



Linden Foods Burradon

Odour Management Plan

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Introduction

Linden Foods Burradon has prepared this odour management plan (OMP). This OMP which is comprehensive and covers the entire site, rather than OMP supporting documents for a number of processes at the site. The Odour Management Plan will be for meat processing activities that are conducted on the site. Linden Foods Burradon participates in the slaughtering of cattle and sheep, and the processing of associated carcasses for human consumption.

The site is located at Linden Foods, Burradon, Cramlington, NE23 7NB. Figure 1 shows all possible odour receptors that are within a 1km radius of the site. From within this 1km zone six sensitive receptors have been identified. The Linden Foods Burradon site has a total building area of approximately 14,000m².

Linden Foods Burradon will conduct off site odour monitoring at these locations on a weekly basis. This will be done as Linden Foods believe adequate odour management is critical in maintaining a peaceful relationship with local businesses and the residential community.

Best Available Techniques (BAT) where possible are used to prevent and control any odour produced on the site, considering Environmental Agency produced guidance documents such as the H4 Odour Management Guidance document and 'The Red Meat Processing (Cattle, Sheep and Pigs) Sector (EPR 6.12)'.

This is followed up by implementing Standard Operating Procedures (SOPs) which includes details on how each stage of the process has been designed, built and how the system will be maintained to minimise odours arising on-site.

The local area surrounding the site is of majority arable farmland or grassland used for agricultural purposes. There is an agricultural farm located within a close proximity to the facility. This farm is not significant in size but do have the potential to generate odour through their processes. Additionally, to the west of the facility is Burradon Farmhouses and cottages, while south-east of the facility are residential homes at Cheviot Grange. The prevailing wind direction for the site is from a south westerly wind.



Figure 1 Site area map with zones of sensitive receptors, 100m(RED), 500m(YELLOW), 1000m(BLUE) & Receptors (NAVY).

Table 1 presents the Names, Addresses, Grid References and associated information of sensitive receptors and their distance from the Lindon Food Burradon site.

Name	Name	Grid Reference	Direction from Site	Distance from site
Receptor 1	Quarry Cottages	Lat 55° 3'1"N Lon 1°34'26"W	West	25m
Receptor 2	Burradon Farmhouses & cottages	Lat 55° 3'3"N Lon 1°34'13"W	West	250m
Receptor 3	Cheviot Grange	Lat 55° 2'57"N Lon 1°34'35"W	Southeast	75m
Receptor 4	Burradon Community Primary School	Lat 55° 2'48"N Lon 1°34'36"W	Southeast	413m
Receptor 5	Annitsford	Lat 55° 3'18"N Lon 1°34'46"W	North	590m
Receptor 6	Camperdown	Lat 55° 2'44"N Lon 1°34'36"W	Southeast	542m

Table 1: Distance from site is from the Site Centre to the centre of the Receptor

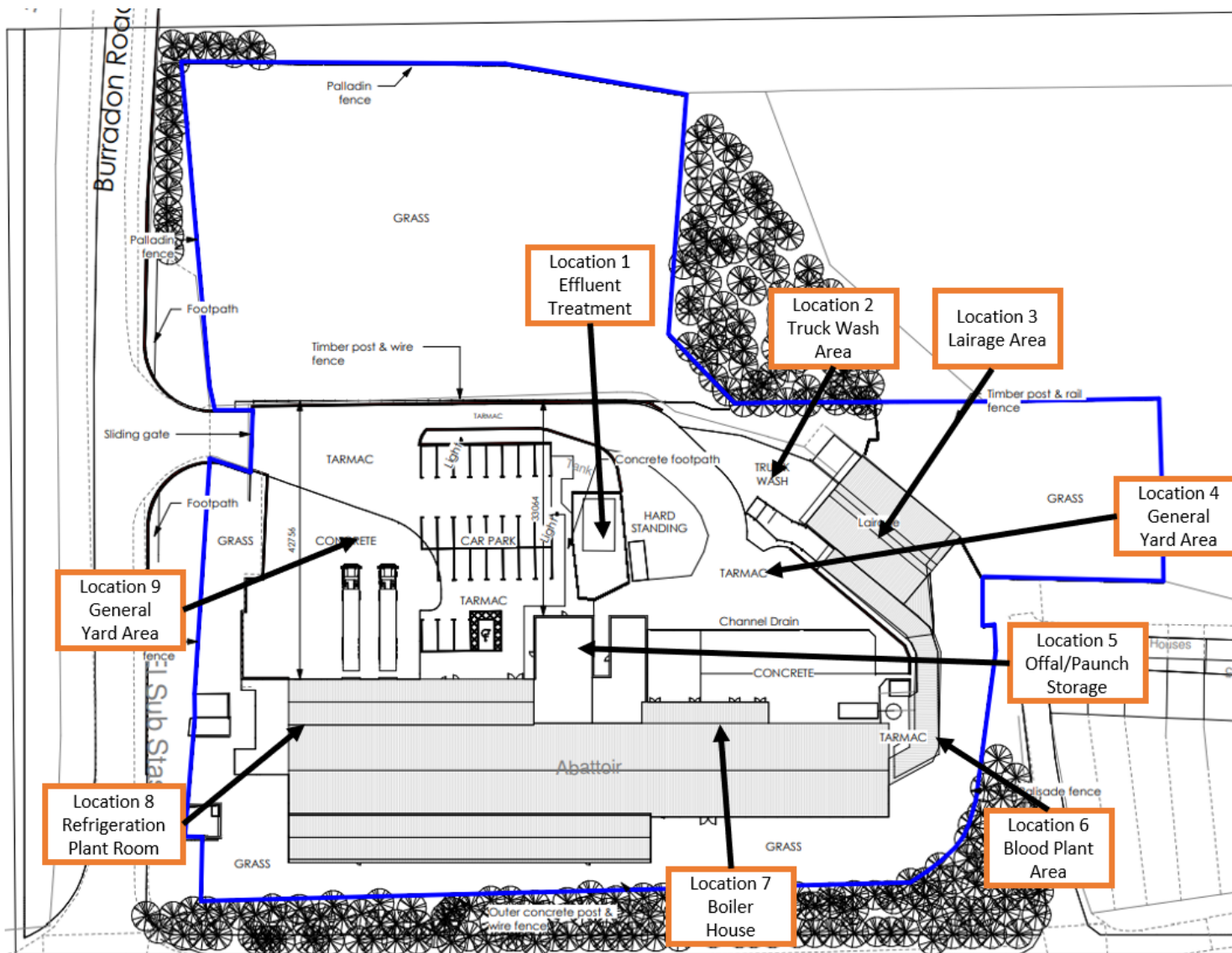


Figure 2 Burradon potential odour sources

Linden Foods Burradon has an Environmental Management System in place, which is ISO:14001 accredited. This system helps to manage the facility to be as environmentally friendly as possible through implementation of standard operating procedures for each process onsite. These Standard Operating Procedures are vital for optimum performance and greatly help in reducing odour build up through onsite processes. Throughout this OMP, these Standard Operating Procedures are referenced. This Odour Management Plan will be reviewed on an annual basis and following any odour complaints, accidents, or incidences. Any new Best Available Technologies that may be applicable to the site to reduce odours will be assessed and implemented.

Odour Control

For each of the odour sources, the receiving parties will be:

- Local residents
- Visitors
- People travelling and working nearby the area on the adjacent sites or roads

The odour reaches these receptors by means of atmosphere. The direction and strength of the wind has a major influence on the severity of any odour reaching the surrounding areas. Consideration must also be given that this is an agricultural type of activity, though with the Burradon area being a mix of residential and agricultural, people would generally be accustomed to the cattle transporters arriving to site and associated odours, especially as the site has been operating at this location for a number of years.

Odour Analysis

Odour has been assessed across the site in regard to

- Odour intensity – type of odour, strength (faint, moderate strong)
- Odour extent and persistence (local within site, transient, persistent, pervasive)
- Hedonic Tone - Pleasantness or unpleasantness of an odour

Inventory of Odour Sources

Table 2 presents a risk assessment which assesses potential odour sources on site.

Hazard	Location	Activity	Emission Type	Control Method	Receptor	Pathway	Risk Management techniques	Probability	Consequence	Risk
Arrival of animals to the Lairage	Site access and yard	Incoming cattle to lairage	Fugitive emissions	Controlled at source	Nearby residents & businesses	Airbourne	Encourage clean equipment and trucks arriving onsite to minimise odour	Very Low	Negligible	Low
Truck wash for animal carrying vehicles	Truck wash	Truck wash facility, CAT 1 bin	Fugitive emissions	Controlled at source	Nearby residents & businesses	Airbourne	Wash-down of equipment used for animal transport	Very low	Negligible	Low
Lairage	Lairage area	Storage of cattle for slaughter	Fugitive emissions	The Lairage is carefully cleaned and maintained to ensure animal welfare at all times prioritized. The overnighting or	Nearby residents & businesses	Airbourne	Each pen is firstly dry cleaned. The pens are washed down using water. This runs	Very low	Negligible	Low

				prolonged retention of livestock will be undertaken in accordance with the highest veterinary standards, with hygiene maintained at all times.			to the on-site effluent treatment plant.			
Blood Processing	Abattoir	Bleeding of animals, blood handling, & blood collection	Fugitive emissions	<p>Tank and Carbon filters regularly checked and maintained to ensure operating correctly.</p> <p>Contact arrangements are in place for disposal and blood tank emptied twice weekly and emergency contacts are in place for the collection if not actioned before the weekend. Spare active carbon kept on site.</p>	Nearby residents & businesses	Airbourne	<p>Blood treatment does not give rise to odours as blood is fresh.</p> <p>If blood collection does not occur, emergency contacts are notified, and collection is actioned.</p>	Does not give rise to odours	No nuisance	Low Risk

				Carbon filter used in loading and unloading of blood. The tank is cleaned at every single collection with cold water – and this water is collected by the same vehicle						
Animal by-products arising from the abattoir	Abattoir	Slaughter process	Fugitive emissions	Appropriate equipment and good management	Nearby residents & businesses	Airbourne	Removed regularly, kept indoors	Animal by-products do not give rise to any odours	No Nuisance	No Risk
Bones from the deboning process	Deboning facility	Carcass deboning activities	Not applicable	Controlled at source	Nearby residents & businesses	Airbourne	Bones from the deboning process are stored in CAT 1 or 3 trailers. Are removed regularly	Fresh bones are removed regularly – no odour issue is presented	No Nuisance	No Risk

Effluent Treatment	Factory processes	Wastewater treatment	Fugitive emissions	Controlled at source	Nearby residents & businesses	Airbourne	Ensure screen is checked and adequately cleaned and swilled daily.	Very low	No Nuisance	Low risk
Refrigeration System	Factory processes	Product cooling & storage	Fugitive emissions	Controlled at source. Good management and maintenance of equipment	Nearby residents & businesses	Airbourne	Routine maintenance and inspection of equipment on a regular basis will prevent and manage any leaks in this system	Little risk of exposure, high H&S risk covered under emergency preparedness	Negligible	Low risk
General Yard Processes	Yard Area	Vehicles driving in, out, and around the site	Fugitive emissions	Controlled at source. Good management & maintenance	Nearby resident & businesses	Airbourne	Good maintenance and cleaning regularly of yard area	General yard will not give rise to any odour	No Nuisance	Low risk
CAT 1 Trailer	Animal by-products building	CAT 1 animal by-products	Fugitive emissions	Cover on trailer	Nearby residents & businesses	Airborne	Kept indoors on site	Moderate probability of exposure	Moderate but localised*	Low risk

									as trailer is covered and raw material is fresh		
CAT 2 Trailer	Animal by-products buildings	CAT 2 animal by-products	Fugitive emissions	Permanent cover on trailer	Nearby resident & businesses	Airborne	Kept indoors on site	Low probability of exposure as trailer is covered constantly when not in use covered	Low but localised*	Low risk	
CAT 3 Trailer	Animal by-product building	CAT 3 animal by-products	Fugitive emissions	Cover on trailer	Nearby resident & businesses	Airborne	Kept indoors on site	Moderate probability of exposure as trailer is covered and raw materials is fresh	Moderate but localised*	Low risk	

Hide Storage	Hide processing	Treatment of hides	Fugitive emissions	The material is maintained clean, fresh and odour free. Hides placed in lidded dolavs. With permanent cover on collection trailer	Nearby residents & businesses	Airborne	Hides are stored for collection in dolavs, During and before transportation trailer is covered.	Low probability of exposure only during issues with drains	Moderate but localised when open*	Moderate risk
Waste Storage	Compacted	Waste storage	Fugitive emissions	Controlled at source. Good management and maintenance.	Nearby resident & businesses	Airborne	Daily checks and maintenance of system	Low probability of exposure. Compactor kept indoors	Negligible	Low risk

*Moderate but Localised – the odour strength is considered moderate but the emission rate from the material is considered minimal.

Appropriate Measures for the Management of Odorous Materials and Control of Processes

The following areas identify the key process areas where the potential to generate odours are identified. In doing this plan, an assessment of each area, normal and abnormal operation, accidents etc. are considered from an odour perspective. Standard operating procedures are viewed and assessed with respect to their suitability.

Truck Wash

Livestock trucks delivering animals to the site will inevitably be dirty. These require to be washed out before leaving the site. The vehicles are firstly dry cleaned to remove solid materials which also reduces wastewater produced. A pressurised wash system is in place to minimize the quantities of water used but also to give an effective and quick wash. The body tanks are also cleaned and washed out. All washing areas are drained into the on-site screen, so the truck wash area remains clean, these washings are then sent to the sewage. Linden Food Burradon shall ensure that the area is kept clean and tidy following vehicle wash. This process is designed to minimise odours occurring at the vehicle wash facility.

Mitigation measures:

- A good, clean wash of the vehicles is required.
- The area surrounding the truck wash needs to be clean and tidy and all gross solids associated with the truck/trailer wash to be deposited and removed regularly from the site. All truck wash goes to the effluent plant as required.

Lairage

Animals are delivered to the lairage area where they are kept in groups until ready for slaughter. Urine and animal manure/slurry can build up when animals are in the pens. When the animals vacate the pens, each pen is dry cleaned and then washed to the on-site foul network. All areas associated with the lairage (walkways) are washed and cleaned regularly. Washings proceed to the on-site effluent plant. This is considered best practice.

As the lairage is indoors with minimal forced ventilation, and the contents regularly washed, odours arising are minimized as much as possible with the present system and constitutes BAT with respect to animal handling and storage.

Natural ventilation exists within the lairage but does not require any form of abatement as the odour intensity and extent and persistence does not warrant abatement. The volume of emission

arising from the lairage area by natural ventilation does not pervade under normal dispersion the local environment. As Linden Foods Burradon is located near to residential units, frequent cleaning is required to ensure odour emissions are prevented, this is undertaken as often and as quickly as possible.

Mitigation measures:

- Frequent cleaning of the area to prevent slurry and manure build up
- Livestock management as far as practicable taking into consideration animal welfare concerns
- Remove gross solids prior to washing and placed in bin. Remove as necessary.
- EMS 11 (B) – Update for weekly monitoring of drains.

Stunning

Stunning is located in the abattoir. When the animals are ready to be slaughtered, each animal is directed through a race which leads to the stunning box located in the abattoir. Here the animal enters the box and is stunned using a captive bolt gun. No other processing commences at this stage. No odour can arise from this process.

Blood operations

All blood is collected in the bleeding trough, dosed with chemicals, and sent to the blood processing plant. The majority of blood from the carcasses drains into the bleed trough, which is then pumped away to a blood processing plant which is external to the building. The blood is fresh therefore does not produce odours and is screened before storage.

Blood is collected twice weekly to ensure that processed blood quality is excellent for further treatment off site. Strict quality limits are placed on this blood.

Mitigation measures:

- All blood to be processed through the blood processing plant.
- Any spillages or leaks from this plant should be cleaned up regularly (LFEP 013 (A) update in case of spillage)
- Temperature control on the blood storage tanks
- Twice weekly removal of processed blood from the site. (LFEP 008 (A) update on the Removal of processed blood)
- If blood removal is not actioned at the designated time, contractor is informed of, and truck sent for its removal.

Waste storage areas

Animal by-products have the potential to generate odours while on site or during removal off site (LFEP 008 (B)). It is important that areas storing animal by-products remain clean at all times and any spillages be cleaned up as quickly as possible. Trailers holding animal by-products during production must be located on hard standing yard to drain to effluent treatment.

The trailer/container must be clean and must be covered when not in use and especially while awaiting pick up from site. All containers are appropriately labelled depending on their contents. All containers must be clean when not in use.

Animal By-product trailers will remain covered when not in use and on removal from the site. The trailers cannot be covered during production as they will be in use throughout the day, however once production has ceased and on removal from site the trailers will be covered. The animal by-products containers are removed on a regular basis from site by a licenced contractor.

All trucks that collect Animal by-products are cleaned regularly to reduce odours around the local area when travelling to and from the site. These vehicles transporting animal by-products can give off odours during transportation due to gas build up within the animal by-products. The only preventative measure is to cover the animal by-products with a waterproof cover and to remove the animal by-products as frequently as possible.

Mitigation measures:

- Keep area where loading is taking place clean and tidy.
- Cover the trailer/ container when not in use.
- Remove from site as soon as practicable after production.

Effluent treatment plant

The effluent Treatment Plant is located to the centre of the site as detailed in *figure 2*. The potential for odours exists from such facilities but the design and operational control that exist with the facility ensures that odours are prevented from the facility. Daily inspection, cleaning, operation, and maintenance of the facility will ensure an adequately maintained treatment plant. This plant will receive wastewater from the onsite drainage system throughout production areas of the site.

Wastewater from the abattoir and associated areas firstly flows into the screening process. The screening process removes solids larger than 4mm in size. This screen is cleaned, and solids are removed and transferred to a CAT 1 waste bin which is collected by a licenced contractor on a daily basis, therefore greatly reducing the potential of and odour nuisance arising. The wastewater

treatment system present at Linden Foods Burradon is a simple system that does not involve agitation or aeration within the effluent plant, therefore the risk of Odours is greatly reduced. Once the wastewater has passed through the screening process it next enters a large holding tank. Within this tank solids that have not been removed from the screening process float to the top of the tank. These solids are then skimmed off by the treatment plant operative into an adjoining area of the tank, on a twice weekly basis. Once in this designated area these solids are taken to the Dry Midden/sludge area on site and are stored there until taken away by a licenced contractor. The remaining wastewater in the tank is then discharged to the town sewer once it has passed through this treatment process.

The adjoining designated area of the treatment plant is brushed and washed on a daily basis to prevent odours arising from this area.

This wastewater treatment system is maintained to the highest standard to promote optimum performance and reduce any odour potential generated through the process.

Responsibilities for odour control

The General Manager/Environmental Manager and Engineering Manager are responsible for ensuring that the potential to generate odours are minimized on site. This includes the implementation of hygiene protocols, the avoidance of potentially odorous by-products building up, and the implementation of regular preventative maintenance.

Odour Monitoring

Odour monitoring onsite is crucial as not to cause a nuisance and to keep a peaceful relationship with the local population surrounding Linden Foods Burradon.

On a weekly basis the site General Manager/Environmental Manager completes a walk on and a walk off site to ensure there are no odours occurring through the onsite processes. If an odour is identified, everything is done to contain this odour inside the site boundary as to not cause nuisance. LFEP 021 (A) & (B) records form has been developed to aid in the odour assessment process. As part of this procedure a number of off-site locations have been chosen for odour assessments to be carried out at. On a weekly basis an external site inspection to assess odour emissions will be carried at these locations in accordance with LFEP 021 (A) & (B).

This SOP for Odour assessment has been implemented into the Environmental Management System.

The potency of odours leaving the site will be determined by the neighbours surrounding the plant. Linden Foods Burradon provides contact information for public odour complaints are available onsite and site phone number is available online, which gives contact direct to management.

All complaints about odour emissions shall be taken, collated, and reports are duly recorded on an Environmental Incident Report form. Following this, LFEP 021 (A) & (B) are implemented, and an odour monitoring assessment undertaken. If an investigation finds that the odour originated on-site, remedial action will be taken to control any further release of offensive odours wherein the complainant and EA will be informed of the follow up action taken after receiving the complaint.

The affected neighbours also have the option to direct their complaint to the EA, however, this is discouraged as a significant delay in passing the complaint to the plant might result in a delayed response to the problem. Immediate odour complaints are easier to follow up as the site can visit the area, identify the source of the odour, speak to the complainant, and do follow up checks immediately on the site to help identify the source. This is particularly pertinent to occasional odours as site may not be aware of the source.

Emergencies and Incidents

In the event of abnormal operations, emergencies, or incidents, for example collection failure of animal by-products from the site. There are a number of procedures in place to deal with such situations. If a lorry has failed to collect an animal by-products trailer at the end of the day, the site will inform the contractor and the contractor will send out another lorry to site to remove the trailer. Trailers are always removed from site on the day of production. Appropriate action is in place for each abnormal operation on-site.

In the event of an emergency such as power failure, no emissions shall arise as no processing will be undertaken and all activities on site will cease. Animals cannot leave or enter site in this event. There will be no odour as a result. Backup generators will start up and the process will continue as normal. Once mains power is restored, generators will cease, and mains supply will provide power to the process once again. These processes will have no effect on odour as the plant can continue running within several minutes of mains supply failing. In event of fire on either part or the entire site, the facility will cease to operate during the incident. No emissions in these areas will have impact on the odour management on site directly from these processes.

In event of mechanical breakdown, the following shall arise:

- Blood processing - Cease operation and collect blood as waste blood, no impact on odour management.

- Effluent treatment - The process will stop, and a full evaluation undertaken to determine the root cause and put in place a preventative programme.

Cattle slaughter will stop on site in event of any of the above processes ceasing either through incident, accident, or emergency.

The slaughtering process and associated activities are designed, operated, inspected, and maintained to a very high standard. Each stage of the process is specifically designed to minimise environmental pollution such as odours across the site. These processes and process equipment receive daily inspection and maintenance to ensure each process is running correctly and to its full potential. This not only benefits the factories output but in doing so minimises any potential odour occurrences on-site.

Linden Foods Burradon will ensure several staff onsite are trained to the standard operating procedures of the environmental management system. In the event of illness of key staff, other trained staff are present to implement the Environmental Management System.

A range of mitigation measures have been developed to address odour in light of current requirements. Implementing appropriate control and monitoring measures will be in place to limit the consequences of any impacts.

A number of procedures are designed and implemented onsite to reduce environmental impact of such emergencies or incidents happening onsite.

- LFEP 013 (A) – Update in case of a spillage
- EMS 9 (A) – Update on Emergency response for ceasing activities at Linden Foods Burradon
- LFEP 008 (A) – Update on the Removal of Processed Blood
- EMS 11 (B) – Update on Pipeline Inspection Checklist

All potential problems are catered for in the environmental management system to minimise odour production from the site in such events.

Conclusions

Linden Foods Burradon has invested heavily into making this Factory have as little environmental impact as possible.

Odour modelling is not required on site to determine the extent or sources of odours on the site.

Daily removal of animal by-products is in keeping with the general measures and management guidelines as detailed in BAT Guidance documents.

All key areas and associated equipment are washed down regularly to minimize odour generation.

Good standards of hygiene are maintained on site to ensure potential for odours are minimised.

SOPs are in place to take complainant details, nature of complaint, and follow up and corrective action.

SOPs and training are in place to ensure that operatives are aware of the potential of odour generation and ways to minimize same.

A preventative maintenance system (Pirana) is in place to ensure that all key equipment and processes are maintained to minimise the risk of odours during normal or abnormal operations.

Clean culture in the lairage “clean as you go.”

The vehicle wash is cleaned routinely, gross solids are removed and placed within the CAT 2 trailer which is covered with an automated permanent cover and removed from site on a regular basis.

Overall, Linden Foods Burradon has made considerable investment to on site processes which has a significant improvement with respect to odour generation. The company is committed to further investment over the next number of years and will manage the site proactively to reduce potential odours. The Burradon site constitutes Indicative Best Available Technique measures wherever possible across the site to minimise odour generation.

Environment Agency H4 additional tables

Inventory of odorous materials

Odorous material	Management	Odour description	Hedonic tone	Quantity	Process control	Process monitoring
<p>Screening of Trade effluent Effluent Treatment Area - OS1</p>	<p>Sump operates on ultrasonic level sensor which pumps the effluent to a rotary drum screen, and then discharges to sewer</p>	<p>Effluent, meat / food materials</p>	<p>Mildly unpleasant</p>	<p>No more than 10m³ of effluent at a time There is no settlement balance tank - effluent is not stored for any length of time therefore no potential for fugitive odour</p>	<p>The effluent screen is checked and cleaned daily The screen is regularly serviced by Maintenance</p>	<p>Discharge volumes, and maintenance records retained by Site Manager Trade effluent sampling by Northumbrian Water</p>

<p>Waste Solids Effluent Treatment Area - OS2</p>	<p>The yardmen remove the small metal bins by FLT. This process is completed at regular intervals throughout each day. The bins are emptied into the Category 1 vehicle, in the animal by products area at least daily. The effluent screen and the area surrounding it, is thoroughly cleaned by the yard men - daily</p>	<p>Meat / food materials</p>	<p>Mildly unpleasant</p>	<p><1 tonne Removed from site via Category 1 SRM vehicle</p>	<p>The effluent screen is checked and cleaned daily The screen is regularly serviced by Maintenance</p>	<p>Maintenance records retained by Site Manager Category-1 SRM removal records maintained</p>
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Odorous material	Management	Odour description	Hedonic tone	Quantity	Process control	Process monitoring
Blood tank Animal By Products Storage Area - OS3	<p>Contract arrangements are in place for disposal</p> <p>Blood tank emptied weekly</p> <p>The tank is cleaned at every single collection with cold water - and this water is collected by the same vehicle</p>	Blood	Unpleasant	<p>15,000 litres max</p> <p>Emptied weekly or immediately in the event of an odour issue</p>	<p>Displaced air from tank vented through carbon while the contractor vents through masking agent</p> <p>All collections are supervised in accordance with the Supervision of Blood Collections Procedure</p>	<p>Blood tank and carbon filter closely monitored by the Site Manager</p> <p>Waste volumes, and maintenance records retained by Site Manager</p>

Odorous material	Management	Odour description	Hedonic tone	Quantity	Process control	Process monitoring
<p>By-products storage trailers Animal By Products Storage Area - OS4</p>	<p>Contract arrangements are in place to ensure frequent removal</p>	<p>Paunch manure</p>	<p>Mildly unpleasant</p>	<p>1 Paunch skip, circa 10 tonnes Paunch removed 2 times per week.</p>	<p>Tipper used for conveying the material is cleaned daily In the course of everyday activities, the factory manager will ensure that there is no malodorous material stored on site. In the event of an odour issue, the manager will ensure immediate material removal and ensure through cleaning regime to return to previous state</p>	<p>Records of quantities removed retained by Site Manager</p>

Odorous material	Management	Odour description	Hedonic tone	Quantity	Process control	Process monitoring
<p>By-products storage trailers Animal By Products (ABPs) Storage Area - OS4</p>	<p>Contract arrangements are in place to ensure frequent removal. ABPs are stored in sealed containers in an articulated wagon Contract arrangements are in place with the Rendering company to leave clean trailers on site. All trailers from Linden Foods Ltd are cleaned by these companies after they have been emptied</p>	<p>Category 1 material</p>	<p>Mildly unpleasant</p>	<p>1 trailer of Cat 1: circa 20 tonnes Emptied four times per week: Monday, Tuesday, Thursday, and Friday.</p>	<p>This vehicle and containers are cleaned off site by the contractor In the course of everyday activities, the factory manager will ensure that there is no malodorous material stored on site. In the event of an odour issue, the manager will ensure immediate material removal and ensure through cleaning regime to return to previous state</p>	<p>Records of quantities removed retained by Site Manager</p>

Odorous material	Management	Odour description	Hedonic tone	Quantity	Process control	Process monitoring
Hides trailer Animal By Products Storage Area - OS5	The material is maintained clean, fresh and odour free (this is a product rather than a 'waste')	Hides	Neutral	30-40 bins of hides and fleeces Hides and fleeces are removed daily	The Kill Floor Manager closely supervises this operation	Records of quantities removed retained by Site Manager
Manure trailer Lairage - OS6	The Lairage is carefully cleaned and maintained to ensure animal welfare at all times is prioritized. The overnighting or prolonged retention of livestock will be undertaken in accordance with the highest veterinary standards, with hygiene maintained at all times	Manure / straw	Mildly unpleasant	<10 tonnes of manure There is no tank, so it will not be feasible for manure to be stored on for any length of time	Regular wash down and replacement of bedding material	Records of quantities removed retained by Site Manager

Odour mitigation measures

Odorous material	Control of evaporation	Odour containment and abatement	Odour mitigation process control	Process monitoring
<p>Blood tank Animal By Products Storage Area - OS3</p>	<p>Blood transferred directly into blood tank from kill line</p>	<p>Displaced air from tank vented through carbon - while the contractor vents through Odour kill and carbon filters</p>	<p>As in above table</p>	<p>As in above table</p>

Odour related accidents identifying appropriate response measure, responsibilities, and preventative actions

Identity of Release Points	Plan Reference Number	Activity or Process in which Odourous Materials are Used/Generated	Identity of Possible Failures or Abnormal Situations (Nature/cause of failure)	Potential Outcome If Failure Occurs	Measures That Have Been Put in Place to Prevent or Reduce the Risk of Failure	Actions To Be Taken	Responsibility
Effluent Treatment Area	OS1	Screening of trade effluent	A breakdown of the effluent screen could mean that the effluent gathers inside the sump	A limited increase in odour generation around the localised area of Linden Foods Burradon Ltd	The effluent screen is checked and cleaned. There is no settlement balance tank - effluent is not stored for any length of time therefore no potential for fugitive odours	The maintenance department should be notified of any problems noted during inspections. The screen should be fixed immediately, and the area cleaned thoroughly. The issue will then be raised at the next Planning Meeting	Yard Man/Stores

Identity of Release Points	Plan Reference Number	Activity or Process in which Odourous Materials are Used/Generated	Identity of Possible Failures or Abnormal Situations (Nature/cause of failure)	Potential Outcome If Failure Occurs	Measures That Have Been Put in Place to Prevent or Reduce the Risk of Failure	Actions To Be Taken	Responsibility
Effluent Treatment Area	OS2	Waste solids bin	Failure to regularly empty the waste solids bins into the Category-1 trailer	A limited increase in odour generation around the localised area of Linden Foods Burradon Ltd	<p>The yardmen remove the small metal bins by FLT. This process is completed at regular intervals throughout each day. The bins are emptied into the Category-1 vehicle, in the animal by products area at least daily. This process is closely supervised</p> <p>The effluent screen and the area surrounding it, is thoroughly cleaned by the yard men - daily</p>	The bins will be removed, and the area cleaned immediately. The issue will then be raised at the next Planning Meeting	Yard Man/Stores and Purchasing Manager

Identity of Release Points	Plan Reference Number	Activity or Process in which Odourous Materials are Used/Generated	Identity of Possible Failures or Abnormal Situations (Nature/cause of failure)	Potential Outcome If Failure Occurs	Measures That Have Been Put in Place to Prevent or Reduce the Risk of Failure	Actions To Be Taken	Responsibility
Animal By Products Storage Area	OS3	Blood tanks	Failure of contractor to collect the blood off site in a timely manner	Stagnation of blood could lead to odour emissions extending beyond the site boundary of Linden Foods Burradon Ltd	<p>Contract arrangements are in place. This is closely monitored by the factory Manager.</p> <p>Blood tanks emptied weekly displaced air from tank vented through carbon - while the contractor vents through odour kill and carbon. The tank is cleaned at every single collection with cold water - and this water is collected by the same vehicle.</p> <p>In the course of everyday activities, the factory manager will ensure that there is no malodorous material stored on site. In the event of an odour issue, the manager will ensure immediate material removal and ensure through cleaning regime to return to previous state</p>	<p>The relevant contractor will be contacted immediately to remove the blood off site as soon as possible. If the blood cannot be collected within 24 hours, collection should be arranged with an alternative contractor. An investigation into why the blood was not collected should be completed. The relevant company will be asked for an explanation of the incident.</p>	Kill floor Manager

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Animal By Products Storage Area	OS4	By-products storage trailers (paunch, category 1 material)	Failure to regularly remove the bins off site	Odour emissions extending beyond the site boundary of Linden Foods Burradon Ltd	Contract arrangements are in place to ensure frequent removal: Paunch removed 2 times per week. Tipper used for conveying the material is cleaned daily. ABPs are stored in sealed containers in an articulated wagon - this is emptied twice weekly: Wednesdays and Fridays. This vehicle and containers are cleaned off site by the contractor	The contractor will be contacted immediately to remove the trailers off site. If they cannot remove the trailers within 24 hours, an alternative contractor will be asked to empty the trailers. An investigation will then be completed into why the trailers were not removed	Kill Floor Manager
					Waste by-products are stored according to BAT requirements (leak proof, covered receptacles), and are closely monitored by the Kill Floor Manager		Factory Manager

					<p>The area is regularly cleaned by the Kill Floor operatives and yard men</p> <p>In the course of everyday activities, the factory manager will ensure that there is no malodorous material stored on site. In the event of an odour issue, the manager will ensure immediate material removal and ensure through cleaning regime to return to previous state</p>		
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Animal By Products Storage Area	OS4	By-products storage trailers (paunch, category 1 material)	Failure of contractors to leave clean 'replacement trailers'	Odour emissions extending beyond the site boundary of Linden Foods Burradon Ltd	<p>Contract arrangements are in place with the Rendering company to leave clean trailers on site. All trailers from Linden Foods Ltd are cleaned by these companies after they have been emptied</p> <p>In the course of everyday activities, the factory manager will ensure that there is no malodorous material stored on site. In the event of an odour issue, the manager will ensure immediate material removal and ensure through cleaning regime to return to previous state</p>	The Contractor will be contacted and asked to address the problem. Cleaning records will be checked at the Rendering company	<p>Kill Floor Manager</p> <p>Factory Manager</p>

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Animal By Products Storage Area	OS5	Hides trailer	Failure to remove Hides	Odour emissions extending beyond the site boundary of Linden Foods Burradon Ltd	Hides and fleeces are removed daily - the material is maintained clean, fresh and odour free (this is a product rather than a 'waste'. The Kill Floor Manager closely supervises this operation	The trailer will be removed off site and an investigation into the incident completed. This issue will then be raised at the next Planning Meeting	Kill Floor Manager

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Lairage	OS6	Holding of Livestock	Overnight Storage	Odour emissions extending beyond the site boundary of Linden Foods Burradon Ltd	<p>The Lairage is carefully cleaned and maintained to ensure animal welfare at all times is prioritised. The overnighting or prolonged retention of livestock will be undertaken in accordance with the Highest veterinary standards, with hygiene maintained at all times.</p> <p>There is no tank, so it will not be feasible for manure to be stored on for any length of time.</p>	<p>Regular wash down and replacement of bedding material.</p> <p>The contractor will be collected, and any bedding material removed</p>	<p>Yard Man/Stores and Purchasing Manager</p> <p>Kill Floor Manager</p>

Stakeholder communication plan

Level 1 – Stable operations

<Best operating practice / compliant>

Communications approach – Standard regular proactive contact with keystakeholders

EHO	Quarterly	Direct personal contact	To keep EHO updated about all processes on site	Site manager
EA	Quarterly	Direct personal contact	To keep EA updated about all processes on site	Site manager

Level 2 – Unstable operations

<Non-best operating practice /compliant on one or more sub-processes>

Communications approach – As level 1 plus following

EHO	Weekly	Meetings/phone calls/letters/ emails	To keep EHO updated about specific operational activity on site	Site manager
EA	Weekly	Meetings/phone calls/letters/ emails	To keep EA updated about specific operational activity on site	Site manager
Councillors	As required	Meetings/phone calls/letters/ emails	To keep updated about specific operational activity on site	Site manager

Level 3 – Emergency operations

<Temporary or transient activities not deemed to be best operating practice with high risk of odour emitting plant>

Communications approach – As level 2 plus following:

EHO	Daily	Meetings/phone calls/letters/ emails	To keep EHO updated about specific operational activity on site	Site manager
EA	Daily	Meetings/phone calls/letters/ emails	To keep EA updated about specific operational activity on site	Site manager
Councillors	As required	Meetings/phone calls/letters/ emails	To keep updated about specific operational activity on site	Site manager
Local residents' groups	As required	Meetings/phone calls/letters/ emails	To keep updated about specific operational activity on site	Site manager