to unacceptable odours will only be carried out when the wind direction is away from the most sensitive receptors. The use of daily weather forecasts will be used to help reduce the impact of odours to sensitive receptors and to make site personnel aware of the wind direction and changes in wind direction so that operations can be suitably managed.

4.2 Interaction with neighbours

A formal complaints form (Section 8), as per the EMS, will be used to record and investigate any odour reports or complaints from NRW or other third parties. Natural Resources Wales will be further encouraged to provide details of any off-site odour complaint as quickly as possible so that any incidents can be actively investigated.

4.3 Monitoring

An odour monitoring programme will be implemented during periods of land application to ensure that any odour problems will be promptly identified and mitigated. Off-site and boundary odours will be monitored as required at various points as outlined below around the site by the TCM. All off-site olfactory checks will be carried out before going on-site to avoid any potential de-sensitisation to odours that may be present. The presence of odour will be determined by sniff test and recorded. Findings will be recorded using an odour assessment sheet (Section 8 of EMS). Weather data (wind speed and strength, temperature, sunshine and rainfall) will also be recorded at the time of odour monitoring.

Additional odour monitoring at the site boundary and off-site will also be undertaken if there is a significant change in the weather or wind direction. In the event of an odour complaint the odour records will be compared to the weather records to help determine the origin of the odour and to determine appropriate remedial action.

The odour monitoring will report 3 outcomes:

1. No detectable odour, no action required.
2. Faint odour; Re-examination of the site to determine source followed by a second odour assessment and a record of the odour incident and remedial action taken.
3. Moderate, strong or very strong odour requiring additional management or odour control actions. Immediate notification to the nominated competent manager followed by a site examination and

boundary tour to determine whether the odour originates from site or an external source. An incident report and remedial action taken will be recorded in the site diary.

a. Periodic assessments should also be undertaken during weather conditions which are most likely to carry odours with the minimal atmospheric mixing and dispersion. Typically, such conditions will occur in the evening after sunset with low or calm wind speeds. These assessments are particularly important during warmer summer weather when neighbours are most likely to have windows open.

b. The location of the off-site assessments (if required) will depend on wind direction and whether it is a response to a complaint or checking the state of compliance at sensitive receptors or trying to establish a source of an odour.

4.4 Actions, contingencies and responsibilities

Land applications will be stopped if the control measures outlined in the plan do not satisfactorily control off-site odours within sensitive off-site receptor areas. Application operations will not be resumed until the cause of the problem has been mitigated or the weather conditions giving rise to the problem have abated.

4.5 Odour control in the event of accidents and emergencies

An attempt has been made to identify possible events that could lead to accidents and emergencies and their impact on odour control. Mitigation measures have been identified for each scenario identified to minimise the impact of odour.

Severe weather conditions can range from high rainfall to low temperature leading to frozen ground and snow cover. These conditions will prevent the application and incorporation of the wastes.

The following complaints procedure will be adopted in the event of receiving a complaint alleging potential odour from the site. Firstly, the investigation will determine whether the odour complaint is associated with activities carried out by the TCM. Secondly, the investigation will determine what action is required to prevent or minimise the probability of it reoccurring.

To facilitate the investigation, local receptors and NRW will be encouraged to contact 4R directly at the time when any odours are detected off-site so that events leading up to the off-site odours can be investigated as soon as practicable. The TCM will respond as quickly as possible after receiving any complaints to allow an effective appraisal to be carried out at the location of the complaint.

The complaint details and investigation shall be recorded in the site diary. Where abnormal operations or accidents occur, they will be noted and the nominated competent manager informed immediately.

4.6 Odour management plan review

The odour management plan will be reviewed regularly and if any complaints are received.