# BROCKLESBY LIMITED

## Odour Management Plan

June 2021


BROCKLESBY
A BLEND FOR SUCCESS

Client: Brocklesby Limited

Document Reference: HC1676-13

# REPORT SCHEDULE

**Operator:** Brocklesby Limited

**Client:** Brocklesby Limited

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| | | | |

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# APPENDICES

# 1. INTRODUCTION

## 1.1. Introduction

1.1.1. To ensure that the Brocklesby Limited site operates efficiently and to meet environmental permit requirements the site is required to produce an Odour Management Plan (OMP).

## 1.2. Background

1.2.1. The Brocklesby Limited operates a fats processing plant, also referred to as the Brocklesby Fatty Acid Methyl Ester (FAME) plant at Crosslands Lane, North Cave, East Riding of Yorkshire, HU15 2PG, NGR SE 88124 32281. The site processes used edible cooking oil and fatty food wastes and has been in operation at North Cave, on the site of a former aluminium smelting works, since 1997. This updated odour management plan is now prepared to accompany a permit variation for the site following a site refurbishment and associated increase in site processing capacity.

## 1.3. Purpose and Scope

1.3.1. This OMP provides information on the measures to be implemented to control odour emissions from the site and responses in abnormal scenarios. The OMP addresses the Environment Agency's general requirements for OMPs as part of the permitting process, as described in Environment Agency Technical Guidance Note H4 and How to comply with environmental permit: additional guidance for anaerobic digestion.

1.3.2. This document presents a systematic approach to identification of potential sources of odour at the site, and to characterisation of odorous sources. The document also identifies measure that are in place to manage odours during routine operations at the site. The potential for operational failures or impacts from abnormal operational conditions have also been considered, and measures identified for managing these occurrences. Roles and responsibilities for implementation of measures are also identified.

1.3.3. This OMP is structured as follows:

Section 1 - Introduction

Section 2 – Site location and overview of operations

Section 3 – Review of odour sources, pathways and receptors

Section 4 – Odour management and control measures

Section 5 – Routine monitoring, recording and reporting

Section 6 – Measures that will be used to control odour during maintenance and any abnormal events

Section 7 – Odour action plan

Section 8 – Liaison and OMP review

Section 9 – Management issues

# 2. DESCRIPTION OF THE SITE AND PROCESS

## 2.1. Site Location and Description

2.1.1. Brocklesby Limited operates a fats processing plant, also referred to as the Brocklesby Fatty Acid Methyl Ester (FAME) plant at Crosslands Lane, North Cave, East Riding of Yorkshire, HU15 2PG, NGR SE 88124 32281. The site processes used edible cooking oil and fatty food wastes and has been in operation at North Cave, on the site of a former aluminium smelting works, since 1997.

2.1.2. The processed oils and fats are sent on for use in biofuels and energy generation, and residual oils and water arising from the process are sent for use as Anaerobic Digestion (AD) feedstocks.

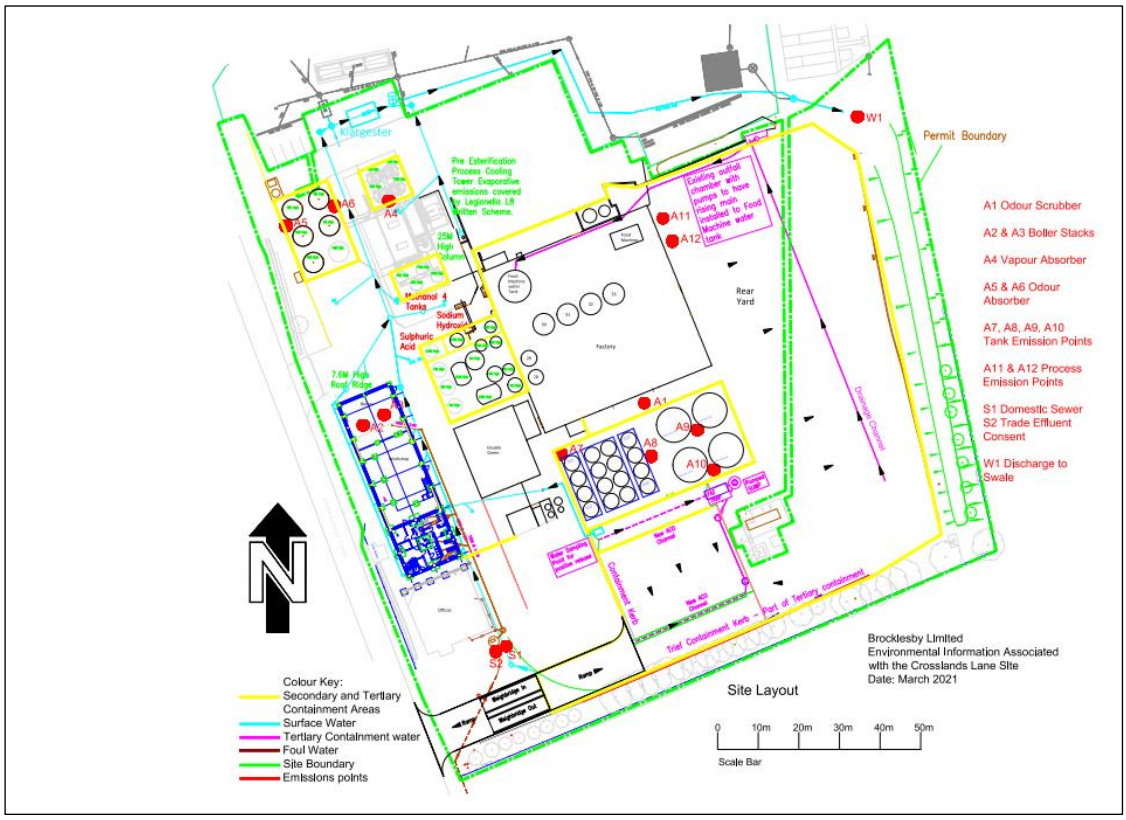
2.1.3. The site has the capacity to process up to 225,000tpa of non-hazardous wastes by heat treatment, physical treatment (centrifuge), chemical treatment (pH correction), or via the pre-esterification process. The final products from these treatment processes are sent for use as biodiesel, energy generation, or as AD feedstocks. The maximum daily processing capacity at the site is 975t.

2.1.4. The pre-esterification plant has the capacity to process up to 50,000tpa of non-hazardous wastes received at the site. This activity is listed under Section 4.1 A (1) (a) (ii) of Schedule 1 of the Environmental Permitting Regulations.

2.1.5. The Brocklesby Limited site is manned 24/7 with deliveries of waste and dispatch of final products normally taking place between 06:00h - 18:00h Monday-Friday, with sporadic out of hours movements when necessary.

2.1.6. A Plan of the site can be seen in Figure 1 below.

**Figure 1 – Plan of the Brocklesby Limited Site (HC1676-05)**



## 2.2. Neighbouring Communities, other Odour Sources and Sensitive Receptors

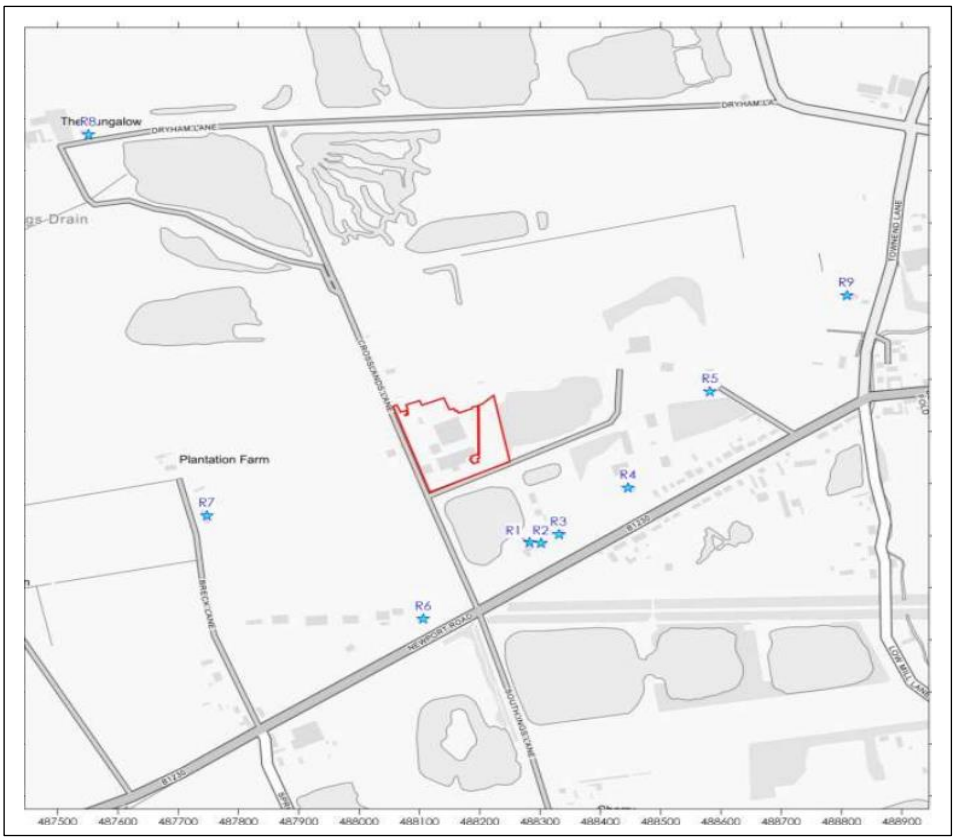
2.2.1. There are several single public dwellings and business premises within the vicinity of the site, which need to be taken into consideration in the OMP. These are listed in detail in the risk assessment for the site submitted with this application reference HC1676-08 and presented in Table 1 and Figure 2 below**.**

**Table 1 - Location of local sensitive receptors (See HC1676-08 Appendix 3)**

| Local Residents | NGR | | Approximate Distance from Boundary |
|---|---|---|---|
| | X | Y | |
| R1 - Residential Newport Road | 488282.1 | 431986.0 | HU15 2NY - 188m |
| R2 - Residential Newport Road | 488301.3 | 431984.8 | HU15 2NY - 188m |
| R3 - Residential Newport Road | 488331.0 | 432001.7 | HU15 2NY - 200m |
| R4 - Residential Newport Road | 488446.2 | 432091.6 | HU15 2NY - 250m |
| R5 – Residential - Bungalow Farm | 488581.9 | 432276.0 | HU15 2NY - 333m |
| R6 – Residential - Walnut Grove | 488106.8 | 431839.8 | HU15 2NY - 298m |
| R7 – Residential - Breck Lane | 487747.8 | 432038.1 | HU15 2PF - 370m |
| R8 – Residential - Dryham | 487551.0 | 432769.1 | HU15 2PQ - 660m |
| R9 – Residential - Townend Lane | 488808.4 | 432460.7 | HU15 2NS - 607m |

2.2.2 The Brocklesby Biogas AD Facility is immediately adjacent to the site to the north. The AD facility operates under an environmental permit in the control of Advantage Biogas Limited. The immediate area beyond is occupied by other local businesses; sand and gravel quarrying operations and a sawmill.

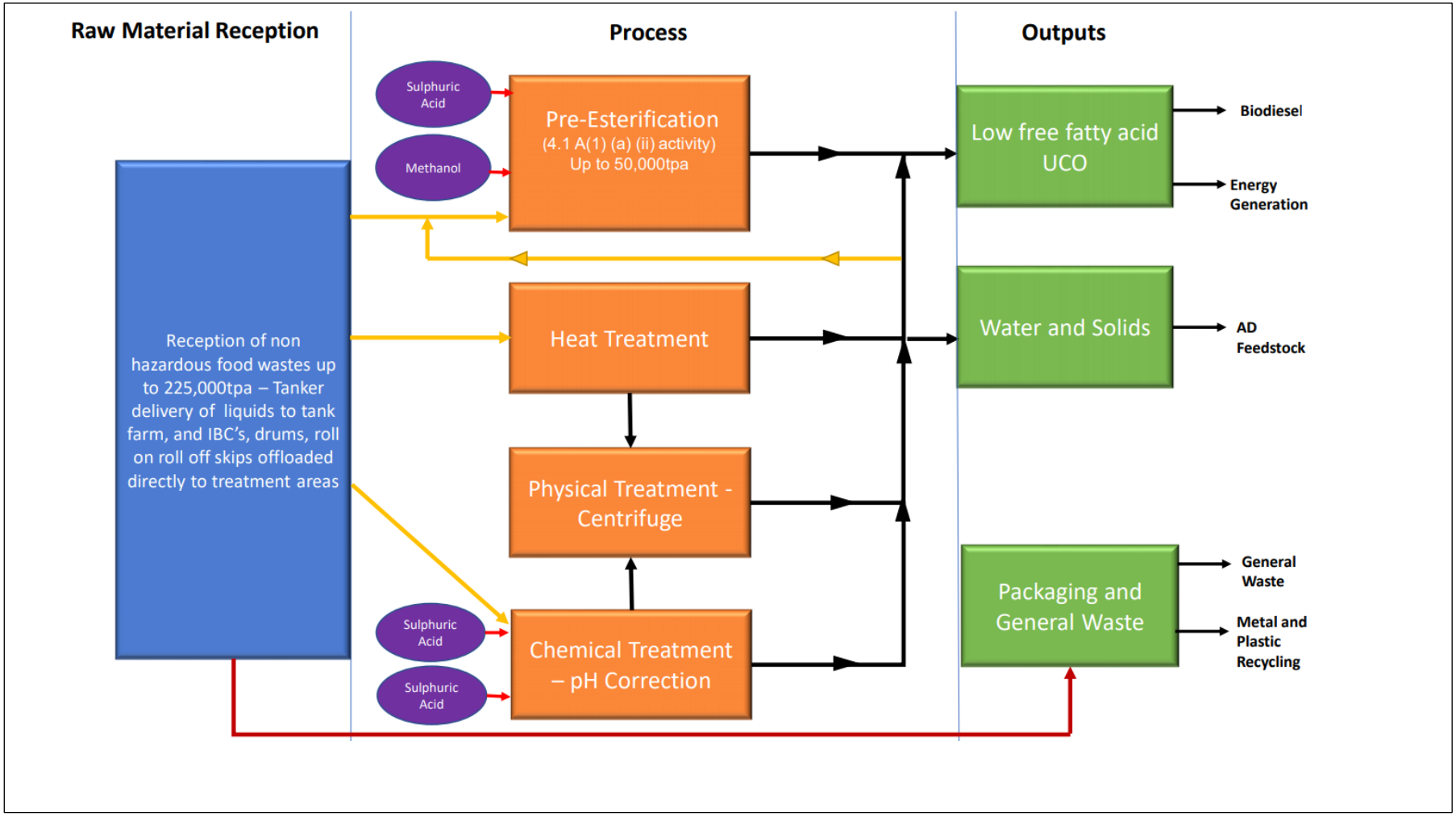
**Figure 2 - Map Showing Sensitive Receptors (see HC1676-08 Appendix 3)**




## 2.3. Overview of Site Operations

2.3.1. A full overview of site operations is detailed in HC1676-18 Measures to Demonstrate BAT. A summary of the overall process is given in Figure 3 below:

**Figure 3 – Overview of Site Operations**



# 3. REVIEW OF POTENTIAL SOURCES, PATHWAYS AND RECEPTORS

## 3.1. General

3.1.1. Potential odour sources and the effects on neighbours have been evaluated in an Odour Impact Modelling Assessment carried out by Redmore Associates in April 2021. This document is included with this application as HC1676-08, Appendix 3. This assessment concluded that predicted odour concentrations were below the relevant EA odour benchmark level at all receptor locations for all modelling years. As such, impacts associated with potential odour emissions from the facility are not considered to be significant.

3.1.2. The types of emissions from site are either fugitive to outside air or point source to outside air. The pathways to the receptors identified in section 2 will be via air emissions/dispersion.

3.1.3. The potential odour sources at the site, and their characteristics have been identified and listed in Table 2 below.

**Table 2 Odour source inventory**

| Parameter | Description |
|---|---|
| Source Description | Liquid Wastes |
| Source ID | **A** |
| Odorous materials | Liquid Wastes Feedstocks Received at site for Processing |
| Containment / release point | Open to air exposure of residual material in pipe or pipe run off sump during tanker delivery. Exposure to air of samples taken from tankers or tanks analysis. Venting to air via operation of displaced air vents storage tanks. |
| Odour description | Food waste – Variable depending upon feedstock makeup and condition. Typically, food wastes. |
| Intensity at or near the point of release (0 not detected to 6 extremely strong) | Difficult to characterise as it is dependent on the feedstocks in question. Likely to be minimal residual material and will be contained in mostly closed sump that is installed to contain residual material as a containment and control mechanism. Odours are anticipated to be from 0-4. |
| Pattern of release | Liquid feedstocks delivered via closed dedicated pumping line from tankers several time a day. Pipework and procedures dictate that a minimum amount of material should be released and collected in the sumps provided for this purpose. Samples will be taken on a daily basis and for each tanker load but will be small volumes exposed for a short time and under staff supervision. |
| Potential for problems | Equipment failures, human error, receipt of highly odorous waste. Any spillages during delivery will be contained in the sealed drainage a system in the tanker delivery area. Potential for release of odours while spill managed. |

| Parameter | Description |
|---|---|
| Source Description | Solid Wastes |
| Source ID | **B** |
| Odorous materials | Solid Wastes Received at Site for Processing |
| Containment / release point | Wastes received via skips and curtain sided vehicles and tipped or unloaded into the reception/process building. Potential for releases during delivery of material to building, during movement of containers, and tipping. Potential for release of odours from stored/tipped material during storage from stockpiles when shed doors opened for access. |
| Odour description | Food wastes – odour potential will vary depending of waste type and packaging arrangements. |

| | |
|---|---|
| Intensity at or near the point of release (0 not detected to 6 extremely strong) | Will range from 0-4 depending on waste type and packaging arrangements. |
| Pattern of release | Vehicles deliver solid wastes to shed several times a day during operational/delivery hours. |
| Potential for problems | Small spillages of wastes in yard are during unloading. Wastes received in highly odorous state. Wastes stored in shed for extended periods will increase odour potential. |

| Parameter | Description |
|---|---|
| Source Description | Boiler exhaust |
| Source ID | **C** |
| Odorous materials | Exhaust gases |
| Containment / release point | Boiler exhaust stacks, elevated. |
| Odour description | Boilers operate on natural gas – low odour potential for exhausts. |
| Intensity at or near the point of release (0 not detected to 6 extremely strong) | Odours likely to be minimal if any 0-1. |
| Pattern of release | Continuous. |
| Potential for problems | Malfunction of machinery could increase odour risk. |

| Parameter | Description |
|---|---|
| Source Description | Methanol Raw Material Additive |
| Source ID | **D** |
| Odorous materials | Methanol vapours |
| Containment / release point | Release during handling and storage |
| Odour description | Alcohol based |
| Intensity at or near the point of release (0 not detected to 6 extremely strong) | Potential for small releases only – 0-2. |
| Pattern of release | Intermittent during movement/handling |
| Potential for problems | Failure of storage and handling infrastructure (tanks/pipework) |

| Parameter | Description |
|---|---|
| Source Description | Domestic Sewage |
| Source ID | **E** |
| Odorous materials | Sewage |
| Containment / release point | No clear release points in normal operations |
| Odour description | Sewage |
| Intensity at or near the point of release (0 not detected to 6 extremely strong) | No release points in normal operations |
| Pattern of release | Domestic sewage discharged to foul sewer via foul drainage system. |
| Potential for problems | Breach of sewage foul pipework system. |

| Parameter | Description |
|---|---|
| Source Description | Wash Waters from Cleaning of Tanks and Surfaces |
| Source ID | **F** |
| Odorous materials | Wash waters from tank and surface cleaning. |

| | |
|---|---|
| Containment / release point | Exposure to air through service hatch on tanks or from surfaces. |
| Odour description | Will vary depending on cleaning operation – likely to be food waste as worst case scenario. |
| Intensity at or near the point of release (0 not detected to 6 extremely strong) | Difficult to characterise as it is dependent on the nature of the washing activity used and duration of activities. 1-4 intensity score |
| Pattern of release | Undertaken as required – for tanks this will be on an infrequent basis but duration of operation may last for several days. For surfaces this will be more frequently, but duration will be short (minutes or hours) and more heavily soiled surfaces will be indoors. |
| Potential for problems | Vacuum tanker may be used to contain residues of highly odorous material during larger cleaning operations, and emissions from these may increase impacts from odours during this exercise. |

| **Parameter** | **Description** |
|---|---|
| Source Description | Displaced Air from Vacuum Tankers |
| Source ID | **G** |
| Odorous materials | Finial Processed Materials |
| Containment / release point | Displaced air vent from vacuum tankers on filling. |
| Odour description | Will vary. Worst case scenario will be AD food soup feedstocks. |
| Intensity at or near the point of release (0 not detected to 6 extremely strong) | Will vary depending on nature of final processed material. Intensity will be 0-4 depending on material. |
| Pattern of release | Vacuum tankers will remove material from site for further use on a daily basis during normal delivery hours. |
| Potential for problems | If direct pumping line to AD site is unavailable and tanker delivery is required, then there will be an increase in vacuum tanker removal of more odorous materials. |

# 4. ODOUR MANAGEMENT AND CONTROL MEASURES

## 4.1. Feedstock/waste inventory control

4.1.1. All waste streams considered for acceptance at the site are subject to a pre-acceptance assessment procedure. Wastes are characterised during this assessment procedure, and details kept on file for each waste stream and supplier. The proforma used to assess feedstocks is shown in HC1676-18 Appendix 1, Feedstock Pre-Acceptance and Acceptance Procedure and is shown here.

**Table 3 Feedstock Pre-Acceptance Procedure Assessment Record Pro Forma (HC1676-18 Appendix 1)**

**Annex 3 – New Waste Supplier Pre-Acceptance Assessment and Characterisation Form**

| | |
|---|---|
| Date: | |
| Supplier name: | |
| Assessment carried by: | |
| Supplier address: | |
| Supplier point of contact: | |
| Supplier email: | |
| Supplier web address: | |
| Contact number: | |
| SIC code: | |
| EWC Code | |
| EWC agreed as suitable against decision tree? | |
| EWC on site permit? | |
| ABP Category | |
| Waste name/classification: | |
| Does EWC appear on ADQP (is the material suitable for inclusion in AD soup for PAS110 operators)? | |
| Waste composition and description: | |
| Waste production method: | |
| Potential for variation of waste | |
| Potential for physical contaminants to be present in the waste (list potential contaminants and origin in production process) | |
| Likely tonnages of waste available and variance in supply | |

| | | |
|---|---|---|
| | | |
| Hazards associated with the waste | | |
| Odour potential of waste | | |
| Number of samples required to characterise waste | | |
| Sample obtained: | Yes / No | |
| Sample analysed: | Yes / No | |
| Results: | | |
| Handling and storage requirements: | | |
| Preferred haulier/carrier: | | |
| Third parties (if involved) in the supply chain: | | |
| Additional notes: | | |
| Recommendation for Acceptance at the site | Yes Suitable | No Not Suitable |
| Recommended method and frequency of monitoring of ongoing suitability | | |
| Agreement of Operations Manager | | |
| Agreement of SHE Manager | | |
| Agreement of Finance Director | | |
| Approval is Provided for Acceptance of Material at Site (Must be signed by Managing Director) | Managing Director Signature | |

4.1.2. A register of waste accepted at the site will be kept consisting of copies of this proforma completed and on file. These will be reviewed on a regular basis and subject to ongoing change, addition, and re-evaluation, and assessment of hazards including odour potential is included in the characterization assessment.

4.1.3. Reference should therefore be made to this register for up to date and current feedstock characterisation data.

4.1.4. All wastes received at the site are non-hazardous in nature and received according to the waste codes laid out in the site permit.

4.1.5. All material into site will be pre-booked with a view to optimise the process and maximise tonnage through the plant. Any wastes arriving at site that are highly degraded with a high risk of odorous emissions can be rejected as outlined in HC1676-18, appendix 1 Feedstock Pre-Acceptance and Acceptance Procedure. The maximum daily processing capacity of the plant will be 975 tonnes. The site has a total site storage capacity of approximately 6,000 tonnes, the main central tank farm supplying and operational capacity of 4,400 tonnes.

4.1.6. All material coming into the site will undergo a pre-screen test including evaluation of odour. If the material is judged to be highly odorous, management will be notified pending a decision on how to proceed. The tanker or trailer load will not be offloaded until an evaluation of the risk of handling the material and any other associated risks identified on additional assessment has been completed. Tanker or trailer loads can also be stopped mid-way through loading if it is suspected that the load is problematic. If the tanker trailer load is deemed to present a risk that cannot be adequately managed within available measures, then it will be quarantined (if any has been accepted into a storage area) and rejected. The quarantined/rejected material will be taken offsite for treatment, and if deemed necessary, storage areas will be cleaned and inspected before being restored to service. This quarantine procedure is further outlined in HC1676-18, appendix 1, Feedstock Pre-Acceptance and Acceptance Procedure.

### 4.2. Management of odorous materials at facility

4.2.1 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.

4.2.2 The overall aim of the facility is to apply Best Available Techniques (BAT) at all stages of the process undertaken on site. In line with BAT, approach to odour management at the site is in accordance with the accepted hierarchy of preferred controls, that is:

- Prevent formation/release of odour in the first place;
- Where this is not practicable, minimise the release of odour;
- Abate excessive emissions; then
- Dilute any residual odour by effective dispersion.

4.2.3 The Table 4 contains the Odour Source Inventory and mitigation for the Brocklesby Limited Site. This table provides a summary of the main sources of odour, their location, patterns or release, and odour mitigation measures to be implemented during normal operational conditions to manage odours within acceptable limits.

**Table 4 Odour Source Inventory & Mitigation**

Unless specifically specified in this section, the daily/weekly/six monthly/annual maintenance schedule for associated items is outlined in the plant maintenance schedule that forms part of the operator's Environmental Management System (EMS).

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| A – Liquid wastes | Tank farm loading/unloading area.<br><br>Various storage and process tanks throughout the site.<br><br>Sample points for routine sampling. | Unloading/ loading tankers, coupling points and tank filling.<br><br>Storage of liquid wastes in storage/process tanks.<br><br>Taking samples from sample points for analysis/assessment. | Fugitive to outside air or point source to air from tank displaced air vents. | Liquid wastes and displaced air from tanks containing liquid wastes. | Pre-acceptance assessment of wastes includes evaluation of odour potential as part of pre-assessment/characterisation prior to acceptance of material at the site.<br><br>For tanker deliveries, design of pipework, sealed drainage and catch pits to contain small spills that occur during deliveries. Catch pits have automatic pump to pump contents to closed storage tank in tank farm. Pits to be checked for level and state of repair on a regular basis.<br><br>Storage tanks vent displaced air through carbon filters to abate odours prior to release to atmosphere.<br><br>Procedures for loading & unloading of tankers, which include acceptance (HC1676-18, appendix1) to ensure all deliveries meet legislative requirements. Screening of deliveries for odorous materials and associated rejection included in this procedure. Staff supervise all liquid waste delivery operations and will initiate wash down for spillages immediately.<br><br>Maintenance and inspection system in place, which includes the general tidiness |

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| | | | | | of the area and the operation of valves & associated pipework.<br><br>System of high-level alarms and shut off that is controlled by SCADA interface to prevent tanks from over filling during deliveries.<br><br>Training of staff in procedure and monitoring of competency.<br><br>Procedures are in place to detail how sampling activities should be undertaken to minimise minor spillages and prevent major spillages.<br><br>Staff are trained and monitored on their competency for sampling.<br><br>Maintenance and inspection system in place to ensure sample points are operating as designed, carbon filters are maintained, and areas are kept tidy.<br><br>Samples are kept covered where possible/relevant. Spent samples disposed of in an appropriate manner.<br><br>Daily odour monitoring point to be established adjacent to tank farm and nearest boundary, and odour assessment to be undertaken during delivery of wastes to tanks.<br><br>Monitoring of weather conditions carried out routinely to assist with assessment of potential impacts of odours. |

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| | | | | | Residency times of wastes waiting to be processed average 24 hours for liquid wastes, 3 days for wastes received in IBC's barrels and skips, and with a maximum residency time for these of 7 days. |
| B – Solid Wastes | Main waste processing building | Delivery of solid wastes to site in bulk and intermediate containers.<br><br>Storage and processing of solid waste in the main process building | Diffuse emissions from shed/containers during offloading, storage and processing.<br><br>Point source emissions from shed extraction system and odour scrubber. | Solid wastes | Pre-acceptance assessment of wastes includes evaluation of odour potential as part of pre-assessment/characterisation prior to acceptance of material at the site.<br><br>Solid wastes either tipped into storge areas inside the shed or offloaded in intermediate containers from curtain sided vehicles and then tipped inside the shed. Shed has internal sealed drainage system. Shed fitted with air extraction system that vents via carbon filter units to abate odours prior to release to atmosphere.<br><br>Stated turnaround times/max storage times for wastes awaiting treatment and contingencies in place should these storage times be at risk of being exceeded.<br><br>Waste processed on a 'first in first out' basis.<br><br>Air from more highly odorous treatment areas of the shed is kept separate from the main shed and diverted to a caustic |

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| | | | | | odour scrubber before being vented to atmosphere.<br><br>Procedures for loading & unloading of delivery vehicles, which include acceptance (HC1676-18, appendix1) to ensure all deliveries meet legislative requirements. Screening of deliveries for odorous materials and associated rejection included in this procedure. Staff supervise all waste delivery operations and will initiate clean-up for spillages immediately if needed.<br><br>Training of staff in procedure and monitoring of competency.<br><br>Maintenance and inspection system in place to ensure carbon filters and caustic scrubber are monitored and maintained, and areas are kept tidy.<br><br>Daily odour monitoring point to be established adjacent to process shed and nearest boundary, and odour assessment to be undertaken during delivery of wastes to tanks.<br><br>Monitoring of weather conditions carried out routinely to assist with assessment of potential impacts of odours. |
| C – Boiler Exhaust | Boiler exhaust stacks. | Exhaust from routine operation of natural gas fired boiler – one boiler in use at any time and a | Point source via exhaust stacks. | Exhaust gases – low odour potential | Maintenance and inspection system in place to ensure optimum operation of boilers. Monitoring of emissions to be undertaken as specified in site permit. |

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| | | second standby. | | | Boilers are newly installed and operate on natural gas.<br><br>New boilers will achieve improved energy efficiency and environmental performance measures, including installation of flue gas economisers to recover heat, variable speed drives (VSD) on pumps, a reverse osmosis (RO) plant, condensate recovery system, and steam, gas and water meters to be fitted to monitor utility usage. The new boilers will be meet the air emission limits specified in the Medium Combustion Plant Directive (2015/2193/EU). |
| D – Methanol Raw-Material Additive | Methanol storage areas and addition to the esterification process. | Esterification process. | Diffuse emissions from storage and use. | Methanol – alcohol based and potential to release VOC's | Methanol stored in outdoor bunded sealed stainless-steel tanks that are fit for purpose. Tanks subject to regular inspection and maintenance.<br><br>Delivery via tanker via sealed pipeline directly into storage tank. Mechanism to prevent over filling of tanks with automatic shut off once high-level point reached.<br><br>Transfer of material and introduction into the process via fixed pipework which introduces the material into the process at fixed points with dosing control by SCADA.<br><br>SOPs in place outlining delivery |

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| | | | | | procedures, and all deliveries supervised by a trained member of staff.<br>Spill kits provided in storage/delivery area.<br>How added to the process?<br>The Esterification process takes place inside a building which is fitted with an air extraction system which vents to atmosphere via a vapour adsorber.<br>Vapour adsorber and extraction system subject to regular ongoing maintenance and monitoring to ensure optimum functioning. Emissions from this process estimated to take place for no more than 2 hours a day.<br>Sniff test monitoring point to be located at boundary adjacent to vapour adsorber outlet to monitor for potential impacts. |
| E – Domestic Sewage | Direct connection to mains foul sewer from domestic facilities. | Management of domestic sewage. | No emissions anticipated under normal conditions. | Sewage | Site has a connection to local water company mains foul sewer for discharge of sewage from domestic facilities. No odour release points anticipated during normal working conditions. |
| F – Wash Waters from Cleaning of | Tanks and sealed concrete surfaces throughout the | Internal inspection, maintenance and cleaning of tanks, and | Diffuse emissions via tank service | Will depend on area being cleaned but worst- | Maintenance and inspection system to ensure plant equipment operated as designed to prevent events that could |

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| Tanks and Surfaces | site. | cleaning/ disinfection of sealed concrete surfaces at the site. | hatch or from concrete surfaces being cleaned. | case scenario odours will be food waste odours. | lead to a tank requiring cleaning.<br><br>Training of staff with inspection techniques and monitoring of competency.<br><br>Pre-acceptance criteria, delivery acceptance procedure to ensure materials meet specifications to prevent events that could lead to a tank or surface requiring cleaning.<br><br>Cleaning of tanks and surfaces likely to be a planned maintenance activity, so procedure can be put in place and preparations made to ensure activities are completed in a timely manner. |
| G – Displaced Air from Vacuum Tankers | Tanker liquid offtake area. | Collection of final refined products for dispatch off site. | Point source emission of displaced air from inside vacuum tanker expelled during filling.<br><br>Diffuse emissions from sampling activities if undertaken. | Will vary depending on the material being collected. | Majority of feedstocks tankered from site will be refined oil-based materials that are of low odour potential.<br><br>AD feedstock material destined for the AD plant next door is transferred by direct pipeline. AD plant next door has recently increased permitted waste processing capacity to be able to accept increased volumes of feedstocks from the Brocklesby Limited site.<br><br>Waste AD soup feedstocks removed by tanker will therefore be less frequent or associated with temporary contingency situation for transfer next door. Lower frequency of this activity not deemed to present high risk situation. |

| Source ID | Location | Activity & materials involved | Type of emissions | Likely odorous compounds | Means of control |
|---|---|---|---|---|---|
| | | | | | Sniff test monitoring point to be located at boundary nearest to tanker offtake point for monitoring of impacts. |

### 4.3. Routine contingency

4.3.1. If odours arising from activities are deemed to be at risk of causing an impact beyond the site boundary, or indeed have been found to create an impact beyond the site boundary, the causes of this will be investigated. As a result of the investigation respective action will be undertaken as outlined in the table below to ensure the event is not repeated.

**Table 5 – Routine Contingency**

| ID Source | Routine Contingency |
|---|---|
| **A – Liquid Wastes** | Examine procedures, maintenance of tank farm, delivery area and abatement equipment, and inspection system for errors. Update as necessary to prevent event occurring again. |
| | Evaluate staff competency against activity requirements. Provide extra training if necessary and update minimum skill level for role as required. |
| | Send material for further testing and evaluate against site specifications. Implement improvements to pre-acceptance, onsite screening or process monitoring as required. |
| | Evaluate relevant management systems and amend as required. |
| **B – Solid Wastes** | Examine procedures, maintenance, and inspection system for errors. Update as necessary to prevent event occurring again. |
| | Evaluate staff competency against activity requirements. Provide extra training if necessary and update minimum skill level for role as required. |
| | Send material for further testing and evaluate against site specifications. Implement improvements to pre-acceptance, onsite screening or process monitoring as required. |
| | Evaluate relevant management systems and amend as required. |
| **C – Boiler Exhausts** | Examine procedures, maintenance, and inspection system for errors. Update as necessary to prevent event occurring again. |
| | Evaluate staff competency against activity requirements. Provide extra training if necessary and update minimum skill level for role as required. |
| | Evaluate relevant management systems and amend as required. |
| **D – Methanol Raw Material Additive** | Review measures in place for containment, transfer and handling of material, and abatement of emissions.<br>Evaluate maintenance and monitoring schedules and update as required. |
| | Evaluate staff competency against activity requirements. Provide extra training if necessary and update minimum skill level for role as required. |
| | Evaluate relevant management systems and update as required. |
| **E – Domestic Sewage** | Inspect foul drainage system and evaluate maintenance and monitoring procedures in place. Update systems if required. |
| | Carry out corrective and preventative maintenance as required. |
| | Evaluate staff competency against activity requirements. Provide extra training if necessary and update minimum skill level for role as required. |

| | |
|---|---|
| **F – Wash Waters from Cleaning of Tanks and Surfaces** | If the cleaning exercise is the result of a process malfunction, send material for further testing (if relevant) and evaluate against site specifications. Implement improvements to pre-acceptance and acceptance procedures and onsite screening or process monitoring as required. |
| | Evaluate the effectiveness of permit to work and a management system which ensures that any person & company carrying out activities at the site has the necessary licenses and competency. Update systems if required. |
| | Evaluate staff competency against activity requirements. Provide extra training if necessary and update minimum skill level for role as required. |
| | Examine procedures, maintenance, and inspection system for errors. Update as necessary to prevent event occurring again. |
| **G – Displaced Air from Vacuum Tankers** | Re-assess risk from activity in site risk assessment if impacts found to occur during site monitoring or due to complaints. |
| | Consider implementation of additional temporary measures if higher risk conditions present for specific activities. |
| | Review management systems and monitoring schedules and update if required. |

### 4.4 Back stop contingencies

4.4.1 The design of the plant means there is a degree of flexibility with respect to liquid storage capacity, as materials can be transferred between tanks. Solid wastes are stored for up to 1 days. The operator can divert wastes to nearby sites that process similar materials should the need arise to prevent maximum storage times from being exceeded.

4.4.2 The site is equipped with two boilers, one for duty and one for standby. Heat and power is also provided via a biogas fired CHP boiler unit that is associated with the adjacent AD site and exports heat and power to the Brocklesby Limited site. The site boilers have the potential to be modified to operate on diesel should the need occur, and the site is located close to good transport routes and industrial facilities so an emergency generator could potentially be sourced locally if needed.

### 4.5 Process control

4.5.1 The process at the site is controlled via a SCADA interface system with associated system of alarms and controls. Staff are available to respond to alarms twenty-four hours a day.

### 4.6 Containment, collection, and abatement of odorous air - Minimising odorous emissions and volumes

4.6.1 The operator has installed a number of measures for containment, extraction and abatement systems at the site. These are summarised in table 6 below.

**Table 6 – Summary of Containment, Extraction and Abatement Measures**

| Release Point | Extraction, Containment and Abatement Measures in Place |
|---|---|
| A1 – Odour Scrubber | IBC emptying area of main process building is separated from rest of shed and air from this area is extracted and passed through a caustic scrubber before venting to atmosphere at A1 |
| A11 and A12 – Process Emissions Points | The rest of the main process shed is fitted with an air extraction system. Air is vented at two release points (A11 and A12) via inline carbon filters. |
| A4 – Vapour Absorber | Air in the process building where the esterification process takes place is extracted and released to atmosphere via a vapour adsorber. |
| A5 and A6 – Odour Absorber | Displaced air from vents on tanks in the tank farm at the north west corner of the site is passively vented to atmosphere via carbon filters. |
| A7, A8, A9 and A10 – Tank Emission Points | Displaced air from vents on tanks in the new tank farm in the centre of the site is passively vented to atmosphere via carbon filters. |

### 4.7 Operating conditions of containment/abatement systems

4.7.1 The containment and abatement systems at the site are used routinely during normal operation conditions. The odour scrubber is in use when IBC emptying activities take place. The extraction system on the rest of the shed is in use during manned operations at the site. The vapour absorber is estimated to be in use for up to two hours a day. Passive vents to carbon filters associated with tank farm tank filling takes place during filling operations. For the main tank farm, filling operations will be via tanker and these operations will always be supervised by a member of staff.

4.7.2 Deliveries to the site normally taking place between 06:00h - 18:00h Monday-Friday, with sporadic out of core hours movements when necessary.

### 4.8 Monitoring of containment/abatement system

4.8.1 Detailed inspection, maintenance and monitoring regime will be in place to ensure the plant runs to its design parameters. The plan includes daily management of abatement equipment to ensure it is working to the correct process conditions and in the case of carbon filters, changed prior to saturation. All results of inspection and testing of abatement equipment will be recorded on the site system and results evaluated by site staff.

4.8.2 The carbon filter provided for abatement of displaced air from the two tank farms at the site will be monitored proactively to ensure that the carbon media is replenished before performance drops significantly and impacts are detected beyond the site boundary. The media from pre-existing filters at emissions points A5 and A6 are replaced on an annual basis. This time frame is based on monitoring of performance when first commissioned. Performance characteristics of these tanks and filers is not anticipate to change because of the current site variation. Additional sniff tests are carried out at the outlet of the tanks as part of the maintenance schedule for the site. If a drop in performance is detected before 12months, then the filters media is replaced sooner.

4.8.3 The carbon filters that serve the main process shed extraction system (A11 and A12) are changed every 12 months. This is based on performance monitoring at the point of commissioning of this

pre-existing infrastructure, and the filters will be changed sooner if impacts are detected before 12 months. Filter units for these emission points are kept on site as critical spares and so units can be replaced quickly if a need is identified ahead of schedule. It is not anticipated that the current variation will alter the performance parameters for this aspect of the site.

4.8.4 The carbon media of the vapour absorber will be replaced every 12 months and this is pre-existing infrastructure with changeover times based on previous performance. The processing capacity of the esterification unit will remain unchanged under the current variation, and so these change over times continue to be suitable. Media will be changed sooner if performance is found to deteriorate prior to the due date.

4.8.5 The new carbon filters serving the enlarged tank farm (emission points A7 – A10) will be monitored for performance during the first three months of operation and beyond this depending on whether this three month period is deemed characteristic of new operations at the site after the variation. Additional sniff test monitoring will be undertaken at the abatement equipment outlet points and an inspection of the carbon media will be made after three months in use. The media can be removed from the unit for visual/tactile inspection. The manufacturer recommends this course of action and advises that if the media is found to be rigid rather than pliable, then the media is spent and in need of replacement.

4.8.6 Depending on the findings of the three month monitoring assessment, a further three months monitoring phase will be undertaken. This will allow the operator to gain a view on how often the media will need to be changed. Once this has been established, a regular change point will be included in the plants PPM schedule.

4.8.7 Media will be changed ahead of scheduled dates if a drop in performance is detected before this time.

4.8.8 If monitoring and inspection of carbon scrubbers reveals any issues relating to operating conditions, they will be altered until design conditions are met.

4.8.9 While carbon filters serving the tank farms are being replaced, tank filling operations for tanks served by the filter being changed will be stopped while maintenance takes place, or diverted to one of the other filters.

4.8.10 The vapour absorber associated with the esterification plant is in use for up to 2 hours a day. Maintenance will be schedule to take place out of hours of use.

4.8.11 The main process shed has two extraction outlet points. Filter media on each leg will be changed at separate times.

4.8.12 The caustic scrubber unit which abates air extracted from the IBC emptying area has an integral control system that allows site staff to monitor performance. A differential pressure gauge monitors pressure differential across media packings and displays a visual indication of the pressure drop across the packing. This can provide an early indicator of media becoming fouled with a risk of drop in performance. A set point on this monitoring point will indicate when maintenance is required.

4.8.13 A variable area flow meter gives a visual indication of the liquid flow rate. Monitoring the liquid flowrate to the top of the tower can help determine the condition of the pump in recirculating scrubbers and whether there may be blockages or restrictions in pipework or spray nozzles. The

ability to vary the liquid flow gives the opportunity to reduce the pressure drop over the packings, if necessary.

4.8.14 An in-situ pH probe provides a display reading of pH. The pH of the scrubbing liquor will change over time, and continuous monitoring of pH can give an indication of when the scrubbing liquor is spent and needs replenishing. The inline pH probe gives a real-time reading and eliminates the dangers associated with manual sampling of potentially hazardous chemicals. It can also be used to trigger an alarm to warn when the liquor needs replenishing.

### 4.9 Dispersion of odours

4.9.1 All identified emission points where possible occur at height through a stack to allow for appropriate dispersion.

4.9.2 Maintenance activities, which have the potential for odour release, will be evaluated on the day to assess if dispersion conditions are appropriate, in daylight with a wind speed of 5 mph or greater. If not the activities will be delayed until they are deemed suitable.

# 5 MONITORING

## 5.1 General

5.1.1 Plant equipment and process performance will be constantly monitored to ensure odours are reduced to a minimum and any odour sources are identified.

5.1.2 Monitoring has an important role to play in assessing the effectiveness of operational practices to prevent and contain odours; and in assessing the nature and extent of an odour problem should it arise.

5.1.3 This section of the OMP describes how the effectiveness of operational practices and controls will be checked by:

- monitoring of changes on site; and
- monitoring of effects off site (at the site boundary and beyond).

## 5.2 Monitoring of Odour Emissions

5.2.1 The operator will monitor the emissions at their source (i.e. on site) to ensure releases do not result in odour nuisance at sensitive receptors. In the widest sense the term monitoring includes both emissions monitoring of odour (or a surrogate parameter) and inspections of the process, buildings, and equipment to check that emissions are being contained and controlled to meet the accepted standards of good practice.

5.2.2 Brocklesby Limited's monitoring strategy includes:

- Proactive inspection and maintenance of plant and the odour control equipment;
- Process monitoring for surrogate parameters – (feedstock pre-acceptance analysis);
- Daily sniff test;
- Meteorological data monitoring;
- Complaints monitoring; and
- Odour diaries from residents.

## 5.3 Sensory Field Odour Assessment by the 'Sniff Test'

5.3.1 Monitoring of odour exposure by sensory field odour assessment ("sniff testing") uses odour assessors to record the attributes of the odour. The assessment is "sensory" in that the human nose is used as the detector – a sound approach considering that no analytical instrument can give a unified measure of a complex mixture of compounds that quantifies it as a unified whole in the same way that a human experiences odour. This technique is recommended in Defra's Local Authority Guide on Odour and the Environment Agency Guidance H4 as being suitable for daily monitoring of odours on its site and at the boundary.

5.3.2 The operator carries out a daily walkover survey carrying out sniff-testing along the site boundary, at point source emissions and identified sensitive local receptor locations and, if necessary (e.g., in the event of any complaints being received), at other additional locations. Details of the **recording sheet** can be found **in Appendix 1.**

**Table 7 Summary of Sniff Test Monitoring at the site boundary**

| Sampling Route | Location |
|---|---|
| **Route plan supplied in appendix 2** | 1) Site Entrance<br>2) Boundary Adjacent to Tank Farm and Vapour Absorber<br>3) Northern Boundary Adjacent to Klargester<br>4) North Eastern Corner Adjacent to Swale<br>5) Eastern Boundary Opposite Process Shed<br>6) Eastern Boundary Opposite Tank Farm<br>7) Southern Boundary Opposite Tank Farm<br>8) Southern Boundary Opposite Tanker Loading Bay |
| **Sampling and analysis method** | Human nose |
| **Person carrying out the assessment** | Operator regular site member of staff, visiting operator members of staff, members of the local community |
| **Monitoring frequency** | Daily |
| **Other information** | General weather conditions including wind direction. |

5.3.3 A primary sniff test will be conducted at the start of the day when the tester will be most sensitive to onsite odours. Tests at this time of day will provide the opportunity for the impact for a range of discreet on-site activities to be evaluated, (such as waste deliveries and removal), as well as ongoing operational functions. If discreet activities are scheduled that will present a risk of elevated odours (e.g. tank cleaning or maintenance operations), then sniff tests may be specifically scheduled to be carried out while these activities are being carried out. The assessments will be carried out by individuals who are specifically trained in the procedure, and that are competent to differentiate between the different odour sources on site.

5.3.4 Staff will be trained to ensure an awareness of transient factors that may impact on their ability to perform the test objectively, such as the need to avoid strong foods or drinks half an hour prior to performing the test, and the need to avoid contact with scented products whilst performing the test. Inter tester reliability will be checked on a periodic basis by having two testers perform the sniff test simultaneously, so that results can be compared as a 'check' of data reliability and consistency. Sniff tests will be carried out as a specific task, to ensure that the tester is not distracted by other activities that may cause odours to go undetected. Visiting operator staff members will also be invited to partake in the sniff test when onsite. Members of the local community will also be invited to take part in sniff tests. The frequency of sniff tests will be increased in the receipt of complaints.

5.3.5 Details of how the results of sniff tests are recorded and submitted are given in Appendix 1. Sniff testing is designed to detect any odorous emissions. In the event that an odour score of 4-6 is detected, the source of the odour will be investigated, and remedial action taken, as necessary, as described in section 7.4. Typical measures include identifying the source, evaluating equipment and process performance, corrective action and stopping the respective part of the process equipment if required.

## 5.4 Monitoring Meteorological Data

5.4.1 Meteorological data is collected from the nearest Met Office weather station and via an onsite weather station. The following information is collected on a daily basis via use of an on-site weather station;

- Wind speed
- Wind direction
- Temperature ($^{o}$C)
- Weather conditions

## 5.5 Odour diaries

5.5.1 Members of the local community will be invited to keep odour diaries. Members will be asked to note the following details;

- Date;
- Time;
- Description of odour;
- Odour strength;
- Duration; and Other comment.

# 6 ABNORMAL EVENTS

## 6.1 General

6.1.1 This section of the OMP deals with the management and control of odours during maintenance and emergency periods and is crucial to the Odour Management Plan. This section describes how the operator will implement an action plan for abnormal event scenarios (including emergencies, maintenance, breakdowns, weather anomalies, etc.). This is a summary of the foreseeable situations that may compromise the operator's ability to prevent and/or minimise odorous releases from the process and the actions to be taken to minimise the impact. Such actions may be as simple as temporarily preventing the receipt of waste to the more drastic shutting down of the plant.

**Table 8 – Abnormal Events**

| Event | Location | Likely effect on emission inventory | Response measures |
|---|---|---|---|
| **Severely odorous waste received** | Reception area | Unchanged | All loads are pre-screened for odour as part of liquid and solid waste acceptance checks.<br>If a load is suspected to be of high odour it is reported to onsite management who will initiate further assessment of the waste and decide whether it should be accepted or not. Loading into the tanks can also be stopped midway through the process if there is suspected high odours.<br>If site management deem that the waste cannot be managed at the site with available measures without causing impacts offsite, then the load will be rejected. |
| **Failure of carbon filter abatement units in tank farms** | Displaced air from tanks in tank farms | Displaced air released unabated resulting in impacts on receptors beyond the site boundary | There are several carbon filters at the site and several tanks within the tank farm. If a carbon filtration unit is found to be not operating effectively, then a replacement/replacement media will be sourced immediately. In the meantime, the tank/s venting through this unit will either be taken out of use (filling) until the unit can be brought back into normal functioning, or consideration will be given as to whether emissions can temporarily be diverted through other filters serving other tanks at the tank farm.<br>Conduct additional sniff test monitoring until issue is resolved.<br>Notify staff and local receptors if there is |

| Event | Location | Likely effect on emission inventory | Response measures |
|---|---|---|---|
| | | | deemed to be a significant odour at site receptor points, odour score 4-6. |
| **Failure of carbon filter and scrubber abatement units in processing buildings** | Extracted air from the processing shed | Extracted air from the shed released unabated resulting in impacts on receptors beyond the site boundary | Immediate action to be taken to replace carbon filers/odour absorber in shed extraction system. Process shed carbon filter units to be kept as critical spares to allow quick replacement.<br>Reduce/stop acceptance of solid waste loads to shed if impacts detected.<br>Reduce/stop processing activities in specified areas until abatement equipment can be repaired/replaced/optimised.<br>Conduct additional sniff test monitoring until issue is resolved.<br>Notify staff and local receptors if there is deemed to be a significant odour at site receptor points, odour score 4-6. |
| **Tanker failure/large spill** | Reception area | Exposure of odorous waste to air resulting potential release of odours and impacts beyond the site boundary. | Initiate immediate clean up procedures using spill containment sump with pump to storage tank to contain and enclose spill and wash waters.<br>Conduct a boundary sniff test and notify local receptors if there is deemed to be a significant odour, odour score 4-6, at site receptor points. |
| **Catastrophic tank failure** | Site tankage | Exposure of odorous waste to air resulting potential release of odours and impacts beyond the site boundary. | Operations personnel to initiate emergency management plan, crisis escalation procedure ensuring all people onsite are accounted for and surface water drainage system final outlet penstock valve is closed.<br>If another tank/sump is available, contents should be transferred to the other tank to prevent prolonged odour release.<br>Initiate clean up as quickly as practically possible, in accordance with APHA requirements if needs be.<br>Use a vacuum tanker to remove liquids from bunds and sump.<br>Site has own tanker provided on site. Contact details for emergency tanker supply to be included in the accident |

| Event | Location | Likely effect on emission inventory | Response measures |
|---|---|---|---|
| | | | management plan emergency contacts list.<br>Investigate root cause of the incident.<br>Conduct additional odour sniff tests and weather monitoring until clean-up is complete.<br>Notify local receptors if impacts detected or predicted.<br>Suspend the acceptance of loads and reduce any other potentially higher risk odour activities until clean-up is complete. |
| **Severe weather** | Site Operations | Change in normal dispersion characteristics of odours at the site. | Potentially cancelling of loads if deemed unsafe to load/unload.<br>Increased monitoring of odour abatement equipment and sniff tests.<br>Increased weather monitoring.<br>Dialogue with local receptors. |
| **Electrical power cut – grid blackout** | Site Operations | Extraction and abatement equipment that needs a power supply will be temporarily unavailable. | Gas fired boilers will provide heat to site and can be modified to operate on diesel in prolonged emergency situations.<br>Heat and power available from the CHP engine/boiler that exports to the site from adjacent AD site – operational on biogas.<br>Abatement systems for displaced air from tanks are passively vented.<br>Suspend acceptance of loads to shed and activities in process areas where extraction/abatement systems require electrical inputs to operate until power restored.<br>Additional sniff test monitoring and notification to local receptors if prolonged outage occurs. |
| **Multiple staff absence** | Site Operations | Unchanged. However, increases likelihood of equipment failure and odour release. | Contact Director to arrange for temporary cover staff.<br>Reduced the volume of material accepted into the site and onsite activities until sufficient staff to manage operations within required measures and |

| Event | Location | Likely effect on emission inventory | Response measures |
|---|---|---|---|
| | | | resources. |
| **Emergency scenarios – Injury to person** | Site Operations | Dependant on the situation. | All staff trained in first aid.<br>Details of response measure are included in the emergency response plan.<br>Lone worker system in place.<br>Familiarisation visits from the emergency services to understand the risks on site. |
| **Catastrophic events – equipment failures** | Site Operations | Severity is dependent on the situation. Depending on equipment and nature of failure, there may be risk of odour impacts. | Details of response measures are included in the accident management and emergency response plan.<br>Familiarisation visits from the emergency services to understand the risks on site.<br>Notify all local receptors.<br>Operations will be suspended in relevant area of the site in the event of catastrophic failure.<br>Impact of odours will be included and considered as part of incident management measures and incident review. |
| **External supplier unavailable** | Site Operations | Unchanged. However, increases likelihood of equipment failure and odour release. | Alternative suppliers for all critical plant equipment to be identified and detailed.<br>Key items to be kept as critical spares at the site. |
| **Fire** | Site Operations | Exposure of waste, raw material and fire waters to atmosphere creating risk of increased odour emissions during fire and post incident during clean up. Odours from smoke/fire management. | Fire emergency response plan in place for staff team and management of fires addressed in accident management plan.<br>Familiarisation visits from the emergency services to understand the risks on site.<br>Notify all local receptors in event of a firee.<br>Suspend acceptance of loads and potentially cease operations.<br>Initiate fire clean-up operation as soon as possible and carry out odour monitoring during this period. Regular updates with local receptors and regulator. |

| Event | Location | Likely effect on emission inventory | Response measures |
|---|---|---|---|
| **Explosion** | Site Operations | Release of odorous materials to atmosphere/air exposure | Details of response measure are included in the emergency response plan.<br>Familiarisation visits from the emergency services to understand the risks on site.<br>Notify all local receptors.<br>Suspend acceptance of loads and potentially cease operations.<br>If odour impacts detected initiate additional monitoring and update with receptors while conditions brought back under normal operational conditions. |
| **Flooding** | Site Operations | Unchanged. However, increases likelihood of equipment failure and odour release. | Details of response measure are included in the emergency response plan/accident management plan.<br>Familiarisation visits from the emergency services to understand the risks on site.<br>Suspend acceptance of loads and potentially cease operations.<br>If odour impacts detected initiate additional monitoring and update with receptors while conditions brought back under normal operational conditions. |

# 7 ODOUR ACTION PLAN

## 7.1 Complaint monitoring

7.1.1 The operator implements a system of complaints monitoring and analysis. Complaints are collected, registered, validated and summarised monthly for review by senior management.

7.1.2 Complaints are an indicator of community dissatisfaction, and the technique of complaints monitoring is a powerful tool. However, it is important to bear in mind that complaints are only a symptom of annoyance or nuisance; there are various reasons why complaint level is not an exact indicator of odour annoyance or nuisance itself. Nevertheless, the collection, maintenance and analysis of records of complaints are an important method of indicating the effectiveness or otherwise of measures implemented to reduce nuisance due to odour. Whilst complaints are not a perfect indicator of nuisance, a change in the number of complaints is a reasonable indicator of improving or worsening impact due to odour. It is certainly true that the level of annoyance due to odour is extremely difficult to distinguish from factors such as traffic, noise, dust or just a perception of general unpleasantness on a personal level. It is also quite common for a large proportion of complaints to be received from a very limited number of people in the community. Therefore, odour complaints are most useful when used as a prompt for further investigations.

## 7.2 Complaints Handling and Communications

7.2.1 The operator has in place a comprehensive system of monitoring and inspection to check odour control measures are functioning effectively at the site. However, if an odour complaint is received, it is important that complaints are properly and systematically dealt with.

7.2.2 The management of complaints is controlled by the Operator's Environmental Management System, which states that the Company will maintain a register of all complaints and in all cases managers shall ensure that all complaints have been adequately handled and that any measures necessary to prevent a recurrence have been put in place**.**

7.2.3 This section of the OMP describes how the operator will:

- Respond to any odour complaint;
- Investigate any odour complaints, take the appropriate steps and actions, and keep stakeholders informed; and
- Communicate to appropriate bodies routinely and in response to any incidents or planned maintenance.

## 7.3 Complaints Management and Registration

7.3.1 Complaints are managed in accordance with the Incident Reporting procedure and the operator maintains a register of all complaints received.

7.3.2 Members of the public are able to contact the operator with any odour complaints about the facility by the following means:

- By telephone – the Site office. Outside of these hours, and on infrequent occasions during the above hours when an immediate reply cannot be made, there will be an answer phone service.

7.3.3 In the event that the operator receives a complaint alleging potential odour nuisance from the facility, the details are collected, and the complaint must be processed which involves the following actions:

a) the complaint will be fed into the registration system; and
b) complaints data will be recorded in a systematic way, enabling comparison with standard odour descriptors, with wind direction and with site work activities on **Odour Complaint Form**. A copy of this form is attached to this document as **appendix 3.**

7.3.4 The facility complaints register is inspected monthly to obtain the data necessary for complaints monitoring and analysis.

**7.4 Roles and responsibilities for complaints management**

7.4.1 The following personnel will be responsible for ensuring that all complaints and recorded and appropriately addressed:

- Company Director
- Managing Director
- Operations Manager

7.4.2 The recommended minimum information that needs to be collected for each complaint is:

- Time and date when the offensive odour was observed;
- Location (within approx. 100 m) where the offensive odour was observed, e.g. postal address, grid reference) and its sensitivity;
- Complainant`s description of odour. This should include a subjective description of all the factors necessary to make an assessment of the impact of the odour, including intensity, character (preferably on the basis of a choice from standardised descriptors given in Environment Agency Technical Guidance Note H4), relative unpleasantness (either pleasant, unpleasant or neutral), frequency and duration;
- Identity of the complainant, if possible, to assess the repeated nature of complaints;
- Residential address of the complainant
- Any other information the complainant can offer on activities at the alleged odour source.

7.4.3 It is also necessary to collect the following additional information to allow subsequent analysis and collation of complaints:

- wind direction and speed, and atmospheric stability class at the time of complaint; and
- any process incidents at the time of complaint.

**7.5 Investigation of Odour Complaints**

7.5.1 This escalating response procedure shows what investigative actions will be taken in response to a complaint. The aim of the investigative actions will be to establish the:

i) Source of the odour complaint
ii) Impact of the odour.

7.5.2 A series of investigative tools, of increasing sophistication, will be used until these two questions can be satisfactorily answered. This then enables the appropriate odour controls to be applied if the impact is significant and the source is confirmed as the facility.

**7.6 Screening of Odour Complaints**

7.6.1 Investigation will start with an initial screening of the complaint. If the screening process “fails to confirm” the odour incident is related to activities at the facility, the odour investigation will stop at that point. If the screening process confirms the odour incident is likely to be related to site operations, then a more detailed investigation will be carried out.

7.6.2 The object of the initial screening is to identify those odour complaints that are unlikely to be due to the site operations quickly, perhaps because they result from some other activities in the area.

7.6.3 Initial screening should consider the following:

- Knowledge of potential sources on the facility (tie-up with work activities in progress, any
- plant problems, etc.);
- Knowledge of potential sources in the locality other than the facility;
- Wind direction at the time of the alleged odour episode (in relation to the locations of the
- facility and the complainant);
- Distance of the complainant from site; and
- Concurrent odour monitoring data (e.g. daily perimeter sniff tests).

7.6.4 If an assessor is able to attend rapidly after a complaint it may be possible to carry out effective appraisal of the complaints independently by a sniff test.

7.6.5 The operator will inform the complainant of the outcome of the screening/ investigation and whether or not any action is to be taken.

### 7.7 Further investigation of the complaint

7.7.1 If the initial screening is unable to discount the facility as the source of the odour complaint, then further investigation will be carried out, which will either 'confirm' and 'further characterise' the odour incident as due to the facility, or it will 'fail to confirm' the incident.

7.7.2 Further investigation will be by means of a graded response, designed to answer the questions:

- Is the episode due to the facility? (i.e. source verification)
- How bad is episode? (i.e. assessment of impact).

7.7.3 The operator may use odour monitoring (including, but not necessarily restricted to sniff testing) to provide data to answer these questions or provide additional confirmation. The complainant will be asked to complete an odour diary at the receptor location to assist in the investigation. If odours are persistent, an offsite member of the operator’s staff will be used to verify the odour, and additional routine sniff test locations will be added to the routine daily monitoring schedule at complainant receptor locations.

7.7.4 The monitoring effort is increased in a graduated way until the data generated is sufficient to answer the relevant questions being asked. If the level of monitoring being carried out at a particular stage in the graded response cannot answer the question (either at all, or with sufficient confidence to satisfy stakeholders) then monitoring should move to the next level.

7.7.5 As well as monitoring, the operator may be able to obtain more detailed information from operator records about process conditions, observations, or inspections at the time of complaint – this would allow odour trends to be identified and possibly reconciled with particular process operations or maintenance. The adjacent Biogas Site also has the potential to cause odour impacts and will also operate according to an odour management plan. If complaints are received by either site, and the origin of the odour is not immediately clear, there will need to be a joint approach to investigation

and reporting of incidents. A protocol for joint working across the two sites has been developed to outline how the two sites operate co-operatively across a number of operational areas. This protocol is reviewed on an annual basis.

### 7.8 Communications with External Stakeholders - Engaging with the local community

7.8.1 Proactive engagement strategies will be used to ensure that there are clear communication channels with the local community. To do this the operator will;

- Engage with community liaison groups
- Invite members to complete odour diaries
- Notify the community if scenarios odour events occur – emergencies, catastrophic events
- Notify the community when significant planned maintenance activities are occurring which may be predicted to cause temporary odour impacts taking

### 7.9 Communications with External Stakeholders - Communicating with the Environment Agency

7.9.1 If any complaint is made by a member of the public about any matter associated with the facility, the operator will give notice in writing to the Environment Agency no later than the next working day after the complaint is received. This written notification will normally be in the form of an email. The notification will include a description of the complaint, the name and address of the person making the complaint and the action proposed as a result, unless agreed by the Environment Agency. Depending on the nature of the complaint, it will not always be possible to resolve the matter within this short timescale. In such cases an indication will be given that further investigation is necessary.

### 7.10 Communications with External Stakeholders - Communicating with complainants

7.10.1 In the case of answer phone messages and complaints submitted by email or by letter, an acknowledgement and initial response will be given by telephone or by email within 48 hours, if telephone or email contact details have been given by the complainant. Where complaints cannot be resolved on initial contact and further investigations are required, a written response will be made within 10 working days of submission of the complaint.

7.10.2 The primary reasons for further investigation of complaints are to assess potential nuisance and identify the likely cause and source of the odour so that nuisance can be reduced or stopped. In the case of further investigations, the operator will communicate to the complainant the course of actions likely to be taken to ensure that there is transparency and also to establish at the outset clear targets and goals for determining the success of any control measures.

7.10.3 The level of annoyance associated with odours can often be reduced if affected individuals are provided with credible information about what they are smelling, the process that generates the odours, any factors affecting dispersion, what health impacts might be associated with the odour, what efforts are being undertaken to control odours and what is being done in response to their complaint. These actions can help affected individuals to moderate their own emotions of powerlessness and fear which may be exacerbated by odour. Liaison with the local community, offering credible reassurance and taking complaints seriously are often effective means of mitigating odour nuisance. To put this into practice, the operator will aim to communicate the following message:

- The reason for the odour;
- The likely duration of the odour;
- What plan is in place to end the odour episode;
- What preventative plan will be implemented to prevent a re-occurrence;
- What grievance procedure the aggrieved party can take; and
- Who is the responsible person on site to contact.

### 7.11 Actions in the Event of Abnormal Emissions

7.11.1 If monitoring indicates that abnormal emissions from the facility are taking place (such as source monitoring, or monitoring beyond the site boundary), the site management team would take the following actions:

- Cease the activity causing the abnormal situation, if necessary;
- If possible, take immediate steps to eliminate the cause of the abnormal situation in accordance with the measures outlined within Section 6 of this OMP;
- Contact the relevant maintenance contractor if necessary - to obtain telephone support / advice or to request attendance on site;
- record response to alarm and remedial action taken;
- Follow operator's internal procedures to advise possible complainants with details of the problem; and Check relevant items of odour control equipment in order to identify possible cause of the abnormal emission (for example, carbon filters, etc.).

# 8 LIAISON AND OMP REVIEW

## 8.1 General

8.1.1 The OMP contains details for liaison with local receptors to ensure there is a good working relationship.

8.1.2 Any records required to be submitted by the Environmental Permit will be supplied to the Environment Agency as specified in the permit.

8.1.3 The operator is committed to an internal auditing process and to developing documented auditing procedures to record the process. The updating and review of controlled documents is controlled by the Document Control Process.

8.1.4 The Environment Agency will be provided reasonable access to audit the implementation of the OMP, the sniff test results, complaints records and records of the operator's compliance with the OMP.

8.1.5 It is the operator's intent that the change mechanism should provide for improvements in management practice and organisation, to allow the OMP to be a living document, whereby changes to plant, equipment and practices that improve the operation of the facility and do not detract from overall environmental performance, are not unduly delayed or hindered. The OMP will be reviewed and updated on a periodic basis and as a minimum once a year.

# 9 MANAGEMENT ISSUES

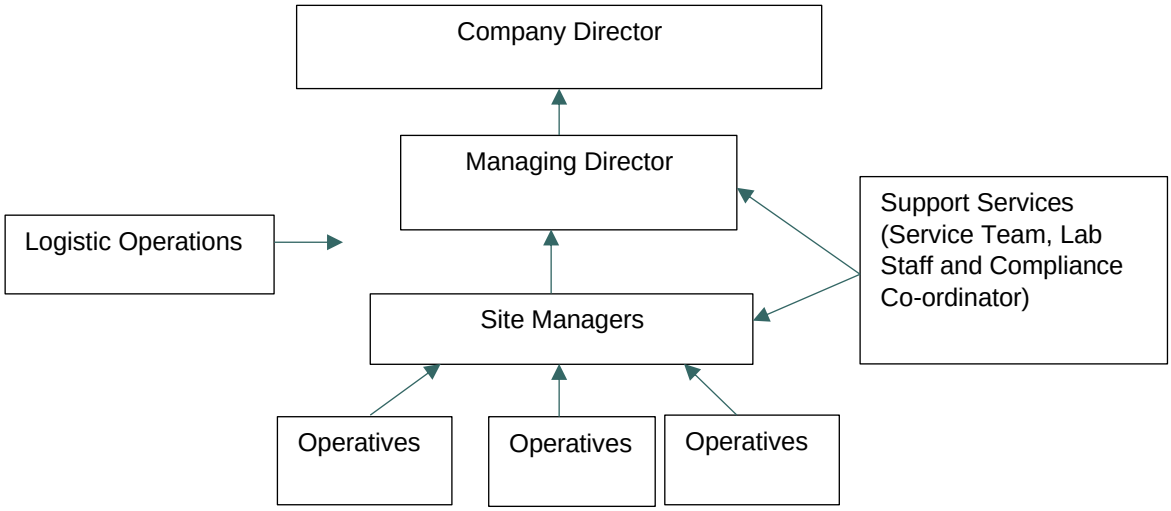
## 9.1 General

9.1.1 The operator is committed to managing the impacts of odour from the Brocklesby Limited site effectively. This commitment extends from policies produced at director level, to the resources available to the competent personnel, to the abilities of the personnel managing odour-critical work tasks. This section describes the responsibility for the management and operation of the facility.

9.1.2 The operator conducts operations according to an Environmental Management System, which contains policies, operating standards and company procedures which are understood and effectively maintained at all levels within the company.

9.1.3 The operator has appointed managers with the authority and responsibility for implementing the Site Management System. Work instructions, job descriptions and procedures exist for critical areas of the company's activity and these have been issued to or made available to personnel responsible for undertaking these tasks.

9.1.4 Site staffing structure at Brocklesby Limited is provided in the flow chart below.




9.1.5 Further information on roles and responsibilities is given below:

- There are staff on site 24 hours a day 7 days a week.
- Operational personnel are also responsible for making observations of process performance while on site. While carrying out their daily routine duties on the site they are instructed to note and observe any unusual odour occurrences and to report these to the Site Manager.
- Non-specialist maintenance/inspection is carried out by site operational personnel according to the maintenance planner and procedures.
- Other specific maintenance support is provided by specialist contractors who carry out routine preventative maintenance and reactive breakdown maintenance. The establishment of specialised support for maintenance/inspection/monitoring of complex equipment/tasks is provided through framework contracts. These contracts have terms and conditions, which include response times and requirements for routine inspection and servicing.

- There are two in house members of staff who are trained as technically competent managers and provide cover to the plant.

9.1.6 The Environment Agency will be notified of any changes in technically competent management and the name of the incoming person together with evidence that that person has the required technical competence.

**9.2 Training and Competence - General Procedures for Training and Competence of Staff**

9.2.1 The company identifies training requirements of its employees and provides suitable resources to ensure they have the required knowledge, skills and expertise to carry out their duties. This includes their roles and responsibilities in complying with the company procedures and relevant legislation. This is achieved through induction training for new employees, awareness training for all and specific training as required. Contractors and all persons performing tasks on behalf of the Company will be made aware of these requirements and will be competent in the roles undertaken as part of this plan.

**9.3 Training and Competency of Operational Staff at Brocklesby Limited**

9.3.1 All staff at the facility are made fully aware of the need to be vigilant about site odour control and management procedures. To minimise risk of emissions, particular emphasis will be given to:

- The awareness of their responsibilities for avoiding odour nuisance;
- Actions to minimise emissions during abnormal conditions
- The need to report any actual or potential odour impact to site management for further investigation and monitoring.

**Appendix 1 – Daily Sniff Test Record Sheet**

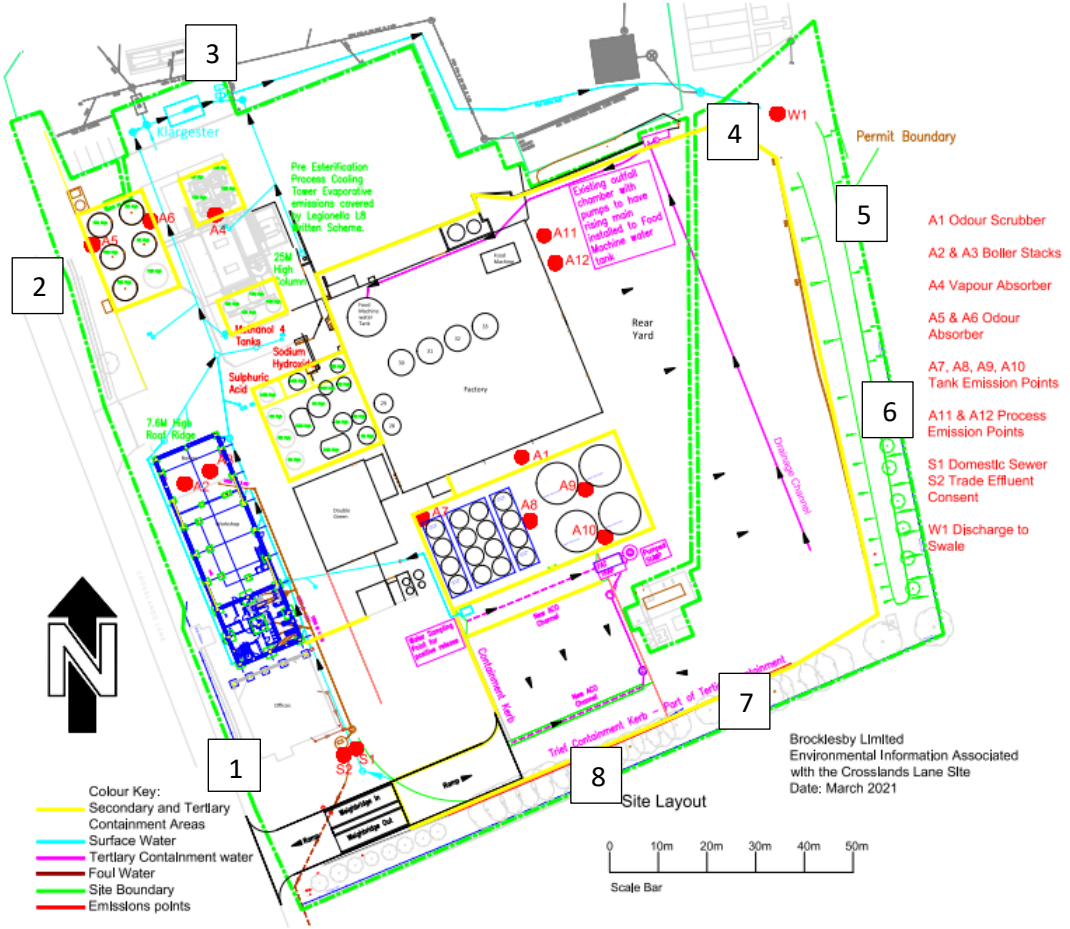
| | | | | |
|---|---|---|---|---|
| **Date of test** | | | | |
| **Time of test** | | | | |
| **Test location** | | | | |
| **Weather conditions** | | | | |
| **Weather temperature** | | | | |
| **Wind strength** | | | | |
| **Direction of wind** | | | | |
| **Odour strength** | | | | |
| **Test duration in mins** | | | | |
| **Smell characteristics** | | | | |
| **Sensitivity of receptors** | | | | |
| **Is the odour cause apparent** | | | | |
| **Continual or irregular** | | | | |
| **Further Notes** | | | | |

Sensitivity of receptors: Low (e.g. footpath) /Med (e.g. Industrial or commercial work places /High – (e.g housing)

Odour strength:

| Intensity | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| Description | No odour | Very faint odour | Faint odour | Distinct odour | Strong odour | Very strong odour | Extremely strong odour |

## Appendix 2 – Daily Sniff Test Route Plan




**Sniff Test Point Locations**

1) Site Entrance
2) Boundary Adjacent to Tank Farm and Vapour Absorber
3) Northern Boundary Adjacent to Klargester
4) North Eastern Corner Adjacent to Swale
5) Eastern Boundary Opposite Process Shed
6) Eastern Boundary Opposite Tank Farm
7) Southern Boundary Opposite Tank Farm
8) Southern Boundary Opposite Tanker Loading Bay

**Appendix 3 – Odour Complaint Form**

| | | | |
|---|---|---|---|
| **Brocklesby Limited Odour Complaint Report Form** | | Date: | |
| Name and address of Complainant: | | | |
| Tel No. of Complainant: | | | |
| Date, time and duration of offending odour: | | | |
| Location of odour (if not at above address): | | | |
| Weather conditions (i.e. dry, rain, fog, snow): | | | |
| Cloud cover (0 – 8): | | | |
| Cloud height (low, high, very high): | | | |
| Wind strength (light, steady, strong, gusting) or use Beaufort Scale: | | | |
| Wind direction: | | | |
| Complainant's description of odour (i.e. comparison with other odours, strong/weak, continuous/fluctuating): | | | |
| Are there any other complaints relating to the installation, or to that location? (either previously or relating to the same exposure) | | | |
| Has complainant any other comments about the odour? | | | |
| Any other relevant information: | | | |
| On-site activities at time the odour occurred: | | | |
| Operating condition at time offensive odour occurred<br>(e.g. flow rate, pressure at inlet and pressure at outlet) | | | |
| Actions taken: | | | |
| Form completed by: | | Signed: | |

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