

Environmental Permitting Regulations 2010

ODOUR MANAGEMENT PLAN

Prepared on Behalf of **Associated British Ports**

Site Name: **Roath Dock, Cardiff**

Environmental Permit Number: TBC

Prepared By:

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Issued November 2015

Post Schedule 5 Notice Submission Version: 1.2

DOCUMENT CONTROL SHEET

Client: Associated British Ports

Project: Environmental Compliance

Job No: ABP/Cardiff/ 001

Title Odour Management Plan

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To be reviewed	Annually or as necessary

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1. BACKGROUND

1.1 Scope

1.1.1 This Odour Management Plan is intended to demonstrate appropriate measures to prevent or minimise the release of odour from the site such that they do not cause unacceptable pollution levels or give rise to a statutory nuisance.

1.1.2 The export facility is in proximity to surrounding activities within Roath Dock Cardiff. Therefore, this Management Plan has been produced to address any potential odour issues arising from the RDF and Woodchip delivery and storage handling activityactivities in particular.

1.1.3 Reference has been made to the following documents:

- How To Comply With Your Environmental Permit. Version 6 (June 2013) Environment Agency
- Environment Agency Technical Guidance Note H4 Odour Management (March 2011); and
- Odour Guidance for Local Authorities, Defra March 2010

1.2 Reasons for Odour Management

1.2.1 The bespoke permit will impose conditions on the following lines:

3.2 Odour

3.2.1 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 Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable, to minimise, the odour.

1.2.2 This Odour Management Plan seeks to demonstrate compliance with the above by control of fugitive emissions that may arise, which include odour generation from site activities to reduce the amount of nuisance and annoyance that may be caused to receptors beyond the boundary of the site. In order to carry this out we have looked at the sources of odour, the pathway and what receptors might be affected by it.

1.2.3 To achieve these objectives, this Odour Management Plan identifies the following:

- Potential odour sources;
- Release points and impacts;
- Controls in place to manage the generation of odours and prevent their release;
- An odour monitoring plan to assess effectiveness of these controls;
- Contingency plans to bring any odorous emissions identified by the monitoring plan under control; and

- Emergency plans that consider the potential for incidents, which may result in the loss of control of potentially odorous substances that could have an unacceptable short term impact on the local community.

2. SOURCES, RELEASE POINTS AND IMPACTS ODOUR

2.1 Odour Sources

2.1.1 The Site Environmental Management System monitors site conditions to ensure on-going compliance with health, safety and environmental legislation. The monitoring points are shown in ([Appendix OMP D](#)). This has identified the following activities that have potential to give rise to odorous emissions:

1. Delivery of potentially odorous material
2. Storage of potentially odorous material

2.1.2 Mitigation measures are dealt with in Table 1 below

Table 1: Potential Odour Sources, Release Points & Mitigation Measures

Source	Assessment Characteristics	Embedded Mitigation
Delivery	<p>Delivery of RDF bales can generate odour</p> <p><u>Delivery of rotten woodchip could generate odour</u></p>	<p>Inspection & Monitoring of incoming loads to ensure bales are intact.</p> <p>Potentially odorous bales are not accepted and are sent back to supplier</p> <p><u>Woodchip not meeting specifications will be rejected and sent back to the supplier</u></p>
Storage	<p>RDF can generate odour, especially if damaged</p> <p><u>Woodchip can generate odour, especially if rotten</u></p>	<p>Inspection & monitoring of stored RDF <u>and Woodchip</u>.</p> <p>Damaged bales are repaired by supplier <u>offsite, whilst minor tears or holes will be repairpatched onsite.</u></p> <p>Potentially odorous <u>bales-materials</u> are isolated, and removed if necessary</p>

2.2 Odour Pathways

2.2.1 Odour should it arise would be transmitted from source to target via the atmosphere. The significance of this pathway i.e. the level of dispersal/dilution is dependent on atmospheric conditions, wind speed and direction.

2.3 Impacts and Receptors

2.3.1 Unpleasant odours may have a number of effects on sensitive receptors including:

- General annoyance;
- Increased levels of stress;
- Loss of amenity (e.g. forcing someone out of their garden);
- Sensitisation to perceived health effects; and
- Concern regarding a drop in property values

2.3.2 Odour monitoring points have been identified and are detailed on the site plan in ([Appendix OMP D](#)). The prevailing wind is from the south west (SW) i.e. blowing to the north east (NE). The nearest residential properties are over 500 metres distance from the Export Facility.

2.3.3 The receptors are listed below with the approximate distance from the site:

Ref	Receptor Type	Address	Approximate distance from Centre of the Facility (m)
R1	Permitted Area (RDF & Woodchip Storage Area)	ABP, Roath Dock	N/A
R2	Permitted Area (Woodchip Storage Area)	ABP, Roath Dock	N/A
R3R2	Adjacent Operation	ABP Operated Transit Shed	480
R4R3	Adjacent Operation	Edge of Port Estate Adjacent to EMR (Export Scrap Facility)	277
R54	Residential Development	Adventures Quay	560

3. ODOUR CONTROL

3.1 Odour Control - General

- 3.1.1 All appropriate measures are taken to prevent odorous emissions arising from the storage of RDF and Woodchip at the dockside. It is primarily controlled at source by good operational practice, including physical and management control measures.

3.2 Material Delivery

- 3.2.1 Pre-baled RDF is delivered onto site. Bales are inspected and monitored on delivery and any damaged bales are rejected and sent back to the supplier.

- ~~3.2.13.2.2~~ Loose woodchip is delivered onto site. Deliveries are inspected and monitored and any woodchip not meeting pre-agreed specifications would be rejected and sent back to the supplier.

3.3 Material Storage

- 3.3.1 Pre-baled RDF is accumulated on the dockside and stored on an impermeable concrete surface pending export. Material is built up on the dockside to obtain the quantities to fulfil specific orders and will only be present if and when these orders arise. ABP supply contracts ensure material is not left on the site for a prolonged period of time, contract maximum stipulates 3 months. Any damaged bales will be isolated and repaired by the supplier.

- 3.3.2 Loose woodchip is accumulated on the dockside and stored on a hardstanding area and/or impermeable concrete surface pending export. Material is accumulated on the dockside in stockpiles to obtain quantities to fulfil specific orders and will only be present if and when these orders arise. ABP supply contracts ensure material is not left on the site for a prolonged period of time, contract maximum stipulates 3 months. Any odorous woodchip will be isolated and removed offsite.

3.4 RDF Wrapping Monitoring System Procedure

- 3.4.1 If there is a tear or hole in the wrapping, but the wrapping is still capable of retaining the contents then a repair will be undertaken using film and tape (Not a Re-Wrap).

- 3.4.2 If the wrapping has failed and will not retain the contents then the bale will be isolated and collected and re-wrapped by the customer off-site.

- ~~3.3.13.4.3~~ No re-wrapping will take place onsite

3.4.13.5 Technically Competent Person

3.4.13.5.1 The site will have a technical competent manager (TCM) who will be onsite for the specified time period and will be responsible for ensuring that all compliance requirements are met.

3.4.23.5.2 The technical competent manager will be responsible for matters of compliance as follows:

- Waste acceptance and control procedures
- Operational controls
- Maintenance
- Record-keeping
- Emergency action plans & coordination of ship loading with ABP.
- Recording and reporting of any incidents, complaints or emergencies.

4. MONITORING

4.1 General

4.1.1 A thorough monitoring schedule is implemented to assess the following criteria:

- Process controls;
- Odorous releases;
- Transport through the atmosphere; and
- Impacts.

4.1.2 In addition to these criteria, due to the potential for odorous emissions as a result of the RDF [and Woodchip](#) material, the following elements are also included in the monitoring schedule:

- Complaints management;
- Contingency monitoring;
- Site, pathway and community monitoring undertaken by official bodies; and
- Detailed record keeping and reporting.

4.2 Monitoring Odorous Releases

4.2.1 Routine daily subjective odour (site) assessments are conducted at locations within the site boundary as shown in [\(Appendix OMP D\)](#).

4.2.2 Assessors will be chosen from staff unlikely to suffer from 'odour fatigue'. The assessors will go to each of the identified monitoring location and assess the odour present. Primarily the onsite operations manager is responsible for supervising all odour assessments.

4.2.3 A more experienced assessor will initially accompany inexperienced odour assessors, which will ensure that the nature and 'offensiveness' of any odours detected are perceived and recorded on a comparable basis for 'calibration' purposes.

4.2.4 Specific attention to the following points of detail shall be noted:

- The assessor should not smoke or consume strongly flavoured food or drink for at least an hour before the assessment is carried out;
- The consumption of confectionary or soft drinks should be avoided immediately before the during the assessment
- Perfumes/deodorants or any other strong scented toiletries should not be applied immediately before or during and assessment
- If the monitoring personnel has a cold, sore throat that inhibits the ability to detect odours then an alternative will be utilised. If this is not possible then the assessor's condition should be noted in the assessment report and site diary.

- 4.2.5 The assessor will walk slowly along the site boundary and breathe normally. The assessor will stand still at the identified monitoring locations and inhale deeply facing upwind where possible.
- 4.2.6 If odour is detected in this manner then sensitivity should be recorded as 2 (faint). If odour is detected while walking, the intensity should be recorded as at least 3. Criteria for assessing odours detected are detailed in Paragraph 4.3.9 of this Plan.
- 4.2.7 If an odour assessment at the site boundary indicates an odour arising from the site, an on-site assessment of the RDF handling arrangements will be carried out to trace any detected odour from the site boundary to the source, or identification of the direction of an off-site odour, so that appropriate corrective action can be taken.
- 4.2.8 On reporting results, additional observations as detailed in the odour assessment form in ([Appendix OMP B](#)) are recorded. Abnormal site operating conditions at the time of the survey e.g. maintenance to process equipment will also be recorded. The classification system for odour parameters is detailed below and attached to the Odour Assessment Report (see ([Appendix OMP A](#))).

Intensity

1. No detectable odour
2. Faint odour (barley detectable, need to stand still and inhale facing into the wind)
3. Moderate odour (odour easily detected while walking and breathing normally, possibly offensive)
4. Strong odour (bearable but offensive odour)
5. Very strong odour (unbearable)

Extent (assuming odour detectable, if not then 0)

1. Local and impersitent (only detected during brief periods when wind drops or blows)
2. Impersitent as above but detected away from site boundary
3. Persistent but fairly localised
4. Persistent and pervasive up to 50m from site boundary
5. Persistent and widespread (odour detected >50m from site boundary)

Sensitivity (assuming odour detectable, if not then 0)

1. Remote (no housing, commercial/industrial premises or public area within 500m)
2. Low sensitivity (no housing etc within 100m of area affected by odour)
3. Moderate sensitivity (housing etc. within 100m of area affected by odour)
4. High sensitivity (housing etc. within area affected by odour)
5. Extra sensitive (complaints arising from residents within area affected by odour)

5. COMPLAINTS

- 5.1.1 In order that the veracity of any odour complaints can be substantiated it is imperative that the site is immediately informed either by the complainant themselves or by the Natural Resources Wales or Cardiff City Council. The site telephone number is clearly displayed on the site noticeboard and complainants are encouraged to immediately contact the site and/or Natural Resources Wales in the event of any off-site odour that might be attributable to site operations being detected.
- 5.1.2 Odour complaints will be investigated in accordance with all or any combination of the following information (in order of priority):
- If the odour complaint is received during the working day and the odour event is ongoing, the responsible person will immediately visit the location of perceived off-site odour to subjectively determine odour presence/absence, odour characteristics and intensity. The assessor will be chosen so that they are unlikely to suffer from 'odour fatigue'.
 - The odour complaint will be correlated with on site activities-the site diary will be checked for 'abnormal' site operations at the time of the complaint.
 - After establishing the cause of the odorous release, corrective measures will be implemented as necessary as soon as practicably possible to prevent any further odorous release.
- 5.1.3 Upon receipt of the odour complaint at the site, the details will be recorded on the Complaint Log Form ([Appendix OMP C](#)). This will ensure that the correct and most useful information is obtained from investigation.
- 5.1.4 The duration of the odour release to which a substantiated complaint relates will be recorded in the Site Diary and Complaint Log Form ([Appendix OMP C](#)).
- 5.1.5 Site management will be advised and details of the odour complaint recorded on the Log Forms ([Appendix OMP C](#)) in addition to complaint validation results and any corrective and preventative actions taken in response to the complaint.
- 5.1.6 All complaint forms will be kept until the surrender of the permit. All records will be available for inspection by the Natural Resources Wales representatives.

6. ~~5.~~ — CONTINGENCY PLANS

~~5.1.76.1.1~~ Due to the nature of waste handled and the odour control measures in place, it is considered unlikely that the operation will present any significant odour issues. However, this section outlines short and long-term measures to be implemented in the event of an odour release as identified in the monitoring programme being found to be out of control.

~~5.1.86.1.2~~ These measures supplement the contingency measures detailed within the EMS Core Schedules Document and are specific to odour.

6.1.3 In the short term these measures could include:

1. Isolation and/or removal of any odorous materials offsite;
2. Increase inspection frequency for onsite and offsite monitoring points (especially during the summer months)
- ~~1-3.~~ Identify supplier of material generating odour emissions and keep a record within the Site Diary

6.1.4 In the long term these measures could include:

1. Exclusion of certain suppliers, if deliveries correspond to persistent odour emission
2. Increased rate of material turn over
- ~~1-3.~~ Reduction in material storage times onsite

6.7. ODOUR MANAGEMENT PLAN REVIEW

~~6.1.17.1.1~~ This plan will be independently reviewed on a regular (annual or as frequently as required) basis as part of the operation of the Site Environmental Management System. This will include:

- Review of any complaints received and remedial action taken
- Review of higher risk sources of odour to establish effectiveness of mitigation measures
- Recommendation on additional measures to be implemented as appropriate

~~6.1.27.1.2~~ In the event of any substantive changes being made, the relevant authorities e.g. EHO, NRW will be advised.

~~6.1.37.1.3~~ In the event of site operation being modified that may impact on odour generation, this plan will also be reviewed and appropriate measures taken. Additionally, in the event of operational modification the NRW will be provided with a revised copy of this Odour Management Plan.

Appendix OMP A: Odour Risk Assessment

Odour Assessment Form

Routine assessments can be used to build up a picture of the impact odour that might emanate from the site could have on the surrounding environment over time. You can develop 'worst case' scenarios by doing assessments during adverse weather conditions or during particularly odorous cycles of an operation. Ideally, you should use the same methodology to follow up complaints.

Please note:

- Staff normally exposed to the odours may not be able to detect or reasonably judge the intensity of odours off-site. You might be better off using office staff or people who have not recently been working on the site to do this.
- Anyone who has a cold, sinusitis or a sore throat, is likely to underestimate the odours.
- To improve (or to check) data quality, you can get two people to do the test independently at the same time.
- Those doing the assessment should avoid strong food or drinks, including coffee, for at least half an hour beforehand. They should also avoid strongly scented toiletries and deodorisers in the vehicle used during the assessment.

Where you test will depend on:

- whether you are responding to a complaint;
- whether you are checking your state of compliance at sensitive receptors;
- whether you are trying to establish the source of an odour;
- wind direction.

The assessment will involve someone walking along a route around the site perimeter checking at the points identified on the Site Layout Plan in ([Appendix OMP D](#)).

Also keep a note of any activities beyond the site boundary that could either be the source of the odour, contribute to the odour, or be a confounding factor

Appendix OMP B: Odour Assessment Form

Odour Assessment form										
Start Time of test		AM		PM	Finish Time			AM		PM
Duration (of test)										
Location of test if not on-site										
Weather conditions	dry		rain		fog		snow		other	
Temperature	hot		very warm		warm		mild		cold	
Wind strength	none		light		steady		gusting		strong	
Wind direction FROM	North		NE		E		SE			
	S		SW		W		NW			
<i>Intensity</i> <i>Ref: German Standard VDI 3882, Part 14</i>	0 No odour	1 Very faint odour	2 Faint odour	3 Distinct odour	4 Strong odour	5 Very strong odour	6 Extremely strong odour			
Odour Detection	Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10
Intensity (using above scale)										
Was odour constant (C) or intermittent (I) in this period										
What does it smell like? E.g. Earthy, sweet, sharp, acrid										
Is the source evident?										
If yes - name it										
Any other comments or observations										

Appendix OMP C: Odour Complaint Form

Odour Complaint Report Form	
To be completed along with Odour Assessment Form for Site	
Time and date of complaint:	Name and address of complainant:
Telephone number of complainant:	
Date & Time of reported odour:	
Location of reported odour, if not at above address: NB: This is OFFSITE Receptor sensitivity where odour detected Low (e.g footpath, road); Medium (e.g. industrial or commercial workplaces) ; High (e.g. housing, pub/hotel etc)	
Weather conditions (i.e., dry, rain, fog, snow):	
Temperature (very warm, warm, mild, cold or degrees if known):	
Wind strength (none, light, steady, strong, gusting):	
Wind direction (eg <u>from</u> NE):	
Complainant's description of odour: ○ What does it smell like? E.g. Earthy, sweet, sharp, acrid etc	
○ Intensity (see below):	
○ Duration (time):	
○ Constant or intermittent in this period:	
○ Does the complainant have any other comments about the odour?	

Are there any other complaints relating to the site, or to that location? (either previously or relating to the same incident):		
Any other relevant information:		
Was the odour likely to be from your activities?		
If yes, to above what was happening on site at the time the odour is reported to have occurred?		
Operating conditions at time the reported odour occurred		
Remedial Actions taken:		
Form completed by:	Date	Signed
Intensity 0 No odour; 1 Very faint odour; 2 Faint odour; 3 Distinct odour ; 4 Strong odour ;5 Very strong odour; 6 Extremely strong odour Ref: German Standard VDI 3882, Part 14		

Appendix OMP D: Monitoring Point Locations

