Purpose

This Odour Management Plan (OMP) has been designed to detail the methods employed at this site, including monitoring and contingencies, to prevent, control and minimise odour pollution.

Management Plan Format

The structure of this management plan is as follows:

Source Materials Inventory (Table 2) – Site personnel will use this inventory to identify potentially odorous materials stored on-site, their storage location and designated storage time on site.

*Odour Release Inventory***–** Site personnel will refer to this inventory in the event of odours impacting on off-site receptors to employ the contingency measures detailed.

The inventory (Table 3) details:

- Potential odour releases from site under normal operation;
- The impact control measures employed by site to minimise the potential odours from identified release sources;
- Abnormal scenarios leading to potential odour releases; and
- Contingency plans in the event of the above abnormal scenarios occurring.

A listing of key procedures (Table 4) is also provided justifying the procedures and policies in place to minimise the potential for odour generation from site.

Monitoring and Evaluation **–** This section of the management plan provides reference to the odour monitoring undertaken at site and complaint procedures in place in the event of an odour complaint being received on site. Actual monitoring and complaint procedures are detailed within the EMS System Index.

Review

Site Management will ensure the effectiveness of this OMP is reviewed annually or when the following occurs:

- A series of sustained complaints that have been linked by Site Management or the Regulator to deficiencies in this OMP; For the purposes of this OMP, ‘sustained complaints’ is defined as follows:

  - Receipt of a compliance assessment report from the EA, with a score of 3 or worse related to odour in the period of 1 week;
  - Receipt of 2 or more compliance assessment reports from the EA, with a score of 4 or worse related to odour in the period of 1 week;
  - Receipt of more than 10 complaints from unverified, individual sources in the period of 1 week.
- Significant change to site infrastructure or operating techniques, e.g. anything that requires a permit variation application to be made to the EA.

Where the risks associated with odour impact upon sensitive receptors require improvements to on-site controls, this will be dealt with through the Incident and Corrective Action reporting structure implemented at the installation.

Guidance

Table 1 outlines guidance documents that have been used to produce the Odour Management Plan. This Table will be updated as appropriate during every review to ensure the latest available Environment Agency guidance is consulted.

Table 1 – Guidance Documents

Reference	Title	Document Issue Date / Version
EPR 1	How to Comply with your Permit	V6 June 2013
H4	Odour Management	April 2011
EPR 6.12	The Red Meat Processing (Cattle, Sheep and Pigs) Sector	No information given
-	Environment Agency's supplementary guidance for abattoirs and poultry processors	V1 June 2010

Source Materials

Table 2 – Source Materials Inventory

Source	Description / Scope [1]	Nature of odours – fresh material	Nature of odours – degraded material	Quantity of Material	Length of Time on Site [3]
Livestock Site A	Sheep within lairage.	Farmyard animal smell. Some urine and manure odour.	Pungent ammonia and manure smell.	N / A	Lairage cleaned out on a weekly basis.
Animal By-Products Site A and B	CAT 3 Animal by-products trailer / skips.	Fresh meat.	Rotting flesh, ammonia.	Trailer Capacity 30 t Note - Dolavs used to transfer material to trailer.	<24 hours
	Cat 1 Animal by-products trailer.	Fresh meat.	Rotting flesh, ammonia.	Trailer Capacity 30 t Note - Dolavs used to transfer material to trailer.	<24 hours

Table 2 – Source Materials Inventory

Source	Description / Scope [1]	Nature of odours – fresh material	Nature of odours – degraded material	Quantity of Material	Length of Time on Site [3]
	Belly Grass	Manure type smell.	Pungent ammonia and manure smell.	Trailer Capacity 30 t	Belly grass collected every two days.
	Blood Tank	Metallic, salty odour.	Highly rotten flesh with ammonia and sulphurous elements.	Tank Capacity 45 t	Blood collected three times a week.
Waste Vessels Site A and B	General Waste Skips.	Waste.	Smelly waste. Degraded food, wet cardboard.	General Waste Skips Capacity 10t 2 no.	General waste removed fortnightly.
Effluent in Treatment Vessels Site A	Effluent Screen	Manure type smell.	Pungent ammonia and manure smell.	Screen capacity < 1t	Effluent discharged ASAP following treatment. Screens monitored by Site Operative and screening cleaned out following the EMS procedure. Screenings placed in the CAT 1 ABP trailer.

1. See Bulk Storage Plan for locations of materials where a reference has been given in brackets.
2. See Emergency Contact List for details of removal contractors for all of the above source materials.
3. Length of time on site is the expected norm and variation may occur under fault conditions. All reasonably foreseeable fault conditions have been dealt with in Table 3 below.

Odour Release Inventory

Notes:

1. Contingency measures for the identified scenarios are linked by numbers (e.g. Release scenario 1 is covered by Contingency measure 1)
2. In the event of a suspected off-site impact, site personnel will carry out an odour assessment (as per the Odour Assessment Procedure in the EMS). Should this assessment show an off-site impact then the appropriate contingency measures will be implemented.
3. Where contingency measures are undertaken, site personnel will complete an Incident and Corrective Action Form.
4. Where procedures have been developed as part of the EMS, see Table 4 Listing of Key Procedures and their EMS references.

Table 3 – Odour Release Inventory

Potential odour release area	Scope for potential odour release – normal conditions	Impact control measures adopted	Odour release scenarios – abnormal conditions	Contingency measures in event of listed release scenario occurring
Lairage (Site A and B)	• Livestock deliveries; • Lairage area; • Cleaning of lairage area; • Discharge through lairage slats; • Generation of manure & urine by livestock held in lairage awaiting slaughter.	• Clean livestock policy; • Dedicated lairage manager to ensure impact controls are implemented; • Daily hygiene and housekeeping checks; • Livestock lairage cleaned out and waste removed weekly. • Livestock deliveries scheduled. • Rapid unloading of deliveries. • Procedures developed as part of the EMS.	1. Slaughter line / plant breakdown resulting in full lairages. Livestock deliveries cannot be accepted into the lairages for a prolonged period of time.	1. Initially livestock will be placed into the lairage area. If this reaches capacity then livestock deliveries will be cancelled, or diverted to farm / another slaughterhouse or arrival delayed to site. Any livestock remaining on site after 24 hours will be sent to another slaughterhouse or to farm under direction of the site veterinarian.

Table 3 – Odour Release Inventory(Cont)

Potential odour release area	Scope for potential odour release – normal conditions	Impact control measures adopted	Odour release scenarios – abnormal conditions	Contingency measures in event of listed release scenario occurring
Blood Tank (Site A Only)	• Emissions from displaced gas discharged via charcoal filters; • Storage of blood; • Collection of blood.	• Frequent blood collections – 3 times a week; • Blood collection tankers are able to vent to a dedicated vehicle charcoal filter; • Clean in place and level control system within blood tank to prevent old blood stagnating within the tank; • Large enough blood storage volume to ensure that sufficient ullage is always available to minimise risks from overfilling and so that blood collections do not have to be made more frequently than required; • Large bore discharge pipe, allows material to discharge quicker and minimises potential for material to be left behind to age. • Environmentally critical equipment subject to Planned Preventative Maintenance; • Infrastructure Monitoring Programme inspections; • Procedures developed as part of the EMS.	1. Spillage of blood during collection which is left to degrade. 2. Failure of blood tank odour abatement system; 3. Breakdown of tankers own back venting system during collection. 4. Blood tank failure and / or collection tanker tank / pipe failure resulting in major spillage.	1. Site staff will clean and dispose of blood following Spill and ABP Procedures. 2. Site staff will use the Emergency Contact list to contact engineer. Site will replace abatement media within the scrubber system if spent. 3. Site has its own carbon box filter that could be used in the event of a tanker's own back venting abatement system breaking down. 4. See Table 1 of EMS Accident Management Plan 'Blood Storage'.

Table 3 – Odour Release Inventory(Cont)				
Potential odour release area	**Scope for potential odour release – normal conditions**	**Impact control measures adopted**	**Odour release scenarios – abnormal conditions**	**Contingency measures in event of listed release scenario occurring**
Animal By-Products – (Site A and B) Site B transfer of Dolavs to Site A only	*(Includes CAT 1, CAT 3 and Gut content)* Site and Site B • Loading of ABP; • Storage of ABP; • Removal of ABP.	• Dedicated yard operative to ensure impact controls are implemented; • By-products removed from site every 24 hours; • Gut content removed twice weekly; • By-products removed in covered trailers; • Infrastructure Monitoring Programme inspections; • Procedures developed as part of the EMS including.	1. Spillage during loading and collection which is left to degrade. 2. Leaking ABP trailers. 3. ABP trailers left on site for prolonged periods and / or in periods of very hot weather. 4. ABP trailer failure leading to major spill of ABP. 5. Spillage of Dolavs from Site B transfer	1. Site staff will clean and dispose of spilt ABP following Spill and ABP Procedures. 2. Site will repair trailer where possible (e.g. tighten nuts) and site staff will use the Emergency Contact List to contact ABP contractor to request replacement trailer. 3. Site staff will use the Emergency Contact List to contact ABP contractor to request removal of the trailer ASAP. 4. See Table 1 of EMS Accident Management Plan 'Animal By-Products'.
General Waste .(site A & B)	• Storage of general waste on site	• General waste collected fortnightly. • Infrastructure Monitoring Programme inspections. • Procedures developed as part of the EMS.	1. Skip not emptied for a prolonged period.	1. Site staff will use the Emergency Contact List to contact waste contractor to ensure the Waste Skip is collected ASAP.

Table 3 – Odour Release Inventory (Cont)				
Potential odour release area	**Scope for potential odour release – normal conditions**	**Impact control measures adopted**	**Odour release scenarios – abnormal conditions**	**Contingency measures in event of listed release scenario occurring**
Process Lines Site A and B	• Odours from the process (post lairage through to packing).	• Operation performed within an enclosed building to contain potential odours. • Boning hall minimal odours, Products chilled	1. Breakdown of process equipment.	1. Site staff will use the Emergency Contact List to contact engineer. In the event of prolonged shut down site will make arrangements to remove all potentially odorous materials from site.
Effluent Treatment Infrastructure Site A	• Effluent screens; (site A) • Process drainage	• Dedicated yard operative to ensure impact controls are implemented; • Effluent screenings placed in the CAT 1 trailer and removed from site daily. • Environmentally critical equipment subject to Planned Preventative Maintenance. • Infrastructure Monitoring Programme inspections. • Procedures developed as part of the EMS.	1. Build-up of odorous materials on effluent screens, screenings left for prolonged periods. 2. Failure of effluent treatment equipment. 3. Process drain blockage.	1. Site staff will dispose of screen material following Effluent Screen Procedures. 2. Site staff will use the Emergency Contact List to contact engineer. 3. Site staff will unblock drains or use the Emergency Contact List to contact drainage contractor.
Effluent Discharge Point Site A	• Discharge of effluent to sewer. Site A only	• Effluent treated prior to discharge.	1. Failure of effluent treatment equipment.	1. Site staff will repair screens on site or use the Emergency Contact List to contact engineer.

Table 4 - Listing of Key Procedures			
EMS Ref	**Procedures / Policies Identified in OMP**	**Potential Odour Release Area Covered**	**Justification for Use in Potential Odour Impact Area**
03-003	Daily Site Inspection	• Effluent treatment infrastructure; • Animal by-products and blood tank; • General waste;	Daily Site Inspection ensures key odour source locations are kept clean and activities being undertaken correctly, minimising the potential for odours from blocked drains, spills and the effluent screens.
02-003	Scheduling of Deliveries	• Lairage.	Scheduling of deliveries and collections prevents backlogs of vehicles which may contain potentially odorous materials.
02-004	Waste and Animal By-Products Procedures	• Animal by-products; • Blood tank; • General waste.	Ensures that wastes and ABP are disposed / recovered in compliance with the permit minimising the potential for site to generate odours through poor waste / ABP management techniques.
02-003	Delivery and Collection Procedure	• Effluent treatment infrastructure; • Animal by-products; • Blood tank; • General waste.	Control of deliveries and collections of potentially odorous materials at site ensures that they are supervised. E.g. if an environmental incident such as a spill occurs it is cleaned up appropriately and not left to become potential odour sources.
02-005	Spill Control Procedure		Control, mitigate, clean-up of spills and / or leaks of potentially odorous materials on site to ensure they are not left to become potential odour sources.
01-006	Fugitive Emissions Monitoring Programme Inspections.		The site FEMP provides a robust mechanism that ensures fugitive emissions of materials, including those that are potentially odorous are kept to a minimum.
02-014	Blood Tank Procedure	• Blood tank.	These procedures control the collection of blood from the abattoir sumps into the collection tank, ensure no blood is left in the blood tank over a weekend or a period of prolonged shut down and provide a contingency procedure in the event of the blood tank level sensor failure. Having these controls in place ensure that there is minimal potential for odours from the handling and storage of blood on site.

Table 4 - Listing of Key Procedures			
EMS Ref	**Procedures / Policies Identified in OMP**	**Potential Odour Release Area Covered**	**Justification for Use in Potential Odour Impact Area**
02-007	Bund Management Procedures	• Blood tank.	The management of bunds to ensure that they are fit for purpose includes inspections for materials inside the bunds that if not cleaned up could potentially become odour sources.
02-008	Odour Monitoring Procedure	All areas identified within the OMP.	Housekeeping and Cleaning kept to a high standard which minimises the potential for odours. Odour monitoring is undertaken to assess the level of odour generation on site and the potential for off-site impacts so that pro-active mitigation can be undertaken.
02-009	Communication and Complaints Procedure		Communication with regulatory authorities and environmental complaints from third parties is covered by this procedure so that the relevant corrective action can be undertaken in the event of a complaint.

Monitoring and Evaluation

Key Receptors **–** Receptors sensitive to odour emissions from site have been outlined on the 'Sensitive Receptor Plan'. These are to be considered when undertaking odour monitoring and assessing odour impact control measures.

Odour Monitoring **–** Monitoring of site odours is to be undertaken following the Odour Assessment EMS Procedure detailed within the EMS System Index. This has been designed to assess the level of odour generation on site and the potential for off-site impacts so that pro-active mitigation can be undertaken.

Complaints **–** Odour complaints are dealt with by the Complaints Procedure detailed within the EMS System Index. This has been designed to manage all communications in relation to regulatory authorities, interested parties, staff and environmental complaints.

Interpretation of Monitoring Results and Complaint Records **–** Site Management will review all odour monitoring records to ensure good evidence is provided that emissions are well managed and that any control measures in place are working as intended.