CRYMLYN BURROWS MATERIALS RECOVERY AND ENERGY CENTRE

Environmental Permit Variation and Partial Surrender Application

Odour Management Plan

Prepared for: Neath Port Talbot County Borough Council

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1.0 Introduction

The Environmental Risk Assessment identifies odour as a hazard associated with the site operation together with pathways and potential receptors. The Working Plan sets out the risk management measures.

This Odour Management Plan (OMP):

- Draws out the high-level hazard / pathway /receptor identified in the Environmental Risk Assessment and focuses on odour; and
- Draws out the engineering controls / operating techniques / management from the Working Plan with particular focus on odour risk management.

In this way, the OMP will specifically address the objectives set down in the guidance.

1.1 Reference Documents

The OMP is an integral part of the Working Plan and should be read in conjunction with:

- Environmental Risk Assessment; and
- Working Plan.

1.2 Report Structure

The OMP will present specific measures to reduce the risk from odour in terms of:

- Description of the process and highlighting waste types with greater odour potential;
- Environmental Risk Assessment: source pathway receptor;
- Engineering controls (odour neutralising / abatement);
- Operating Techniques;
- Management – including monitoring / complaints / records communication / triggers / contingency actions; and
- Abnormal Events.

2.0 Waste Activities

2.1 Overview

The site will operate as a waste transfer station with some materials recovery taking place on site prior to onward transport for further treatment, recovery or disposal.

Treatment on site will consist of sorting of plastics and cans, and baling of plastics, cans, paper and card. All waste will be stored temporarily before being moved off site.

The site will continue to be limited to accepting a maximum of 260,000 tonnes of waste per annum.

Upon arrival separately collected waste types are tipped into separate bays in the reception areas.

In the waste reception area residual waste, green waste, bulky and AHP are deposited into designated bays.

In the recycling reception area, separately collected food waste, paper, glass, cardboard, and co-collected plastic and cans are deposited into their designated bays. Plastic and cans are then sorted further on the Materials Recovery Facility process line to recover metals and plastics. There are also designated areas for separately collected household batteries and small WEEE.

All waste types are then bulked up, with certain dry recyclables baled, prior to transfer off site. All waste storage and treatment will occur within the waste processing building.

The operational layout is illustrated on Drawings 31, 32, and 33.

Ongoing waste treatment activities on site consist of the sorting, separation, screening, baling and bulking up of materials.

2.2 Odour Specific Review of Waste Activities

All waste activities have the potential to cause odour.

The time between tipping off and removal from site has the greatest odour potential, when the waste is stored in the tipping bays.

3.0 Environmental Risk Assessment

3.1 Potential Hazards

The Environmental Risk Assessment identifies odour from waste as a potential hazard.

3.2 Odour Specific Review of Potential Hazards

The putrescible element of waste has the greatest odour potential. The waste streams with the highest odour potential are:

- Food waste;
- Green waste;
- AHP;
- Residual waste; and
- Street litter.

Table 3-1
Waste Types - Typical Primary Chemical Odorants

Source	Description Terms	Typical Primary Chemical Odorants
Domestic waste	Bottom of dustbin, rotten cabbage, fruity/citrus, acrid, sour, rotten, putrid.	Esters (e.g. Butanoates), odours directly from volatilisation of chemicals from foods e.g. organic acids.
Domestic Food Waste	Putrid, sour, fishy, rotten vegetables, rotten meat.	Putrescine, cadaverine, amines, sulphides, ammonia.
AHPs	Faecal, putrid, sour, fishy.	Ammonia, amines, acidic and sulphonated aromatics.
Green Waste	Woody, ammonia, earthy, piny.	Terpenes, amines, aromatics, ammonia.

Table Source: Applied Environmental Research Centre Ltd, Guidance Manual for Landfill Managers on the Assessment and Control of Landfill Odours (October 2000)

3.3 Receptors and Pathways

The Environmental Risk Assessment describes the site setting and identifies all receptors and pathways, as illustrated on Drawing 01 and Drawing 02.

3.4 Odour Specific Review of Receptors and Pathways

Whereas the Environmental Risk Assessment identified all receptors near the site, sensitive receptors in terms of odour are human receptors. As such a further assessment of human receptors has been carried out to determine sensitivity with reference to the Institute of Air Quality Management (IAQM) Odour Guidance[1], Table 3-2 below.

The site is situated on an industrial estate within a predominantly industrial/commercial setting.

Table 3-2
Sensitive Receptors

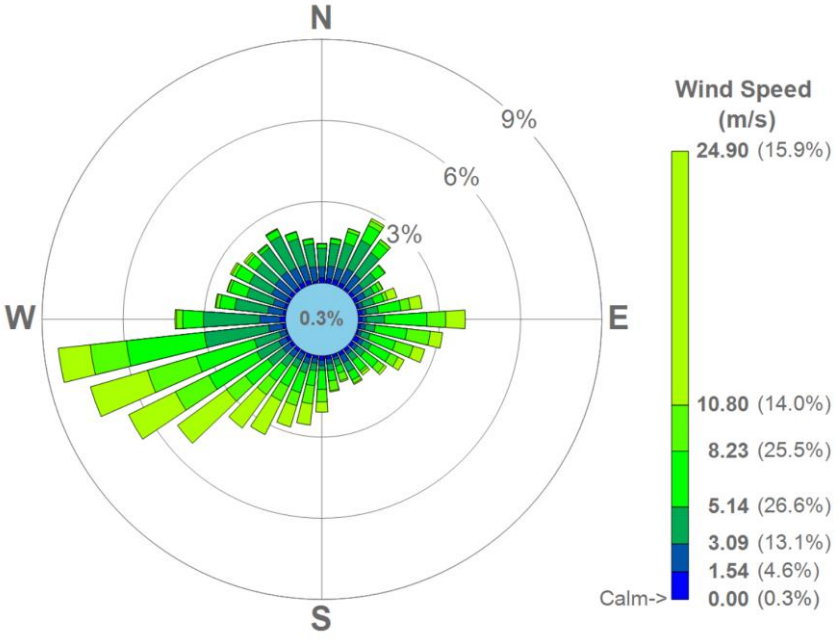
Receptor	Receptor Type	Details	Receptor Sensitivity	UK NGR (m)		Distance from Permit Boundary (m)
				X	Y	
R1	Residential Dwelling	Elba Crescent No. 1	High	270025	193015	350
R2	Residential Dwelling	Elba Crescent No. 2	High	269842	192975	350
R3	Residential Dwelling	Baldwins Crescent	High	269619	193004	190
R4	Industrial premises	AT Morgan & Sons	Low	269562	193186	50
R5	Industrial premises	Gower Chemicals	Low	269429	193248	40
R5.1	Industrial premises	Car Sales Vehicle Preparation	Low	269517	193277	Adjacent
R6	Industrial premises	Trojan Electronics 2018	Low	269693	193258	35
R7	Industrial premises	CWIC Scaffolding Academy	Low	270178	193385	90
R8	Industrial premises	1st GB logistics	Low	270083	193229	160

Figure 3-1 illustrates odour sensitive receptors relative to the Site boundary (red). A detailed environmental site setting is shown in Drawing 01.

[1] Guidance on the assessment of odour for planning, Version 1.1, IAQM, July 2018.

Figure 3-1
Nearest Sensitive Receptors

Figure 3-2
Mumbles Head Meteorological Station, 2019



The pathway for odour is air. The windrose included in the ERA is repeated as Figure 3-2.

3.5 Odour Specific Risk Assessment

The nearest residential properties are South West and South and the prevailing wind is from the West and South West. The pathway is therefore considered to be ineffective.

The most effective pathway is towards the receptors located to the East and North East of the site. The receptor in this direction is considered to be 'low' sensitivity.

In consideration of the source odour potential, pathway effectiveness and receptor sensitivity, together with the risk management measures, the associated risk from odour is 'negligible' in accordance with the IAQM Odour Guidance.

4.0 OMP Engineering Controls

The full suite of engineering controls are described in the Working Plan. Those controls that focus specifically on managing the risk from odour are developed in further detail in the following section.

4.1 Waste Transfer and Materials Recovery Building

All waste activities, including the activity with the greatest odour potential (waste storage in the tipping bays), takes place within the waste transfer and materials recovery building.

4.2 Odour and Dust Abatement System

An odour and dust abatement system is installed in the waste transfer and materials recovery building. The system draws in air from the activity with the greatest odour potential (waste storage in the tipping bays), for the waste types with the greatest odour potential (residual waste, garden waste, AHP waste, food waste and street litter).

The system is fitted with bag and carbon filters and will assist in the control of odour

5.0 OMP Operating Techniques

The full suite of operating techniques are described in the Working Plan. Those techniques that focus specifically on managing the risk from odour are developed in further detail in this section.

5.1 Waste Acceptance

Only waste which the site is permitted to take is allowed to tip off. All other waste deliveries, including waste types with greater odour potential will be denied access.

5.2 Waste Transfer

The waste transfer operation includes the activity with the greatest odour potential (waste storage in the tipping bays). Maximum retention times for materials with the greatest odour potential are set out in the Working Plan.

5.3 Materials Recovery

The materials recovery operation is focused on waste materials not identified as having significant odour potential. Nevertheless, baled materials are taken off site regularly so as to avoid nuisance. The number of bales on site will be limited, and bale bays will not be filled beyond a maximum allowing 1m freeboard to the top and front of the bay walls. Bales are removed on a first in first out basis, to maximise efficient transport of waste.

5.4 Inspection Cleansing and Maintenance

The inspection cleansing and maintenance of all engineering control, site plant and equipment, and activities will ensure the proper operation of controls to manage the risk from odour. In particular:

- Odour and dust abatement system is subject to specialist servicing and maintenance;
- Waste is transferred off site on first in first out basis; and
- Cleansing regimes will address any accumulations of waste.

5.4.1 Odour Inspections

Odour inspections are undertaken as part of the Supervisors daily inspections. The supervisors carry out smell tests at the site boundary and then within the waste transfer and materials recovery building.

6.0 OMP Management

The full suite of management procedures are described in the Working Plan. Those procedures that focus specifically on managing the risk from odour are developed in further detail in this section.

6.1 Technical Competence

Managers, technically component persons and supervisors are fully conversant with both the Permit, and the Working Plan, including this OMP.

6.2 Accidents and Incidents Procedure

The operation's accidents and incidents procedure is described in the Working Plan. Abnormal Events are described in Section 7.0 below.

6.3 Non-compliance Procedure

The non-compliance procedure is set out in the Working Plan. The procedure considers all routes by which a non-conformance may be identified and trigger action, together with the actions in response.

6.4 Complaints Procedure and Contingency Actions

In the event that elevated odour is detected by daily inspections; or receipt of complaint:

- For off-site complaints: visit complaint location and verify presence of odour where possible*;
- Review site activates and control measures and correct defects where identified;
- Record meteorological data at the time of the complaint;
- Identify potential off-site sources and inform relevant party where identified;
- Increase frequency of control techniques;
- Investigate the root cause of the problem and where possible remove the problem;
- Record incident and actions in the Site Daily Log; and
- Take steps to ensure the problem is not repeated and if needed amend the Working Plan to reflect any changes.

*presence of odour is not conclusive cause and effect, and may indicate third party source.

6.5 Information and Records

Inspections, abnormalities, and contingency actions will be recorded in the Site Daily Log.

Complaints together with contingency actions are recorded on the site's Complaints Log.

7.0 Abnormal Events

As identified in the Environmental Risk Assessment, abnormal events, including accidents may increase the risk from hazards, including odour.

The accidents and incidents procedure is described in the Working Plan, and specific abnormal events which may increase the risk from odour, together with contingency actions, are set out in Table 7-1 below:

Table 7-1
Abnormal Events

Abnormal Event	Contingency Actions
Abnormal meteorological conditions	• More frequent inspections: sniff assessments to determine the extent of detectable odours from the site towards nearby sensitive receptors • Review operating techniques: where receptors are adversely affected, consider reduced retention times for materials
Odour and dust abatement system breakdown	• Initiate repair • More frequent inspections: sniff assessments to determine the extent of detectable odours from the site towards nearby sensitive receptors • Review operating techniques: where receptors are adversely affected, consider reduced retention times for materials
Damage to the waste transfer and materials recovery building (containment)	• Initiate repair • More frequent inspections: sniff assessments to determine the extent of detectable odours from the site towards nearby sensitive receptors • Review operating techniques: where receptors are adversely affected, consider reduced retention times for materials
Fire	• Fire Prevention and Mitigation Plan is included as an appendix 04 to the Working Plan