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1. Purpose

The purpose of this Odour Management Plan (OMP) is to:

- Establish the likely sources of odour arising from processes at the facility;
- Set out the procedures followed at the site in order to prevent or minimise odour emissions during normal operating scenarios;
- Set out corrective actions and remedial measures utilised to prevent or minimise odour emissions during abnormal and emergency events; and,
- Formalise the procedures for dealing with any odour complaints.

2. Scope

Rudie's Kitchen, at Symmetry Park Bawtry Road Blyth, Worksop, S81 8HH

3. Introduction

3.1. Background

The OMP has been prepared with reference to the following best practice guidance:

- H4: Odour Management, Environment Agency (EA), 2011;
- Best Available Techniques (BAT) Reference Document for the Food, Drink and Milk Industries 2019; and
- Environment Agency Odour Management Plan Template Final V2 05/05/21

In accordance with the stated guidance, this OMP has been designed to:

- Employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution;
- Prevent unacceptable odour pollution at all times; and,
- Reduce the risk of odour releasing incidents or accidents by anticipating them and planning accordingly.

This OMP has considered sources, releases and impacts, and used these to identify opportunities for odour management.

3.2. Site Location and Context

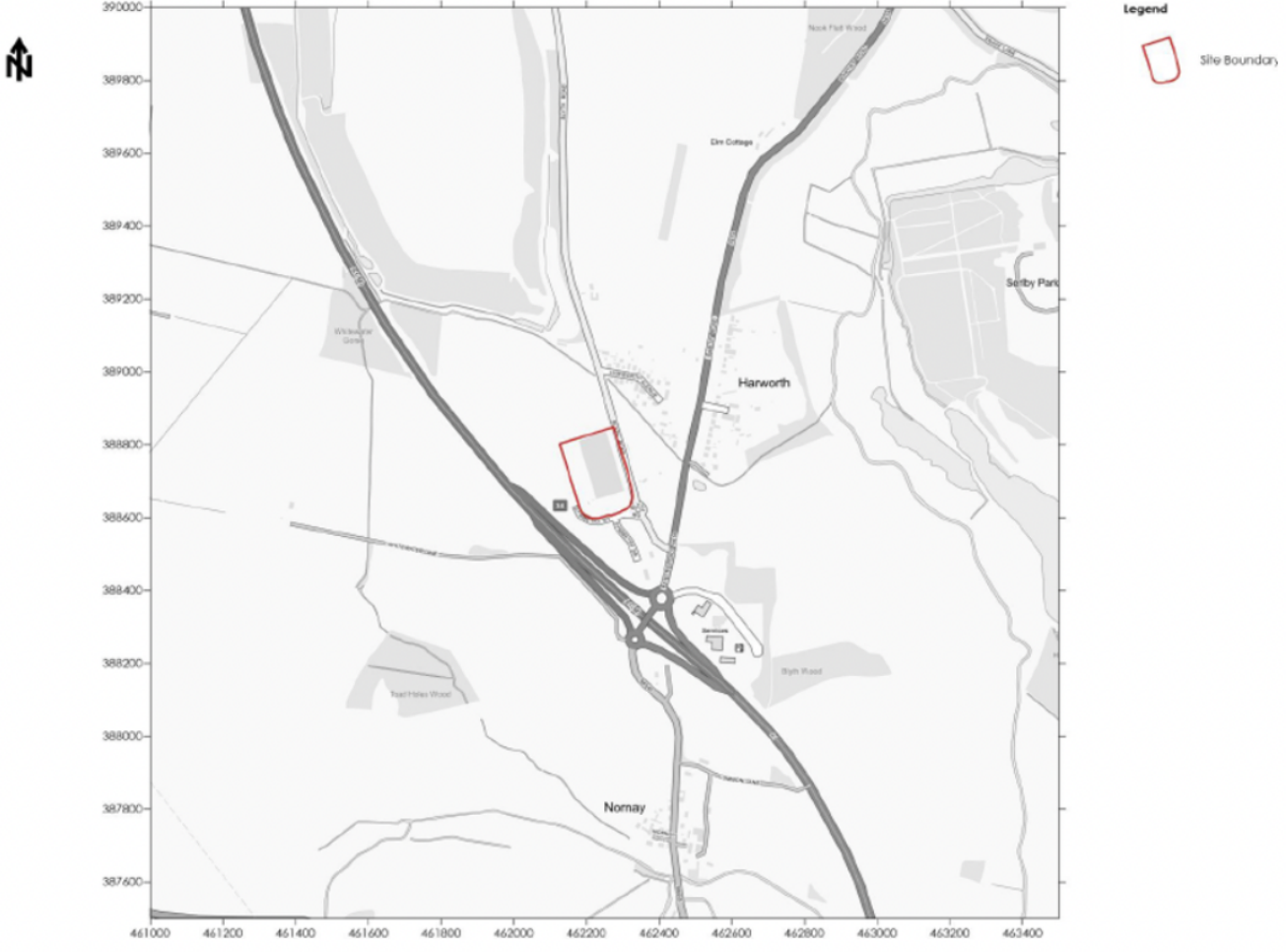
The facility occupies approximately 3.3 ha plot of land centred on National Grid Reference 462234 , 388752, off the A614 at Symmetry Park Bawtry Road Blyth, Worksop, S81 8HH.

Site Location:




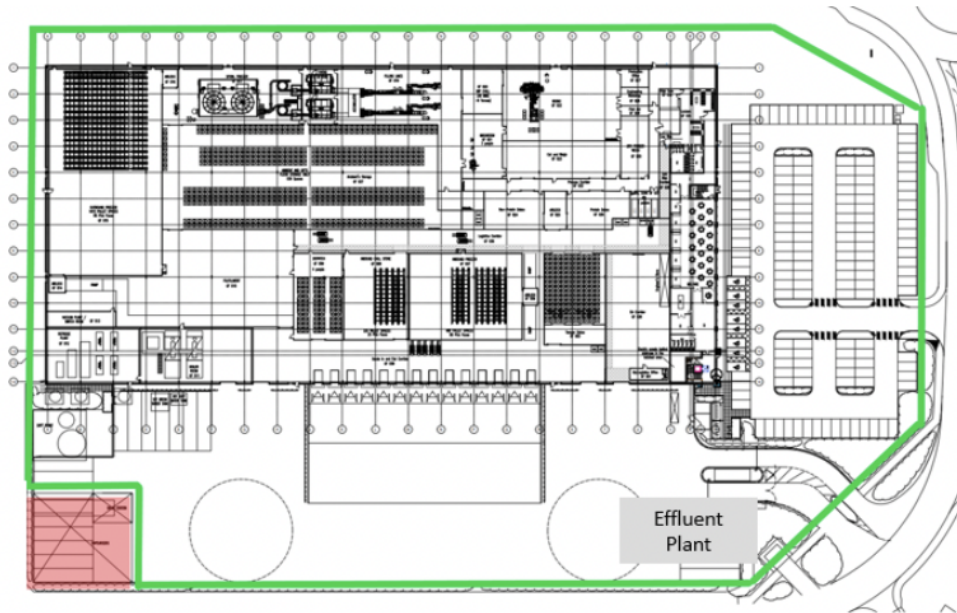
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Site layout:

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The facility produces freshly prepared cooked frozen dog food products. The site receives bulk ingredients comprising various meats, fish, fresh vegetables, lentils, dried materials including herbs, vitamins and minerals plus vegetable oils. The process involves grinding, mixing, filling and sealing within individual pouches which are then cooked within several steam ovens before being frozen and kept within cold storage facilities before being dispatched via various third parties.

The facility has applied to operate under an Environmental Permit issued by the EA EA/EPR/NP3600MA/A00. This will authorise the processing of food (over 75 tonnes of animal content greater than 10% per day capacity), and treatment of effluent.

The operation of the facility is considered to present a low risk of odour. However, there is some potential for odour, and as such, suitable measures to ensure impacts are effectively controlled have been formalised within this OMP.

4. Process Description

4.1. Operational Periods and Through-put

The operating periods for the processing activities at the facility summarised as follows:
Production hygiene, goods in and dispatch may take place 24 hours a day, 7 days a week.

As specified in the Environmental Permit application, the finished production capacity of processing activities once the operations at the site are fully commissioned will be over 75t per day.

4.2. Process Description


The following steps describe the manufacturing process:



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No. ▲	Process Steps	Description
1	1.1. Intake Meats (Beef, lamb, chicken, turkey, pork, fish, offal products - chilled / frozen)	Receipt of meat ingredients of 5 different species: beef, lamb, chicken, turkey, pork and fish in both chilled and frozen temperature controlled delivery trucks. An intake check is carried out to ascertain cold-chain management, origin, quantities and minimum shelf-life received, as well as ensuring the visible health marks have been defaced in their majority to comply with Animal By-Product regulations and guidance. Materials are checked at regular intervals based on risk to establish food safety and quality assurance.
2	1.2. Intake of vegetables - chilled / frozen	Receipt of vegetable ingredients (carrots, spinach, kale, cauliflower, beans, etc.) in both chilled and frozen temperature controlled delivery trucks. An intake check is carried out to ascertain cold-chain management, origin, quantities and minimum shelf-life received. Materials are checked at regular intervals based on risk to establish food safety and quality assurance.
3	1.3. Intake of ambient food (herbs, premixes, pulses, treats, biscuits)	Receipt of dry items (herbs, vitamin and mineral feed premixes, lentils, feed treats, feed biscuits) in delivery trucks. An intake check is carried out to ascertain origin, quantities and minimum shelf-life received. Materials are checked at regular intervals based on risk to establish food safety and quality assurance.
4	1.4. Non-food (IFCO trays, packaging, liners, drink wrap, labels, ink etc.)	Receipt of non-edible and non-feed items (trays, packaging, printed and unprinted film) in delivery trucks. An intake check is carried out to ascertain quantities and delivery integrity. Materials are checked at regular intervals based on risk to establish quality assurance.
5	1.6. Water	Potable water is provided via mains supply and used in rehydrating lentils prior to mixing. It is also used in the cleaning of equipment. Severn Trent is the water supplier. 2 intermediary water storage tanks are installed. A testing regime is in place to confirm potability. Note that water is not used in the cooling post heat-treatment of the hermetically sealed pouches.
6	2.1. Frozen Storage	Storage of raw material in frozen condition with a target of -18oC. Capacity of circa 500 pallets.
7	2.2. Chilled Storage	Storage of raw material in chilled condition with a target of 3oC. Capacity of circa 300 pallets.
8	2.3. Ambient Storage	Storage of raw material in ambient condition.
9	3.1. Meat tempering (Beef, lamb, chicken, turkey, pork, fish, offal products)	2 tempering chambers with circulating air with a purpose to up-temper frozen meat from -18oC to -9oC. The material is still block frozen at the end of the tempering stage but at the temperature prescribed by the grinding process.
10	4.1. Ingredient Debox / Debag	2 dedicated room to carry out the removal of outer packaging from the raw material (veg and meat).
11	4.2. Ingredient Weighing	Batching of ingredients is carried out in the 2 debox room, lentil room and herb store on calibrated bench or floor scales.
12	5.1. Meat Mincing / Grinding	1 industrial meat grinder with a stainless steel screw that pushes the meat through a 10mm plate.
13	5.2. Veg Dicing	1 industrial vegetable dicer with a capacity of 3T/h. Several blades fitted on a cylinder dice vegetables to size, whilst a conveyor belt transfers the raw vegetables to the hopper.
14	5.3. Lentil Soaking	Lentils soaked in potable water until full absorption in 3 hours. Soaked lentils are kept in chilled condition for a maximum period of 24 hours.
15	6.1. Mixing	2 mixers with a capacity of 700kg. The ground meat, vegetables and dry ingredients are mixed at defined time and rotating profiles to achieve a homogeneous mix.
16	7.1. WIP Storage	All mix batches are store in several tote bins in a WIP chill operating at <5oC.
17	8.1. Filling	Two filling lines are operated in the filling area. The mix is fed into strips via an extrusion mechanism: a paddle rotates in the hoper and pushes the mix through a rectangular shaped hole. 6 different sizes are being used. The ideal temperature of the mix at this stage is -2oC to allow strips to be formed which are then cut into billets.
18	9.1. Vacuum Thermoforming / Sealing	The meat billets are placed in cavities of the thermoformed film and sealed. The manufacturing expected capability ranges from 90 packs per minute on 500g and 600g, 120 packs per minute on 300g and 400g and finally 130 packs per minute for the smaller sizes of 125g and 200g. The sealing of the top to the bottom film, as well as the cutting of the packs is also done inline.
19	9.2. Coding of Pouches	An inkjet coder prints the nominal weight, cooked dated, durability date and batch code on the top film. The ink is an oil resistant thermosensitive ink, although the thermal sensitivity is not used as we operate below the colour changing temperature/time.
20	10.1. Metal Detection	A metal detector operates on each line.
21	11.1. Checkweighing	A checkweigher monitors average weight, T1 and T2 packer compliance.
22	12.1. Oven Cooking	2 spiral ovens are operated in the area. They combine steam and dry heat. Several programmes have been defined for each recipe/size combination.
23	13.1. Tamping / Inversion	2 tamping units operate with a series of rollers flattening the pouches, the pouches are then turned upside down via gravity.

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24	14.1. Chilling / Freezing	1 dual spiral chiller/freezer that runs on glycol on the upward spiral and ammonia on the downward spiral. The same
25	15.1. Packing into Crates	Packing pouches into re-useable plastic trays.
26	16.1. Finished Product Storage	Storage of raw material in frozen condition with a target of -18oC. Capacity of circa 3000 pallets.
27	17.1. Pallet Picking	Pallets transported to the fulfilment area.
28	18.1. Order Fulfillment	Operators placing meals into consumer boxes.
29	19.1. Order Storage	Storage of picked orders prior to dispatch.
30	20.1. Dispatch	Loading of ambient courier company vehicles and dispatching to customers.
31	21.1. Rework - Like for like product only	Rework of pouches which may include re-opening of the plastic packaging.
32	22. Micro Testing	Sending finished products for micro testing as per schedule

Note that for the above Stages 1 – 31 are in place and cover the production activities served by the oven and freezers for Phase 1 of the installation. Stages 22-24 below (oven and freezers) are replicated for each of the three proposed lines. It is the installation and commissioning of Phases 2 and 3 will result in the production capacity of the site exceeding the 75t/day EPR thresholds.

The main raw materials are delivered by road, unloaded prior to being transferred to dedicated stores (inbound chilled, freezer/dried good and liquid additives). Fresh ingredients are received into the facility within dolavs. Hygiene chemical deliveries are received directly to the external self-bunded hazardous materials storage unit located adjacent to the effluent plant. Water treatment or boiler treatment chemicals are transferred to the plant room. Other engineering consumables are received on site and transferred directly to the engineering stores. Internally all drainage is connected to the site effluent system via a dual vacuum/gravity conveying system.


Where possible production is planned to minimise washdowns. Hygiene is predominantly carried out in situ. Internal drains are fitted with catch pots to remove gross solids before being vacuum conveyed to the effluent plant. Detailed work instructions are in place to maximise efficiency and minimise waste. The site operates a clean as you go policy in addition to daily cleaning undertaken by the site hygiene team. The control philosophy is to rinse, foam, rinse and apply sanitiser to all equipment and surfaces.

Dolav and tray/rack washing is carried out through a manual process by trigger-controlled hand lancing or by external contractors depending on their function.

Hygiene chemical stock and ordering from the dedicated chemicals supplier limiting the inventory held on site. All team members are trained in chemical awareness- cleaning is done by risk assessment of frequency and determined by in depth analysis and swab testing. Effectiveness of cleaning is carried out in line with food hygiene and customer requirements.

Recycling bins are readily available on all lines. Where possible spillages are cleaned in place rather than flushed to drain. Spill kits have been strategically placed around the site by risk assessment. Cleaning chemicals are kept in a locked dedicated store controlled accordingly.

All process effluent is collected, via a vacuum system, into a pump chamber fitted with duty/ standby/ assist pumps. These pumps discharge via the effluent drain to the effluent treatment plant area (provided with engineered containment). The incoming effluent arrives at the rotary drum screen which separates any solid material >0.5mm and discharges these into a collection bin for appropriate disposal. The 'screened' effluent is then collected in a 4m³ screened water tank

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installed below the drum screen. This pump tank is fitted with duty/ standby assist submersible pumps to transfer the screened effluent to the 200m³ stainless steel balance tank. Each pump has its own discharge pipe to the balance. The tank is provided with a hydrostatic pressure sensor and an auxiliary high-level float in case of failure of the instrument.

The balance tank provides a method of balancing and homogenising the effluent. Additionally, should there be an interruption in the effluent treatment process, the factory can continue to operate with the spare capacity acting as a divert tank. The balance tank is fitted with an externally mounted aerator/ mixer to maintain homogeneity.

There are no releases to the sewer from the operation of the effluent plant.

The effluent plant is subject to daily and weekly routine PPM including the checking of plant function and/or adverse operation, clean down and weekly emptying and jetting of the reception pit and desludging. In addition, a third-party specialist is retained to carry out inspection and plant overhaul to both maintain and identify opportunities to optimise the treatment process.

The system has been configured to run automatically based on levels in the main balance tank. The aim of the system is to ensure that the effluent flows are transferred at a rate which ensures that there is no hold-up in the drainage system and that the effluent treatment is optimised. There are audible and visual alarms that is activated to alert the engineering team when specified critical control points are exceeded.

Waste materials are generated at several stages of the process. A summary of the specific materials and associated storage/ handling procedures is provided in the following Sections.

Any product falling from lines collected in trays becomes Category 3 waste. These wastes are minimised as much as possible to increase product yield. These wastes are stored internally in covered bins and regularly removed from site.

Any product in contact with chemical, industrial grease or collected from drain catchers becomes Category 2 waste. These wastes are minimised as much as possible to increase product yield. These wastes are stored internally in covered bins and regularly removed from site.

Waste packaging generated by the process is cleaned internally to remove any residual contamination and then transferred to an internal compactor where it is compressed and stored prior to removal from site. The compactor is a sealed unit and therefore the waste packaging is not exposed to the atmosphere during storage.


Inspection of the waste storage area is undertaken weekly by a site operative. This includes general housekeeping and checks of the structural integrity of the units.

5. Odour Management Plan

5.1. Overview

The OMP for the facility follows and addresses the various activities which have the potential to create odour. The following steps were undertaken in order to produce the OMP:

- Identification of odour sources;
- Formalisation of odour control measures;

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- Formalisation of odour monitoring procedure;
- Formalisation of meteorological monitoring procedures;
- Production of emergency operating procedures and odour control measures;
- Production of a complaints handling procedure;
- Production of an OMP modification procedure;
- Consideration of site location and sensitive locations potentially affected by odour emissions; and,
- Risk assessment of potential issues.

5.2. Sources

A summary of the potential odour sources associated with site activities is provided in Table 1.

Table 1 Odour Sources


Process Area / Source		Odour Source/Material Description	Description of Odours and Hedonic Tones	Odour Intensity at Source	Emission Characteristics
1	Raw Materials Receipt and Preparation	Chilled, frozen, packaged meat, vegetable and other ingredients	Raw meat, raw vegetables Flavourings	2 - Faint odour Odour concentrations are likely to be low as a result of the nature of the materials that are being processed and chilled temperature control	Air is extracted from within the goods in and preparation sections as part of standard number of air changes within the building. Dividing walls and doorways separate the goods in and preparation sections from the rest of the facility. However, there are a number of personnel doors which lead to the external environment. As such, there may be the potential for fugitive emissions to atmosphere.
2	Processing Lines – dicing, mixing, filling	Meat, vegetable and other ingredients	Raw meat, raw vegetables Flavourings	2 - Faint odour Odour concentrations are likely to be low as a result of the nature of the materials that are being processed and chilled temperature control	Air is extracted from within the goods in and preparation sections as part of standard number of air changes within the building. Dividing walls and doorways separate the goods in and preparation sections from the rest of the facility. There are no external doors within this area.
3	Processing Lines –	Meat, vegetable and other ingredients	None – sealed vacuum packed pouches	0 - Faint odour Odour is eliminated as the ingredients are	Steam vents serve the oven that release directly to atmosphere at roof level.



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Process Area / Source		Odour Source/Material Description	Description of Odours and Hedonic Tones	Odour Intensity at Source	Emission Characteristics
	oven cooking			vacuum sealed within a pouch prior to cooking	
4	Packing Area	Chilled products	None – sealed vacuum packed pouches	0 - Faint odour Odour is eliminated as the product is vacuum sealed within a pouch.	Air is extracted from within the goods in and preparation sections as part of standard number of air changes within the building. Dividing walls and doorways separate the goods in and preparation sections from the rest of the facility. There are no external doors within this area.
5	Dispatch Area	Chilled food products	None – sealed vacuum packed pouches	0 - Faint odour Odour is eliminated as the product is vacuum sealed within a pouch.	There is no mechanical extraction of air from the dispatch area Dividing walls and doorways separate the dispatch section from the rest of the facility. However, there are a number of personnel doors which lead to the external environment. As such, there may be the potential for fugitive emissions to atmosphere.
6	Effluent Plant area	Odours generated by effluent during containment within the pits	Sewer odour	3 – Distinct Odour The amount of residual putrescible suspended solids within the wastewater will be limited. As such, the intensity is likely to be low	All effluent is conveyed via vacuum pump to a chamber located underground and is covered. Rotary screen debris enters a covered dolav. Open sources include the balance tank. Odorous air may be displaced during filling events
7	Waste Storage Area	Odours generated by any residual materials on waste packaging within the compactor. ABP wastes stored in sealed containers.	Waste food odours	3 – Distinct Odour The amount of residual putrescible material on waste packaging will be limited as a result of preliminary cleaning operations prior to disposal. As such, the intensity is likely to be	Fugitive emissions from the waste compactor

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Process Area / Source	Odour Source/Material Description	Description of Odours and Hedonic Tones	Odour Intensity at Source	Emission Characteristics
			low. ABP storage is internal	

5.3. Odour Control Measures

Appropriate measures will be employed at the facility in order to control and minimise odour pollution. The have been determined with reference to relevant best practice guidance and are summarised in Table 2.

Table 2 Odour Control Measures

Raw Materials Receipt and Preparation	Chilled, packaged meat and ingredients	<ul style="list-style-type: none"> All personnel and material transfer doors which link each section of the plant to other areas of the facility and the external environment will be kept closed at all times other than when access is required. This will help to reduce the potential for fugitive odour release to atmosphere and transfer of emissions between internal areas Any solid waste materials generated during processing activities will be deposited in trays or dolavs and then transferred to the appropriate waste storage area prior to removal from site. All solid wastes will be removed from the lines at the end of each working day All areas will be cleaned down daily at the end of each shift. Solid components will be deposited in dolavs for temporary storage prior to transfer to the appropriate external waste storage area. All solid wastes will be removed from the line at the end of each working day. This ensures that there is no decomposition of putrescible materials or associated odour emissions within the process area Wash-down will be undertaken using medium pressure hoses and water lances fitted with trigger controls. A foaming chemical agent will be used during wash-down to disinfect surfaces within the area and reduce the potential for microbicidal breakdown of any residual materials A record of all cleaning operations will be maintained on instruction card task control sheets Inspection of each section will be undertaken by site operatives at the end of each working day in order to ensure that the clean down operations have been carried out to an appropriate standard and there are no residual odorous materials present on floor surfaces or drain covers. Ambient temperatures within each section will be maintained below 5°C at all times in order to ensure that decomposition of materials does not occur. Monitoring of temperatures will be undertaken twice daily by site operatives in order to ensure that all refrigeration plant is performing effectively. Any deviations from specified temperature thresholds will be reported immediately to a site engineer so that investigative and if required, remedial works can be undertaken. Operational control, preventative maintenance, management, monitoring and inspection of equipment in line with manufacturers O&M
Processing Lines	Raw meat, prepared meats	
Packing Area	Chilled food products	
Dispatch Area	Chilled, sealed food products	
Effluent Plant and Sumps	Odours generated by effluent during	

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	containment within the pits	<p>reduce the potential for decomposition of residual materials within the vessels during holding and associated odour emissions</p> <ul style="list-style-type: none"> ● DAF unit within an enclosed container. ● Regular inflow and outflow to/from the pit and the associated overall short retention time of wastewater within the homogenised effluent within the balance tank means that there is limited potential for development of anoxic conditions which can result in increased odour potential ● Screenings dolav inspected daily and covered at all times. Regular uplift and removal from site ● Daily and weekly inspection of the effluent plant and supporting infrastructure will be undertaken by site operatives in order to ensure that there is effective containment of effluent and associated odour emissions. ● Contractor management – use of competent 3rd party for effluent removal. Tanker venting controls employed to minimise nuisance potential (noise and odour) ● The effluent sumps will be cleaned by a third-party specialist as required in order remove any accumulated material. This will help to ensure that there is limited potential for odour emissions from the sumps during routine operation
Waste Compactor and Storage Area	Odours generated by any residual materials on waste packaging within the compactor	<ul style="list-style-type: none"> ● All waste packaging generated by the process will be cleaned internally to remove any residual contamination prior to transfer to the compactor ● The compactor are sealed units and therefore the waste and waste packaging will not be exposed to atmosphere during storage ● Inspection of the compactor and whole waste storage area will be undertaken weekly by operatives. Any evidence of damage or disrepair which has the potential to compromise containment will be recorded and reported immediately to a site engineer so that appropriate remedial works can be undertaken.

5.4. Odour Monitoring


Due to the nature of the materials and processes on site, it is not considered necessary to conduct proactive odour monitoring under normal operations. In the event of an odour complaint, monitoring will be instigated as part of the investigation in order to ensure significant odour impacts do not recur. In this circumstance the procedure as describe below would be followed:

Procedure

Sniff testing is a common form of odour monitoring that can be undertaken for relatively low cost with little formal training. While a number of factors need to be taken into account in order to minimise inconsistencies, it can provide good evidence of odour conditions in the vicinity of specific activities.

In the event of an odour complaint, sniff testing would be undertaken by a member of the Health, Safety and Environmental Management Team at separated locations around the facility boundary and additional nominated locations following receipt of a complaint.

Monitoring locations will be dependent on the nature of the complaint, location of receptor and potential source.

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The assessor will stand at the first monitoring position for a specific period of time and record any odour experienced. Notes on odour frequency, intensity, duration and offensiveness are recorded, as well as the prevailing meteorological conditions. The test will then be then repeated at each remaining monitoring point around the site to determine the extent of odour impact. The results will be analysed in association with operating conditions during the survey in order to consider the most significant odour sources, how these may affect sensitive receptors around the facility and help inform any necessary mitigation.

The following parameters will be scored at each monitoring location during each survey:

- Odour detectability / intensity;
- Odour duration and pervasiveness;
- Character of odour;
- Odour offensiveness; and,
- Meteorological conditions.

Categories for the recording of odour intensity and extent are summarised in Table 3.


Table 3 Odour Intensity Scoring System

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

The offensiveness of any odour will be recorded in accordance with the categories shown in Table 4.

Table 4 Odour Offensiveness Scoring System

Category	Offensiveness Description
1	Less offensive

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Category	Offensiveness Description
2	Moderately offensive
3	Most offensive

Meteorological conditions during the survey, including wind speed and direction, cloud cover, temperature and precipitation will be noted, as well as assessor name, process conditions and details of any deliveries received.

Where practicable, the surveys will be undertaken by the same member of the Health, Safety and Environmental Management Team, except on occasions of unavailability of staff. In these circumstances, an alternative assessor will be nominated. Consideration will be provided to the sensitivity of the individual nominated to undertake the monitoring, with anyone with a poor sense of smell excluded and an alternative member of staff identified. If required, the odour sensitivity of the assessor will be determined through testing in accordance with BS EN 13725:2003 at a UKAS accredited laboratory.

Reporting

The survey results will be logged using the form provided in Appendix 1.

Remedial Actions and Contingency Methods

Should the monitoring indicate that there is the potential for detection of moderate or most offensive odours at the locations and/or pervasive odours with intensities greater than usual, potential sources will be investigated and suitable measures implemented to ensure emissions do not cause adverse effects at any sensitive location in the vicinity of the site. These may include removal or covering of material, changes to operational procedures, implementation of additional control measures or other appropriate actions deemed necessary by the Health, Safety and Environmental Manager. A summary of corrective actions and contingency measures that are applicable to the identified sources at the facility is provided in Section 3.6.


Any remedial measures will be recorded using the form provided in Appendix 1.

5.5. Facility Monitoring and Maintenance Schedule

The operator will carry out a programme of monitoring and maintenance to ensure that all plant installed at the site performs correctly and provides effective containment of emissions. All observations will be recorded to allow comparison with operating parameters specified by suppliers of plant and examination of long-term performance trends. The operator will undertake appropriate maintenance and remedial work as necessary to ensure that optimum performance is achieved.

5.6. Corrective Actions and Contingency Measures

Should the results of the odour monitoring indicate that there is the potential for significant odour impacts in the vicinity of the site there may be the requirement for implementation of contingency measures at the facility. In addition, corrective actions may need to be taken if the scheduled monitoring and work demonstrates system failure or a compromised level of odour control.

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A summary of the contingency measures that are applicable to the operations at the facility is provided in Table 5.

Table 5 Contingency Measures


Scenario	Process Area / Source	Contingency Measures	Backstop Measures
Detection of moderately or most offensive odours, or odour intensities which exceed usual levels	Applicable to all process areas / sources	<p>Within 1-hour of detection of moderately or most offensive odours, or odour intensities which exceed usual levels, a full investigation will be undertaken to identify potential sources. This will initially focus on process areas and sources within the immediate vicinity of the relevant monitoring location(s) and if required, progressively extend to the rest of the facility</p> <p>Following identification of potential sources, contingency measures will be considered and if required implemented at the site. These may include:</p> <ul style="list-style-type: none"> ● Containment of materials within dolavs using lids ● Removal of dolavs from process areas to the waste storage area, if appropriate ● Repair work to restore process area/ source containment ● Changes to automated and manual processes ● Cleaning of process areas ● Placement of putrescible materials in cold storage <p>Further monitoring and inspection will be undertaken within 1-hour of implementation of the relevant measure(s) in order to ascertain whether control has been restored. Should this process indicate that there is still the potential for significant odour impacts, backstop measures will be considered and if required utilised</p>	<p>The following backstop measures will be considered and if required utilised should the stated corrective actions fail to restore control:</p> <ul style="list-style-type: none"> ● Diversion of all pending deliveries to a third party facility ● Suspension of all processing operations ● Instruction of an emergency waste collection <p>Further monitoring and inspection will be undertaken within 1-hour of implementation of the relevant measure(s) in order to determine whether normal operations can be re-established</p>



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Scenario	Process Area / Source	Contingency Measures	Backstop Measures
Failure of the refrigeration system	Refrigerated process areas	<p>Within 1-hour of detection of refrigeration failure, contingency measures will be considered and if required implemented at the site. These may include:</p> <ul style="list-style-type: none"> ● System reset ● Repair work by an engineer to restore refrigeration to process areas ● Containment of all materials within dolavs using lids <p>Should the system reset or repair work fail to restore refrigeration within 2-hours, appropriate backstop measures will be implemented</p>	<p>The following backstop measures will be considered and if required utilised should the stated corrective actions fail to restore control:</p> <ul style="list-style-type: none"> ● Diversion of all pending deliveries to a third party facility ● Suspension of all processing operations ● Instruction of an emergency waste collection <p>Further inspection will be undertaken within 1-hour of implementation of the relevant measure(s) in order to determine whether normal operations can be re-established</p>
Failure of the effluent system	DAF, Sumps and pits	<p>Within 1-hour of detection of pump failure, contingency measures will be considered and if required implemented at the site. These may include:</p> <ul style="list-style-type: none"> ● Repair or replacement of pumps by a site engineer ● Containment of all materials within dolavs using lids ● Dry cleaning to remove as much waste material as practicable from the process areas <p>Should the repair work fail to restore pump operation within 1-hour, appropriate backstop measures will be implemented</p>	<p>The following backstop measures will be considered and if required utilised should the stated corrective actions fail to restore control:</p> <ul style="list-style-type: none"> ● Diversion of all pending deliveries to a third party facility ● Suspension of all processing operations ● Instruction of an emergency effluent collection <p>Further inspection will be undertaken within 1-hour of implementation of the relevant measure(s) in order to determine whether normal operations can be re-established</p>

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5.7. Abnormal / Emergency Scenarios

There is the potential for increased odour emissions during certain abnormal and emergency scenarios which have not been considered in previous Sections of the OMP. The relevant actions to limit impacts during these situations are outlined in Table 6.


Table 6 Abnormal and Emergency Response Scenario

Scenario	Operator Response
Severe failure of site infrastructure	<p>In the very unlikely event that damage is caused to the structure of the processing building, there may be an increased potential for fugitive odour emissions. As such, appropriate repair work will be undertaken by site engineers or a specialist contractor as a matter of urgency</p> <p>In the event of prolonged failure of site infrastructure, a review of operations will be undertaken and if appropriate the backstop measures specified in Table 5 implemented</p>
Power failure	<p>The risk of prolonged power failure is considered negligible. However, relevant emergency procedures and back-up facilities are in place should this event occur to ensure the process is not affected as far as practicable. This is likely to avoid any unexpected odour emissions with the exception of those already addressed in this table</p>
Fire and/or explosions	<p>A fire on site may lead to exposure of odorous materials to atmosphere, as well as emissions of odorous combustion products</p> <p>Any fire would be extinguished as a matter of urgency by the emergency services. This would reduce the duration of any odour effect as far as practicable</p> <p>Any odorous materials released by fire would be cleaned by a site operative or specialist contractor. If any infrastructure is damaged this would be repaired or replaced as a matter of urgency</p>
Staff unavailability due to industrial action, sickness etc	<p>Staff unavailability may affect facility operations. If this was the case emergency cover would be arranged to ensure the process was not disturbed</p>
Extreme weather events such as prolonged rainfall, lightning strikes, flood etc	<p>The risk of additional odour emissions due to extreme weather events is not considered significant</p>

5.8. Odour Complaint Procedure

Full details of any justified complaints received direct to the site will be provided to the EA in accordance with the Notification requirements specified in the Part A Environmental Permit for the facility.

Any received odour complaints will be dealt with by the Health, Safety and Environmental Manager, or an alternative member of the management team in the first instance.

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The first stage of the procedure will involve collection of basic details in regards the event, either directly from the complainant or from the EA officer reporting the incident. This will take place within 24-hours of a complaint being received and will include acquisition of the following information which will be recorded on the form included at Appendix 1 of the OMP:

- The name and address of the complainant;
- The date and time of odour detection;
- A description of the odour detected including details of the character and intensity; and,
- The duration and pervasiveness of the odour.

The following additional information will then be recorded on the form by the member of the team assigned to the complaint:

- The activities taking place at the time of the complaint;
- The operating conditions at the time of the complaint; and,
- The prevailing meteorological conditions.

After details of the complaint have been compiled, the cause(s) will be investigated. The specific procedures will depend on the nature of the incident and details provided by the EA and/or complainant. However, in most cases the process will involve identification of contributory odour sources and consideration of the following elements:

- The effectiveness of process controls;
- The effectiveness of containment measures;
- The performance of treatment systems; and,
- The effectiveness of dispersion methods.


Where an investigation identifies an odour issue, remedial action will promptly be implemented. The exact measures will be determined based on the odour source and the likelihood of incident reoccurrence.

Details of any actions undertaken in response to complaints will be recorded on the form included at Appendix 1. In addition, the OMP will be reviewed following receipt of any complaint in order to ensure that the control measures employed at the site are appropriate. Any changes made to the OMP will be recorded on the relevant form included at Appendix 1.

6. Risk Assessment

The Risk Assessment has been undertaken in accordance with the general principles of EA document 'Horizontal Guidance Note H1: Environmental Risk Assessment for Permits' and associated annexes. This included consideration of the following:

- Receptor - what is at risk? What do I wish to protect?
- Source - what is the agent or process with potential to cause harm?
- Harm - what are the harmful consequences if things go wrong?
- Pathway - how might the receptor come into contact with the source?
- Probability of exposure - how likely is this contact?
- Consequence - how severe will the consequences be if this occurs?
- Magnitude of risk - what is the overall magnitude of the risk? and,
- Justification for magnitude - on what did I base my judgement?

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Further explanation for the key assessment areas is provided below.

6.1. Receptor

The first step was to consider how the activity could harm the environment. This involved identifying 'receptors' that may be affected and included people, property, and the natural and physical environment.

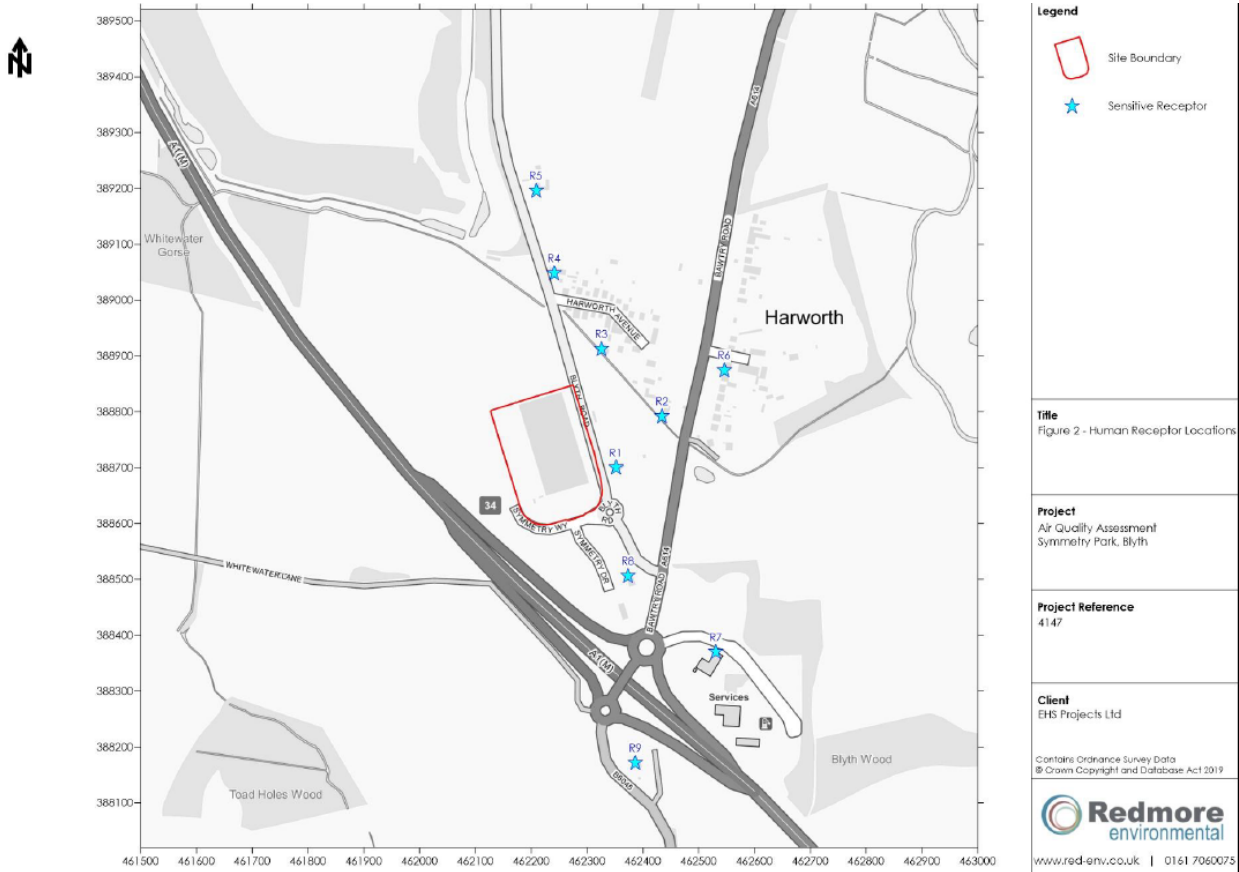
A desk-top study was undertaken in order to identify any sensitive receptor locations in the vicinity of the site. These are summarised in Table 7 and shown in Figure 3.

Table 7 Sensitive Receptors

Receptor		Distance from Site Boundary (m)	Direction from Site
R1	Residential – Blyth Road	55	East
R2	Residential – Bawtry Road	165	East
R3	Residential – Harworth Avenue	140	North East
R4	Residential – Blyth Road	170	North
R5	Residential – Blyth Road	350	North
R6	Residential – Blyth Road	370	East
R7	Commercial – Blyth Service	350	South east
R8	Commercial – Symmetry Drive	190	South
R9	Commercial – Bawtry Road	480	South

Sensitive Receptor Locations:

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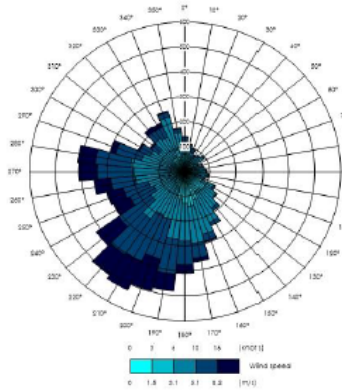
6.2. Probability of Exposure

The probability of exposure was defined based on the likelihood of exposure of the specific receptor to the identified source. This depended on several factors, such as:

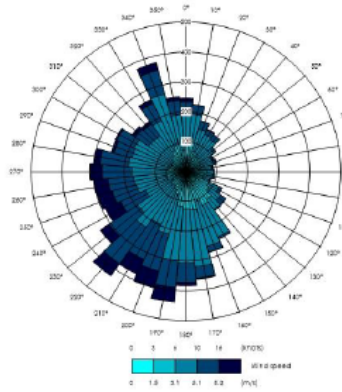
- Distance between source and receptor;
- Dispersion potential of emission;
- Duration of emission; and,
- Frequency of emission.

The potential for odour to impact at sensitive locations also depends significantly on the meteorology, particularly wind direction, during emissions. The prevailing wind direction at the site is from the WSW – Meteorological data for Doncaster Airport.

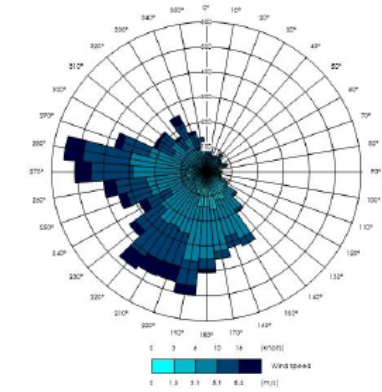
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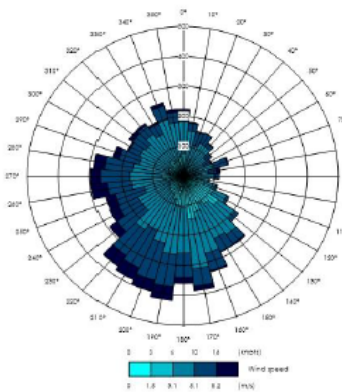
2015 Meteorological Data



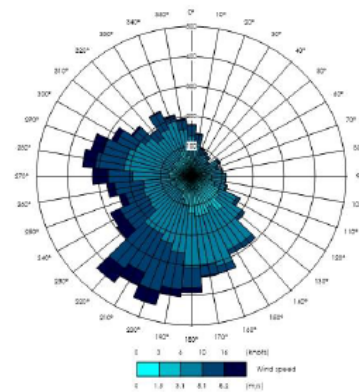
2016 Meteorological Data



2017 Meteorological Data



2018 Meteorological Data



2019 Meteorological Data

6.3. Harm

The severity of harm from a risk depends on:

- How much a person or part of the environment is exposed; and,
- How sensitive a person or part of the environment is.


Some parts of the environment can be very sensitive. For example, serious health effects can occur if humans are exposed to certain chemicals for only short periods of time.

6.4. Magnitude of Risk

The level of risk is a combination of:

- How likely a problem is to occur; and,
- How serious the harm might be.

Risk is highest where both the likelihood of a problem is high and the potential harm is severe. Risk is lowest where a problem is unlikely to occur and the harm that might result is not serious.

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6.5. Assessment

The risk assessment of potential odour impact is provided in Table 8.

As indicated in Table 8, the magnitude of risk as a result of odour emissions from the identified sources was **low** in all cases.

Table 7 Odour Risk Assessment Data and Information				Control Measures	Judgement			
Receptor	Source	Harm	Pathway		Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?		How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?
Residential, commercial and industrial properties in the vicinity of the site	Raw Materials receipt and preparation areas	Loss of amenity	Wind-blown emissions	All raw materials will be contained within the goods in area The ambient air temperature within the packing area is controlled and will prevent decomposition of materials and associated odour emissions	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties in the vicinity of the site	Processing Lines	Loss of amenity	Wind-blown emissions	The processing area is fully enclosed and chilled. All product is itself sealed within vacuum pouches before cooking.	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties	Packing Area	Loss of amenity	Wind-blown emissions	All product is itself sealed within vacuum pouches	Low due to the proposed	Medium if odour can be detected regularly at	Negligible	The proposed control measures are considered to result in a negligible risk of



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Table 7 Odour Risk Assessment Data and Information				Control Measures	Judgement			
Receptor	Source	Harm	Pathway		Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?		How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?
Residential, commercial and industrial properties in the vicinity of the site	Raw Materials receipt and preparation areas	Loss of amenity	Wind-blown emissions	All raw materials will be contained within the goods in area The ambient air temperature within the packing area is controlled and will prevent decomposition of materials and associated odour emissions	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties in the vicinity of the site	Processing Lines	Loss of amenity	Wind-blown emissions	The processing area is fully enclosed and chilled. All product is itself sealed within vacuum pouches before cooking.	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
in the vicinity of the site				and the packing area is fully enclosed. The ambient air temperature within the packing area is controlled and will prevent decomposition of materials and associated odour emissions	control measures	the receptor locations		odour impact occurring



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Table 7 Odour Risk Assessment Data and Information				Control Measures	Judgement			
Receptor	Source	Harm	Pathway		Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?		How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?
Residential, commercial and industrial properties in the vicinity of the site	Raw Materials receipt and preparation areas	Loss of amenity	Wind-blown emissions	All raw materials will be contained within the goods in area The ambient air temperature within the packing area is controlled and will prevent decomposition of materials and associated odour emissions	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties in the vicinity of the site	Processing Lines	Loss of amenity	Wind-blown emissions	The processing area is fully enclosed and chilled. All product is itself sealed within vacuum pouches before cooking.	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties in the vicinity of the site	Dispatch Area	Loss of amenity	Wind-blown emissions	All product is itself sealed within vacuum pouches and will be contained within the dispatch area. The ambient air temperature within the dispatch area is controlled and will prevent decomposition of materials and	Low due to the proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring



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What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?		How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?
Residential, commercial and industrial properties in the vicinity of the site	Raw Materials receipt and preparation areas	Loss of amenity	Wind-blown emissions	All raw materials will be contained within the goods in area The ambient air temperature within the packing area is controlled and will prevent decomposition of materials and associated odour emissions	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties in the vicinity of the site	Processing Lines	Loss of amenity	Wind-blown emissions	The processing area is fully enclosed and chilled. All product is itself sealed within vacuum pouches before cooking.	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
				associated odour emissions				
Residential, commercial and industrial properties in the vicinity of the site	Effluent Plant area	Loss of amenity	Wind-blown emissions	The effluent pits are below ground. Operational control exercised over effluent. Regular inflow and outflow to/from the pits and the associated overall short	Low due to the proposed control measures	Medium if odour can be detected regularly at the receptor locations	Low	The proposed control measures are considered to result in low risk of odour impact occurring



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Receptor	Source	Harm	Pathway		Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?		How likely is this contact?	How severe will the consequence be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?
Residential, commercial and industrial properties in the vicinity of the site	Raw Materials receipt and preparation areas	Loss of amenity	Wind-blown emissions	All raw materials will be contained within the goods in area The ambient air temperature within the packing area is controlled and will prevent decomposition of materials and associated odour emissions	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties in the vicinity of the site	Processing Lines	Loss of amenity	Wind-blown emissions	The processing area is fully enclosed and chilled. All product is itself sealed within vacuum pouches before cooking.	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
				retention time of wastewater means that there is limited potential for development of anoxic conditions which can result in increased odour potential				
Residential, commercial and industrial	Waste Compactor	Loss of amenity	Wind-blown emissions	All waste packaging will be cleaned internally to remove any residual	Low due to the proposed	Medium if odour can be detected regularly at	Low	The proposed control measures are considered to result in low risk



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Residential, commercial and industrial properties in the vicinity of the site	Raw Materials receipt and preparation areas	Loss of amenity	Wind-blown emissions	All raw materials will be contained within the goods in area The ambient air temperature within the packing area is controlled and will prevent decomposition of materials and associated odour emissions	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
Residential, commercial and industrial properties in the vicinity of the site	Processing Lines	Loss of amenity	Wind-blown emissions	The processing area is fully enclosed and chilled. All product is itself sealed within vacuum pouches before cooking.	Low due to the nature of the processes and proposed control measures	Medium if odour can be detected regularly at the receptor locations	Negligible	The proposed control measures are considered to result in a negligible risk of odour impact occurring
properties in the vicinity of the site	and waste storage area			contamination prior to transfer to the compactor The compactor is a sealed unit and therefore the waste packaging will not be exposed to atmosphere during storage	control measures	the receptor locations		of odour impact occurring

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7. Abbreviations

ABP	Animal By-Product
BAT	Best Available Technique
EA	Environment Agency
EC	European Commission
HPLV	High Pressure Low Volume
NGR	National Grid Reference
OMP	Odour Management Plan