BPEX MODEL TEMPLATE B3.5 6A

Environmental Risk Assessment

Cattle (Holderness) Limited
Southfield Pig Farm

Table 1 Assessment of Odour Risk

What do you do that can harm and what could be harmed?	**Managing the risk**	**Assessing the risk**				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Odour from feed delivery and storage	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Measures as described in 'How to comply with your environmental permit for intensive farming- latest version (EPR 6.09 Sector Guidance Note) Odour Management Plan in place due to sensitive receptors within 400m.	Unlikely	Odour annoyance	Not significant

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			Feed delivery sealed to minimise atmospheric dust. Any spillage of feed around the bins is immediately cleaned up. Dust collection cyclones are fitted to the feed bins. The condition of feed bins is checked regularly for integrity, so that any damage or leaks can be identified All feed ingredients are stored in covered tanks or silos. The units are relatively isolated so there is minimal risk of dust causing direct odour nuisance.			

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Odour from the manufacturing and selection of feed	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	All mixing and milling operations carried out within enclosed building and doors kept closed during operation Feed specifications will be prepared by a nutritionist. Feed targeted to maximise FCR and minimise amount of ammonia produced.	Unlikely	Odour annoyance	Not significant
• Odour arising from problems with housing ventilation system • Inadequate air movement in the house leading to high humidity	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Measures as described in 'How to comply-Intensive Farming'. The ventilation system is adjusted by computer controls according to the requirements of the pigs The ventilation system will be designed to efficiently	Unlikely	Odour annoyance	Not significant

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
and wet bedding • Inadequate system design causing poor dispersal of odours.			remove moisture and stale air from the house Buildings with fan ventilation will discharge exhaust air at high speed via roof vents for improved dispersal. Stocking density maintained at or below levels set out in Welfare Regulations.			
• Manure and Slurry management. • Odours arising from slurry/manure • The use of insufficient or poor quality bedding.	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Measures as described in 'How to comply-Intensive Farming' Controls on feed and ventilation by computer control (see above) help to maintain bedding quality. Fully insulated and draught controlled buildings, which	Unlikely	Odour annoyance	Not significant

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
• Spillage of water from the drinking system. • Disease problems resulting in wet bedding.			prevent condensation and damp patches. Stocking density at least at farm assured levels. A veterinary health plan is used and there are regular veterinary visits to help prevent disease outbreaks. Regular maintenance and correct positioning to avoid overflow from feed and drinking systems Surfaces prevent water ingress and arranged to avoid build-up of stagnant water			

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			Stocking density at optimal levels to prevent overcrowding. Building managed for optimum hygiene and cleanliness Potentially odorous spillages (very unlikely) cleaned up promptly. Frequent removal of slurry from slatted buildings. Shallow pits. Floating cover on lagoon and rigid cover on tanks to reduce emissions. Covered FYM stores. Outside areas kept clean.			

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			Good quality bedding provided (where applicable) and in sufficient quantities to bind ammonia and liquids and maintain a dry, clean lying area. Wet areas frequently removed, along with mucking out of pens between groups.			
Carcase disposal: • Inadequate storage of carcases on site • On-site disposal of carcases by incineration.	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Measures as described in 'How to comply-Intensive Farming' Carcases are burnt on-site in the APHA- approved low capacity incinerator. Ash is stored on site in secure and leak proof container and disposed of under U15 exemption.	Unlikely	Odour annoyance	Not significant

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			Carcases are stored in locked and leak-proof containers before incineration.			
Buildings: • House clean out	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Slurry/Manure removal is done quickly and efficiently by our own staff. Slurry system all enclosed, through to lagoon where slurry is added under the surface level to reduce risk of aerosol creation and there is a floating cover to reduce emissions. Slurry solids are separated out before liquid part piped to lagoon.	Likely	Odour annoyance	Not significant if carefully managed

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			Potentially odorous spillages (very unlikely) cleaned up promptly.			
Odour arising from manure/slurry storage and spreading	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	All slurry and manure spread on land owned and managed by operators of the permit. Storage sites and applications are highlighted in the manure management plan and also follows NVZ rules Intermittent activity only Wind direction and land and weather conditions observed before spreading.	Likely	Odour annoyance	Not significant

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			No spreading at weekends/bank holidays if possible. No spreading at night. Slurry applied by dribble bar to keep odour to a minimum. FYM spread at low trajectory. Short incorporation times, where applicable. Minimised storage of manure on site wherever possible to reduce emitting surface areas. FYM routinely removed to temporary field heaps when conditions allow. Storage areas (including field heaps)			

What do you do that can harm and what could be harmed?	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs, who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			sited as far as possible from nearest neighbours. Composting of manure before spreading. Slurry reception tanks underground, sealed; concrete cover. Slurry separated. Slurry lagoon has floating cover (clay balls) and slurry is piped and released under the surface of the lagoon contents to reduce aerosol effect.			

Table 2 Assessment of Noise Risk

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Noise problems from large vehicles travelling to and from the farm. Mobile source	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Measures as described in 'How to comply-Intensive Farming' Vehicles are required to be driven on to and off site with due consideration for neighbours Deliveries of feed ingredients are made only during the daytime, if possible, so that disturbance is minimised Loading of pigs is carried out in as short a duration whilst maintaining minimum stress. All vehicles are maintained so as to minimise noise. Potholes around	Unlikely	Noise annoyance	Not significant if managed carefully

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			the site will be repaired as necessary. All vehicles maintained so as to minimise engine noise and are driven slowly to and from the site. Engines to be switched off when not in use Roads and tracks maintained to minimise noise produced Vehicles fitted with an audible 'vehicle reversing' warning system are generally used only in the daytime Idling of machines avoided where possible and engine revs kept low with an effective silencer			

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			Noise Management Plan in place as there are sensitive receptors within 400m.			
Small vehicles travelling to and from the farm eg staff and visitors' cars, courier van deliveries, etc Mobile source	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Measures as described in 'How to comply-Intensive Farming' A stockman lives on site, just outside the installation boundary at the farm entrance. Deliveries sometimes occur early in the morning so vehicles could turn up then. Ditto arrival of staff. Mostly vehicles are modern and well maintained. Other vehicles movements will be during normal working hours and therefore seen as low risk.	Unlikely	Noise annoyance	Not significant
Feed transfer from lorry to bins and tanks	Neighbouring dwelling houses and	Air	Vehicles are well maintained and designed so that noise	Unlikely	Noise annoyance	Not significant

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Mill and Mix Fixed source	offices/workplaces within 400m of the installation		during feed transfer is minimised Conveyors and augers not operated when empty Tipping-type delivery vehicles and augers used, whenever possible, for bulk dry ingredient delivery Blower and vacuum type delivery vehicles fitted with low noise units Tankers and silos sited as far as possible from nearest neighbours. Milling and mixing machinery in enclosed house			

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Operation of fans Fixed source	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Efficient extractor fans used and maintained in good condition to avoid excessive noise Forced ventilation systems with automated controls to minimise run time Some buildings naturally ventilated.	Unlikely	Noise annoyance	Not significant
Alarm system and standby generator Fixed source	Neighbouring dwelling houses and offices/workplaces within 400m of the installation, staff and pigs	Air	Weekly tests are carried out (required by law) during normal working hours. Equipment is regularly maintained to minimise problems to minimise emergency situations. The generator is housed in a purpose- built soundproof container which keeps the noise level to within the legal limits. It is a fixed unit.	Unlikely	Noise annoyance	Not significant

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Pigs Mobile source	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Noise from the pigs is not considered to be significant as they are housed in very well insulated buildings which minimise any noise. Covered loading ramp. During loading, noise from animals is minimised by careful handling and by prompt removal of the lorry from the site when full. Risk of noise is further reduced by housing the pigs in small and stable groups as far as possible to reduce risk of fighting; by reducing competition at e.g. feed trough; by maintaining their health and comfort to avoid distress.	Unlikely	Noise annoyance	Not significant

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Personnel Mobile source	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	Staff and contractors are required to do their job quietly without excessive noise from shouting and use of radios outside, etc.	Unlikely	Noise annoyance	Not significant
Repairs	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	If repairs to the site are required, the work is undertaken with due regard for possible noise nuisance and during the normal working day In the event of major repair work being undertaken which is likely to cause significant noise and disruption, neighbouring residents will be notified in advance	Unlikely	Noise annoyance	Not significant

FUGITIVE EMISSIONS

Table 3 Assessment of Fugitive Emissions Risk

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
To air						
Dust (including bio aerosols) Sources: • FYM • Straw • Feed • Incinerator ash	Neighbouring dwelling houses and offices/workplaces within 400m of the installation: • Nuisance • Contributes to odours • Human health (inhalation) Surrounding vegetation: Covers leaves and inhibits photosynthesis	Air	Use of suitable bedding of good quality (i.e. not excessively dusty and/or mouldy). Stored in covered barn to prevent deterioration. Bedding applied internally. Mixture of solid floor and FSF housing on site. Regular clearing of dust to prevent build up within buildings, on roofs and around vents, as part of the disease control strategy. Exhaust fans (where applicable) are designed to mitigate risk of	Dust is unlikely to travel outside of the site boundary. The prevailing wind is away from neighbouring houses.	Nuisance: dust on surrounding vegetation, cars, clothing Smothering and direct damage to nearby vegetation Pigs/staff may get stressed and become unwell	Not significant if managed carefully

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
	Surrounding land: Nutrient enrichment of soils Contributes to respiratory problems for pigs and staff		deposits of dust being made on the roof. Feed is delivered in sealed systems and fed in a restricted system to the pigs' requirements to avoid wastage and dust creation. Incinerator ash stored and moved in container to reduce release of ash to the air. Ash is disposed of via approved route under U15 exemption.			

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Ammonia Source: Pig housing and manure/slurry storage, removal and spreading	Neighbouring dwelling houses and offices/workplaces within 400m of the installation Pigs and staff: high levels can cause respiratory problems Also perceived as a nuisance as it contributes to odours Surrounding vegetation: direct toxic effect and changes to sensitive ecosystems	Air	Measures as described in 'How to Comply – Intensive Farming' Mitigation measures as for odour Bedding area kept in a dry condition. Feed formulated to match pig requirements at different stages and to minimise amount of ammonia produced. Rations under periodic review. Ventilation control systems designed to provide optimal environment and	No detailed modelling required following screening by the Environment Agency.	Aerial deposition and direct toxic effect on trees Nutrient enrichment of soils and changes to sensitive ecosystems Respiratory problems in humans and mammals	Not significant

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
	Surrounding land: Nutrient enrichment and acidification of soils		regularly monitored and maintained. Slats kept clean. Regular removal of slurry from under-slat shallow pits, via vacuum system. Underground slurry pipes to sealed underground tank, where slurry is temporarily stored before separation of solids and then liquid faction is removed from the unit through enclosed system and is piped to the lagoon. Lagoon has floating cover. All slurry and FYM applied to operator			

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			owned and managed land. In straw housing, provision of sufficient straw in bedding to bind nitrogen, where appropriate. Ventilation and heating control systems designed to provide optimal environment and regularly monitored and maintained Frequency of slurry/manure removal to optimise pen cleanliness			

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			Dedicated purpose-built facilities for storage of slurry and manure. Regular monitoring of slurry tank and lagoon contents and maintenance of facilities and equipment Fully trained operators			
Zoonoses and notifiable diseases	Human health and livestock health	Air/direct contact	Detailed biosecurity precautions in place, eg changing area, defined biosecure area, visitor and vehicle protocols, use of disinfectants, PPE. Secure site. Livestock monitored for signs of disease and	Unlikely	Human and livestock health implications	Not significant if managed carefully

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			incidents reported quickly Use of a health plan, with specialist veterinary input in place.			
To water						
Nutrients such as N and P plus organic matter Source: Wash water run off to nearby water course, manure and slurry spreading	Nutrient leaching from soil to surface waters and groundwater, causing eutrophication and increased biochemical oxygen demand (BOD) of watercourses	Land	Nearest surface water feature is a ditch on the opposite side of the adjacent public road to the East of the unit. Wash water is collected in slurry system. No separate dirty water system. All enclosed and with sufficient contingency margin to prevent overflow. Reception tanks have	Unlikely	Pollution of water course leading to eutrophication and poisoning of flora and fauna	Not significant if managed carefully

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			sensors to prevent overflow. Lagoon is clay lined. Feed spilt on yard/roadways (unlikely) is cleaned up promptly Covered and bunded muck pad with effluent captured in reception tanks. Storage and spreading of muck/slurry in accordance with the regulations and good practice. All on site storage meet SSAFO regulations and			

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			structures are inspected frequently as part of the inspection and maintenance programme			
Spillages from storage and use of pesticides and fuel/chemicals	Vulnerable groundwater beneath site	Land	Management techniques employed aimed at avoiding or minimising use where possible Use of approved chemicals only Operators fully trained and all equipment regularly maintained to avoid any spillage or discharge Fuel and chemicals stored in secured and	Unlikely	Contamination of surface and groundwaters Killing of flora and fauna	Not significant

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			bunded containers, meeting all relevant regulatory requirements.			
Spillages entering direct pollution pathway, i.e. the on-site borehole	Vulnerable groundwater beneath site	Borehole	To protect the borehole (a direct pollution pathway) from any risk of contamination from the site, the following measures are employed: · Protection against risk of backflow · Bund around the borehole extraction point, in a secure container. · Trays placed under slurry connection pipes	unlikely	Contamination of groundwaters	Not significant

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			· Minimum of annual water tests (independently tested), taking samples as close as possible from source, checking total TVC and coliform levels. Risk of spillages and leaks mitigated by frequent inspection and maintenance of all equipment, vehicles and infrastructure. Staff trained in Emergency Action Plan and materials and equipment readily available to contain spills.			

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
To land						
Ammonia from storage of slurry/FYM and housing	Sensitive nature and conservation sites identified in pre-application screening Is there a SSSI within 500m?	Air	As for odour and 'To water' above No SSSI within 500m.	Unlikely	Direct toxic effect on trees, nutrient enrichment and acidification of soils Changes to sensitive ecosystems .	Not significant if managed carefully

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Waste materials, packaging, etc. Source: Non-organic waste storage and disposal	Neighbouring dwellings and surrounding habitats and countryside	Air	Policy to avoid production where possible Dedicated storage areas and facilities Collected by licensed contractors for re-cycling or disposal Regular checks made for rubbish dumped by third parties	Unlikely	Amenity value of countryside spoilt by rubbish Possibility of causing harm to wildlife	Not significant
Pests						
Flies on e.g. manure heap could move off-site and affect nearby residents	Neighbouring dwelling houses and offices/workplaces and food factory	Air	Pest management programme in place Manure heap monitored daily for signs of pests,	Unlikely	Flies and rats are a vector of pollution that can harm human health	Not significant if managed carefully

FUGITIVE EMISSIONS

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Also, birds, rats, etc.	within 400m of the installation		including flies. Manure exported from the site frequently. Minimal quantities stored at any one time. Food sources covered and secure from pests		Concerns about this pollution can cause offence and affect amenity	
Emissions from the incinerator (incl. Exhaust from gas combustion, and ash from incineration)	Neighbouring dwelling houses and offices/workplaces within 400m of the installation	Air	APHA approved incinerator, within emissions guidelines. Incinerator operated intermittently. Cleaning out ash at manufacturers recommended intervals.	Very Unlikely		

ACCIDENT RISK

Table 4 Assessment of Accident Risk

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Spillages from pesticide and biocide handling and storage areas escaping	Potentially polluting liquids flow over yard to clean water soakaways/surrounding land/vulnerable groundwater beneath site	Flowing over yard or through cracks in poor impermeable surface and through the ground	Accident Management Plan in place Repair and maintain any infrastructure and have appropriate containment measures. Any pesticides only applied by qualified staff. Maintenance and regular inspection procedure designed and implemented Foot dips on good concrete – and undercover or covered	Very unlikely	Contamination of local groundwater and potential nearby abstractions	Not significant with measures indicated

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			to prevent rainwater dilution/overflowing. Regular inspection of facilities and records kept Dedicated container for storage with impermeable hard standing within bund Removed from site by licensed contractor Damaged or suspect packaging rejected at time of delivery			
Fuel oil in storage tank/vehicles	Land, groundwater	The surface water drainage system	Tanks are bunded and on impermeable surface. Tanks	Unlikely	Contamination of local groundwater and potential	Not significant with measures indicated

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
escaping the containment			regularly inspected for damage. Collision protected. Any spillage will be contained using materials held on site.		nearby abstractions	
Spillage of feed, manure, incinerator ash or fuel due to operator error when loading and unloading	Land, groundwater	Land, the surface water drainage system	Standard operating procedures applied for loading and unloading The feed is contained in a sealed system. Any spillage cleaned up immediately. Systems and equipment inspected regularly in accordance with the site maintenance and inspection procedure.			

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			Bins and tanks collision protected. Levels measured to prevent overfilling and sight gauge enclosed by guard. All suppliers are supervised while on site Overhead pipework routed through buildings. Mill and mix equipment in enclosed building, Fully trained operators	Unlikely	Contamination of local groundwater and potential nearby abstractions	Not significant with the measures indicated

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Below ground slurry tanks overflow	Slurry flows over yard and into natural soakaway	The surface water drainage system	The capacities of the reception tanks are 80m3 and 50m3. As contaminated areas – FYM stores, loading ramps – are covered, excessive rainfall is very unlikely to cause a problem for slurry storage capacity. Rainwater on to the roofs and yards is protected from contamination risk and leaves the site in clean water pathways. All slurry is applied to operator owned/managed land. There is an on-site lagoon which is clay	Very unlikely	Contamination of local groundwater and potential nearby abstractions	Not significant with the measures indicated

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			lined and has a floating cover. Store contents monitored daily and ahead of any removal of slurry from buildings. There are high level sensors in the reception pits that will shut off the pumping system if maximum level reached, thus preventing accidental overflow. Considerable capacity across stores, to reduce risk of overflow.			

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Failure to contain firewater or off-site pollutants	Natural soakaways Groundwater		Accident Management Plan in place Firewater would be directed to the slurry system and removed by tankers. Straw bales/ sandbags are available for containment to protect clean water pathways and drains can be blocked. Contaminants to be contained and removed or directed to slurry storage as appropriate.	Unlikely	Contamination of local groundwater and potential nearby abstractions and surrounding nearby land	Not significant with measures indicated. Significant containment capacity.
Incorrect disposal of wash water	Natural soakaways, groundwater and nearby land	The surface water drainage system	Staff trained in correct operation procedures	Unlikely	Contamination of ground and surface waters	Not significant

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			All drainage routes shown on drainage plan All wash water automatically collected to slurry system from housing.			
Acts of vandalism which cause damage to structures and fittings	Surrounding land, surface and ground waters	Land, water	Site security. Southfield Farm can only be accessed by passing a residence belonging to the operators and lived in by a stockman, working on the site. Farm gates will be kept shut out of hours. Sheds, stores and equipment are securely locked at night. Signs are placed around the perimeter to	Low	Contamination of soil and or water	Low

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			warn unauthorised people against entering the site There is no public footpath through or adjacent to any part of the installation.			
Flooding and other storm damage	Surrounding land, surface and ground waters	Land, water	There is no known flooding risk for this site. A long term flood risk check for this site on .gov.uk says “The area around Southfield Farm, Out Newton, Withernsea, HU19 2RE has a • very low risk of surface water flooding	Low	Water and soil pollution	Low

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
			• very low risk of flooding from rivers and the sea" Good site layout and design. Maintenance of site infrastructure. Observe weather forecasts and weather warnings			
Fire	Livestock, staff, buildings, fuel and oils, chemicals, bedding, feed, local habitats and	Air	Refer to Fire Prevention Plan below. Regular inspection and maintenance of equipment.	Unlikely	Toxic smoke and other pollutants, surface run-off	Low

ACCIDENT RISK

What do you do that can harm and what could be harmed	Managing the risk	Assessing the risk				
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk?**
What has the potential to cause harm?	**What is at risk? What do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
	neighbouring dwellings		Fire alarms.		from firefighting water, surface run-off from failed storage tanks, pipes and stores Increased numbers of dead animals for disposal Dust and fibres from sheet building material.	

Fire Prevention Plan					
What can do harm and could be harmed		Managing the risk		Assessing the risk	
Hazard	Possible cause of fire	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Straw bales in the barn	Arson	Farm gates will be kept shut out of hours. Stockman working on the site lives in the house on site. No CCTV currently. Sheds are separated from each other, allowing for some fire break margin. Straw shed sited fairly centrally and is not too visually obvious from public road.	Unlikely	Fire	As long as precautions are taken, there is little more that can be done.
Incinerator fire Gas explosion	Malfunction	Machinery is tested at regular intervals by an approved and licenced contractor. Incinerator housed away from main building by a fire break.	Unlikely	Fire Flood	Not significant if managed carefully

Shed	Electrical fire	Electrics are checked. Fire extinguishers available in the control rooms. Sheds constructed in steel. Most sheds are slatted, so reduced flammable materials.	Unlikely	Fire	Not significant if managed carefully
Shed	Fire spread from outside	The sheds are surrounded by either concrete or hardcore which is kept free of vegetation Sheds constructed in steel. There are escape doors at strategic locations on each building.	Very Unlikely	Fire	Unlikely

This document has been prepared by the applicant using the BPEX template.