



ABP Kingswinford

Odour Management Plan

Revision 2.0

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1.0 Introduction

ABP Kingswinford has prepared this Odour Management Plan. This OMP, which is comprehensive and covers the entire site, rather than OMP supporting documents for a number of processes on site. The Odour Management Plan will be for lamb processing activities that are carried out on site. ABP Kingswinford processes on average 1,000 tonnes of meat each week which is applied to supermarkets in various sized retail packs ready for display/ sale.

The site is located at Oak Lane, Dudley, Kingswinford, West Midlands, DY6 7JS. Figure 1 shows all possible odour receptors with a 1-kilometer radius of the site. Within this 1km radius a number of sensitive receptors have been identified. This will be done as ABP 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 ABP Kingswinford site has a total area of approximately 1.2 hectares.

The local area surrounding the site is, of the majority, industrial and residential. For this reason, it is imperative that ABP Kingswinford prevent and control odour that may be produced from the site to maintain good relations.

The prevailing wind direction for the site is a South-Westerly wind.

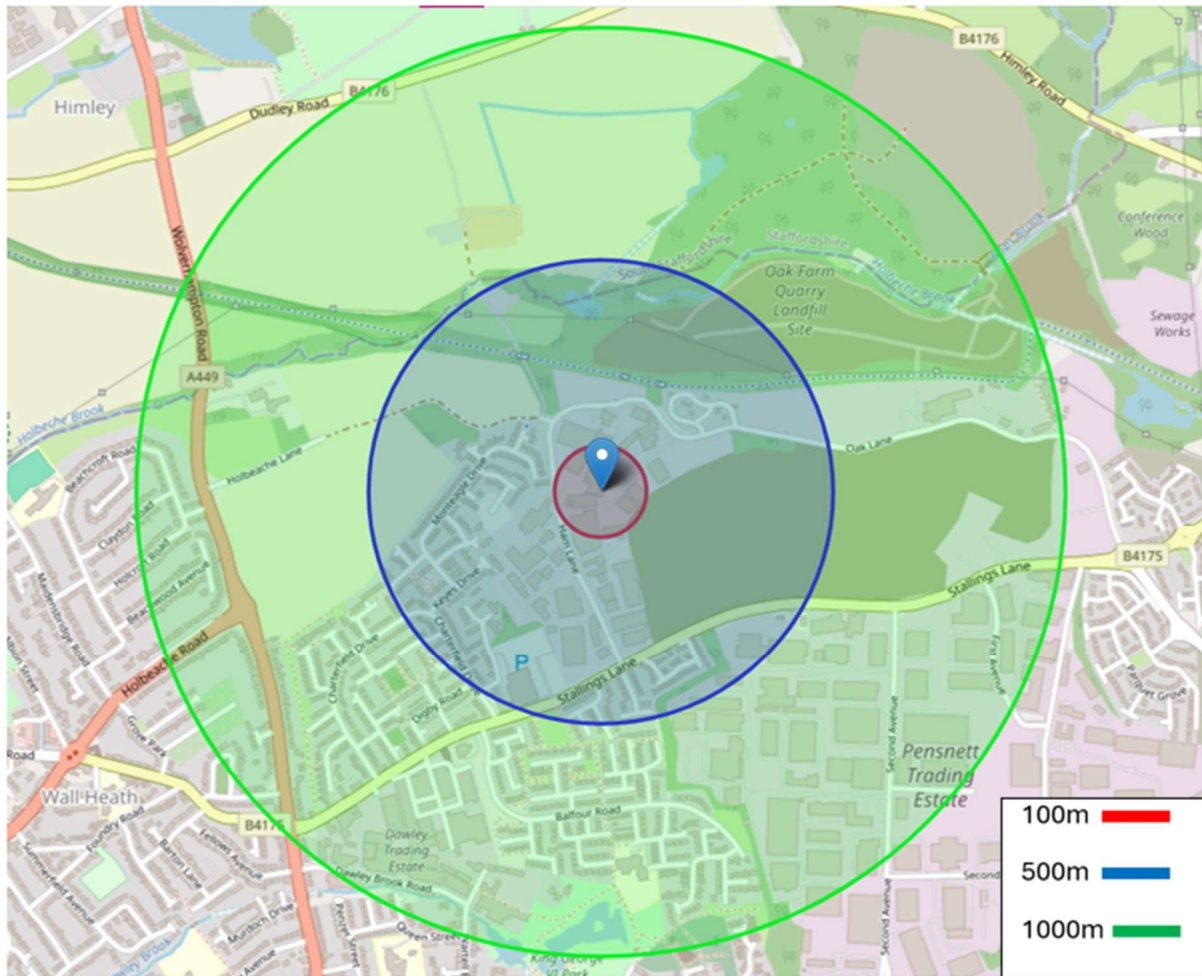
History of odour complaints for the site:

Year	Number of odour complaints
2022	0
2023	1

Table 1. History of Odour Complaints in ABP Kingswinford.

Complaints represented in this table were dealt with and resolved immediately.

Figure 1. Map of all possible odour receptors with 100m, 500m and 1000m of the site.



Nature of Receptor	Name	Direction from Site	Distance from site
Residential #	Receptor 1	NW	520m
	Receptor 2	NE	140m
	Receptor 3	E	1.1km
	Receptor 4	S	290m
	Receptor 5	W	120m
Educational #	Receptor 6	S	710m
Industrial/ Commercial/ Offices #	Receptor 7	N	Adjacent
	Receptor 8	E	Adjacent
	Receptor 9	S	Adjacent
	Receptor 10	W	Adjacent
Nature Conservation³ #	Fens Pool- Special Area of Conservation/ SSSI	SE	2.6km
	Barrow Hill & Tansey Green- SSSI	SE	1.95km
	Ketley Clay Pit- SSSI	SSE	1.25km
	Baggeridge Country Park- Local Nature Reserve	N	1.6km
	Cotwall End- Local Nature Reserve	NE	1.9km
	Barrow Hill- Local Nature Reserve	SE	1.9km
	South Staffordshire Railway Walk – Local Nature Reserve	NW	365m
	Ancient and Semi Ancient Natural Woodland	NE	1.78km
	Biodiversity Action Plan Priority Habitat- Deciduous Woodland	NW	165m
		E	1.01km
S		110m	
Water Resources/ Surface Waters	Daffy Dingle Pool	NW	325m
	Pond	E	1.05km
	Pond	S	800m
	Land Drain	W	1.16km

Water Resources- Groundwater¹	Site is not located within a Groundwater Source Protection Zone. It is anticipated the underlying geology will have a variable permeability		
Highways and Transportation²	Wolverhampton Road	W	Adjacent
Air Quality Management Areas⁴	Site is located within the Dudley MBC borough wide Air Quality Management Area		

Table 2. Nature, names and associated information of sensitive receptors and their distance from the ABP Kingswinford site.

- Closest receptor identified.

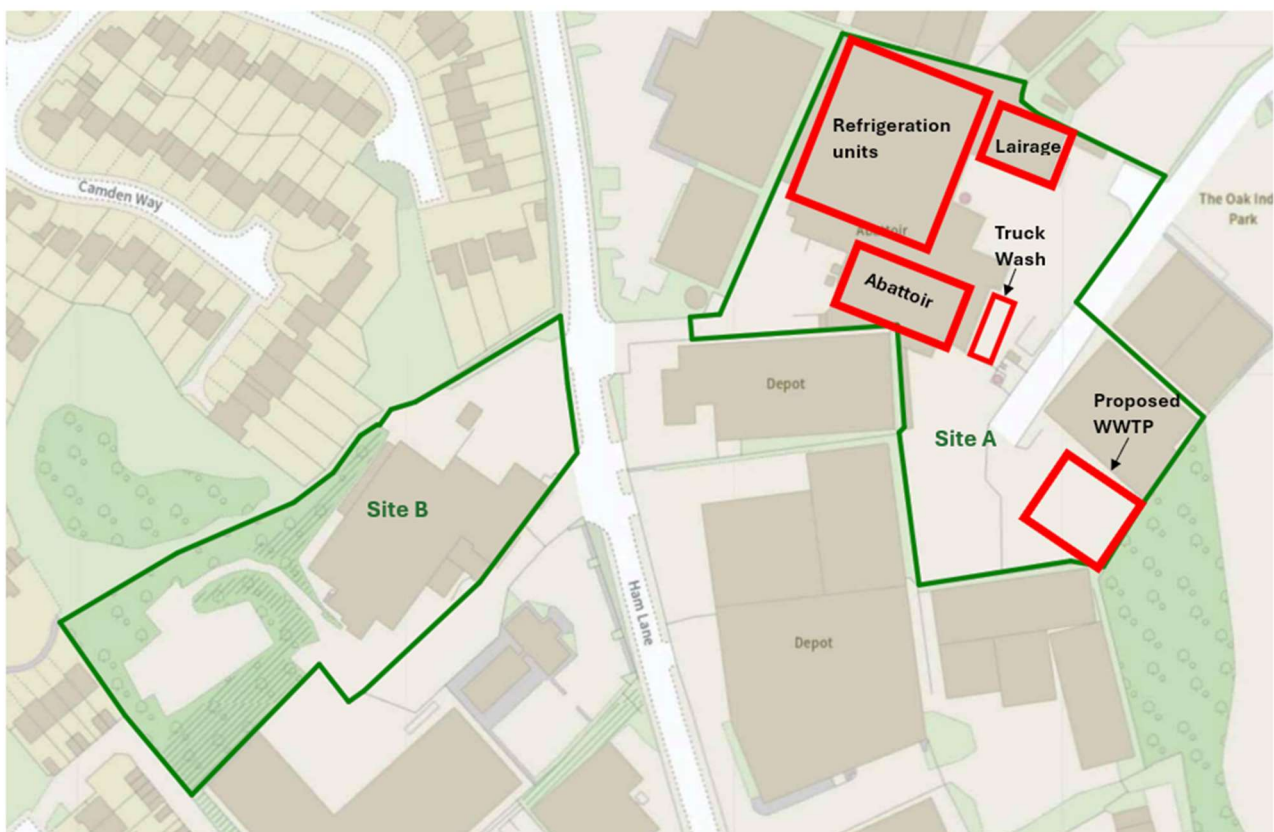
1 -Groundwater Source Protection Zones and River Quality areas identified using the ‘What’s in your backyard’ section of the Environment Agency website.

2- Closest road network only.

3- Nature and Conservation Receptors established through the MAGIC and Nature on the Map websites as of Sept 2014.

4- AQMA locations sourced through DEFRA Website.

Figure 2. Site layout & potential odour sources



ABP Kingswinford has an accredited Environmental Management System. This system helps to manage the ABP 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 odour complaints, accidents, or incidences. Any new Best Available Techniques that may be applicable to the site to reduce odours will be assessed and implemented.

2.0 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. The location of the site is among various industrial and residential sites. Consideration must also be given that this is an industrial activity within a largely Industrial area, therefore people should be accustomed to any odours to people living in these areas.

3.0 Odour Analysis

Odour has been assessed across the site in regards to;

- Odour intensity – type of odour, strength (faint, moderate strong)
- Odour extent and persistence (local within site, transient, persistent, pervasive)
- H4 Odour Management Guidance’ document and ‘The Red Meat Processing (Cattle, Sheep and Pigs)

4.0 Inventory of Odour Sources

Hazard	Source	Location of odour sources	Activity	Emission type	Control method	Receptor	Pathway	Risk management techniques	Probability of exposure	Consequence	Overall risk
<u>Arrival of processed meats</u>	Arrival of chilled or frozen meat for processing	Site access and front yard	Incoming meats to facility	Fugitive emissions	Controlled at source	Nearby Businesses /Residents	Airborne	Clean equipment and trucks arriving onsite to minimise odour	Very Low	Negligible	Low Risk
<u>Refrigeration system</u>	Refrigeration system	Factory processes	Product cooling/storage	Fugitive emissions	Controlled at source (Good management and maintenance of equipment)	Nearby business/Residents	Airborne	Good management, routine maintenance, and inspection of equipment on a regular basis will prevent and manage any leaks in this system	F gas and ammonia	Negligible	Low Risk
<u>General yard areas</u>	Yard processes	General yard area	Vehicles driving in and out and around the site.	Fugitive emissions	Controlled at source (Good Management and maintenance)	Nearby businesses /Resident	Airborne	Good maintenance and cleaning regularly of yard areas	General yard areas will not give rise to any odour	No nuisance	No risk

<u>General process emissions</u>	Process emissions	Factory	Associated activities	Fugitive emissions	Controlled at source (Good management and maintenance)	Nearby Businesses /residents	Airborne	There are no general process emissions	There are no general process emissions	No nuisance	No risk
<u>Site Waste Streams</u>	Waste Storage Area	Factory yard	Disposal of waste from factory and Wastewater treatment.	Fugitive emissions	Permanent cover of waste storage tanks/skips/bin when not in use.	Nearby Businesses /Residents	Airborne	Daily check of and maintenance of all waste streams and maintenance of system. All authorized hauliers of each waste stream provide appropriate equipment for odour control of contents during removal from site.	Moderate probability of exposure as odour producing fresh raw material and wastewater by-products are being removed from the site.	Moderate but localised*	Low risk
<u>Effluent treatment plant</u>	Effluent treatment	Site border	Wastewater treatment	Fugitive emissions	Effluent treatment is adequately maintained	Nearby Businesses /Residents	Airborne	Screen adequately maintained. No retention of effluent on site.	Treatment plant is maintained to a very high standard with daily checks. Tanks will be covered or located indoors. Odour control now in place.	Moderate	Low risk

Table 3. Presents a risk assessment which assesses potential odour sources on site.

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

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

5.1 Truck Wash

Livestock trucks delivering animals to the site will inevitably be dirty. These are required 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 subject to treatment from the WWTP. ABP Kingswinford 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 collected and removed regularly from the site.
- All truck wash goes to the effluent plant as required.

5.2 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 WWTP. 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 to the local environment. As ABP Kingswinford, 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.

5.3 Blood Operations

All blood is collected in the bleeding trough and sent to the blood storage tank.

The majority of blood from the carcasses drains into the bleed trough, which is then pumped away to a blood storage tank. The blood is fresh and does not produce odours. The blood storage tank is fitted with a carbon filter and will not produce odours while stored under these conditions. Blood is collected regularly and removed from the site.

Mitigation measures:

- All blood to be processed through this blood storage tank.
- Any spillages or leaks from this plant should be cleaned up regularly (SOP 8.3 ERP in case of spillage)
- Regular removal of stored blood from the site. (SOP 9.10 Removal of processed blood)

5.4 Skins Storage

Skins are processed and stored indoors for a period until ready for collection. Location of hide storage is within an enclosed building with access only for removal of hides to transport containers. Due to the natural ventilation of the building, and levels of odour intensity and extent no abatement is required.

Area is swept cleaned daily and shed cleaned once skins have been removed. Area is not wet washed due to the use of salt beams. Skins are transported in covered, water retaining containers during transport, to reduce odour.

Mitigation Measures:

- Skins are stored indoors in a ventilated skins storage shed to prevent wetness from rain.
- Location of loading takes place clean is kept clean.
- Ensure container bags are sealed when not in use.

5.5 Waste Storage Areas

Animal by-products have the potential to generate odours while on site or during removal off site. (SOP 9.8 Removal of SRM) 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 in the animal by-products yard which drains to the WWTP.

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.

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 within the building. 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 and on removal from site.
- Remove from site as soon as practicable after production.

5.6 Wastewater Treatment Plant

The following areas within the wastewater treatment plant requires consideration with respect to odour generation and mitigation measures required.

5.6.1 Inlet Works

The inlet works to be kept clean and tidy at all times. The chamber should be cleaned out weekly by the WWTP operator to prevent debris building up.

The screen should be washed regularly and any spillages etc. cleaned up. The inlet works and screen should not generate odours other than fresh effluent smell which will not travel beyond

the site boundary validated by quarterly internal audits/AG5 odour assessments if we have a complaint.

Mitigation measures:

- Keep the area clean and tidy.
- Prevent build-up of debris that could lead to odour generation.
- Keep pump chambers down low.
- Remove bin daily and empty into CAT 1 trailer.

5.6.2 Flow Control Tank

The flow control tank has the potential to generate considerable odours and extra vigilance is required to ensure that flow control operations do not generate odours that can be considered offensive off site. The contents of the tanks require mixing, but care has to be administered to ensure that this does not cause odour generation. The flow control tank will be covered further reducing the risk of odour emission.

Mitigation measures:

- Cover will be placed on the flow control tank.
- Determine the maximum forward feed pumping rate acceptable to the wastewater treatment process.
- Ensure that levels within the flow control tank is as low as possible.
- Do not store wastewater longer than required.
- Do not carry over wastewater from one week to the next.
- In event of odour being generated from the flow control tank, don't ignore it, put in measures to reduce it, forward feed more, turn off mixing system, empty out flow control tank.

5.6.3 Dissolved Air Flotation (DAF) Unit

This system removes suspended matter such as oils, fats and solids. This DAF system does not give rise to malodours if operated and maintained correctly. The DAF unit will be covered further limiting the risk of odour emission.

Mitigation Measures:

- Keep area surrounding DAF clean and tidy.
- Covered DAF unit.

- Regular maintenance to ensure efficient operation.

5.6.4 Sludge Dewatering

Following DAF treatment, the sludge from the DAF is sent for sludge dewatering through an automatic desludging system known as a volute. The sludge tank at this stage is covered to prevent odour escape. Sludge can give rise to odour if left for long periods of time (1 week) untouched. However onsite sludge is sent for dewatering within hours of production, therefore odour is not an issue within this process at ABP Kingswinford. This sludge dewatering system does not give rise to odours onsite if operated and maintained correctly. Dewatered sludge is sent to a designated sludge trailer as solid material for daily collection by a licenced contractor.

Sludge is removed from site regularly. SOP 9.14 Removal of sludge for land spreading.

Mitigation measures:

- Always keep the area clean and tidy.
- Ensure that there are no spillages, and any spillages should be cleaned up as quickly as possible (ERP 8.3 in case of spillage).
- Sludge trailer should be emptied regularly.
- The sludge trailer/container should be covered when not in use and for removal off site.

The site map details the location of nearest odour sensitive receptors. (Figure 2. on page 6)

6.0 Critical Pathways

6.1 Wind Speed and Direction

Odour impacts are very dependent on wind direction and wind speed relative to sensitive receptor locations when assessing potential odour impacts. The meteorological conditions of interest are the proportion of low wind speeds and occurrence of stable atmospheric conditions. This is because these conditions result in reduced dilutions of emissions.

Directions determines the broad transport of the emission and the sector of the compass into which the emission is dispersed. Wind speeds affect ground level emissions by increasing the initial dilution of pollutants in the emission.

6.2 Sensitive Receptors

Sensitive locations are those where the public may be exposed to odour emissions from the site, should they occur. Sensitive receptors shall include residential property, golf clubs, public roads, and footpaths.

Sensitive receptors identified in the vicinity of ABP Kingswinford are listed in Table 2.

6.2 Pathway

The odour pathway will be via the air in the direction of the wind.

History of odour complaints if outlined in Table 1 on page 3.

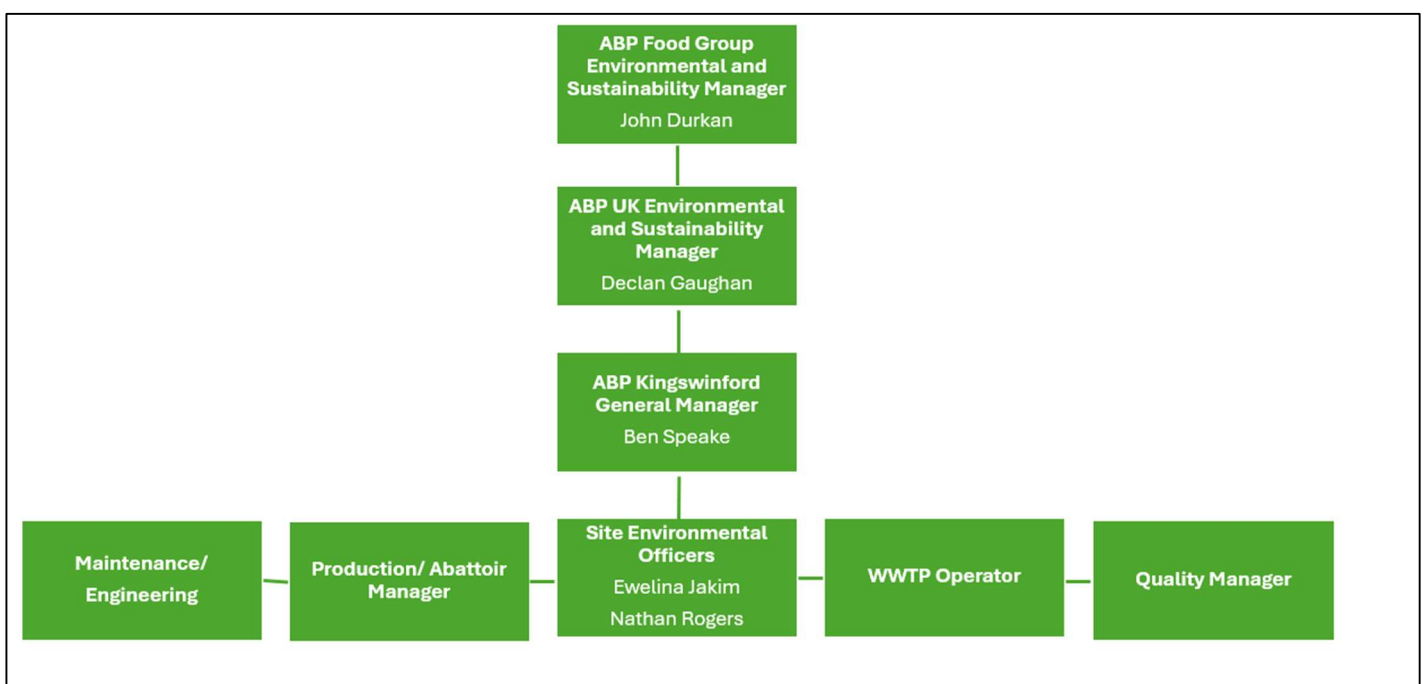
6.0 Control Measures to Manage Odour Risks

Odour release from the sources listed above can be controlled by adopting the following techniques.

- Reduce the generation of odours on site.
- Good management/ work practices.
- Employee training and awareness.
- Good preventative maintenance systems.
- Good operational controls.

6.1 Responsibilities for Odour Control

The General Manager/Environmental Manager is 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.

Figure 3. Details of the management structure at ABP Kingswinford. Key Personnel are listed. The Group Environmental and Sustainability Manager has inputs at all levels of site management with regard to environmental matters.

7.0 Odour Management

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

Daily, the site environmental manager completes a walk on and 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. SOP 10.4 and ERF 10.4A record 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.

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. In case of its occurrence, ABP Kingswinford provides contact information for public odour complaints at the onsite security hut and also on their website.

Complaints about odour emissions shall be taken, collated, and reports are duly recorded on an Environmental Incident Report form. Following this, SOP 10.4, Control of Air Emission, will be 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 and the complainant 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 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.

8.0 Emergencies and Incidents

In the event of abnormal operations, emergencies, or incidents, for example collection failure of CAT 3 from the site. There are a number of procedures in place to deal with such situations. If a lorry has failed to collect CAT 3 waste, the site will inform the contractor and the contractor will send out another lorry to site to remove the waste. 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. There will be no odour in this event. 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:

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

Associated activities on site 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.

ABP Kingswinford has several staff onsite trained to the standard operating procedures of the environmental management system. In the event of illness of key staff, other trained staff implement the Environmental Management System. A number of SOP's are designed and implemented onsite to reduce environmental impact of such emergencies or incidents happening onsite.

- SOP 8.3 In case of a spillage.
- SOP 8.9 emergency response for ceasing activities at ABP Kingswinford.

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

9.0 Conclusions

ABP Kingswinford have invested heavily into making this factory have as low of environmental impact as possible.

Odour modelling is not required on site to determine the extent or sources of odours on the site. 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. Community liaison is not going to be undertaken by ABP at this point but will be reviewed if necessary.

SOPs are in place to take complainant details, nature of complaint, and follow up and corrective action. SOP's 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 is in place to ensure that all key equipment and processes are maintained to minimise the risk of odours during normal or abnormal operations. The company is committed to further investment over the next number of years and will manage the site proactively to reduce potential odours. The ABP Kingswinford site constitutes indicative Best Available Technique measures wherever possible across the site to minimise odour generation.

