Environmental Risk Assessment Scampston

**Farm name:** Scampston Pig Unit **Operator:** JSR Farms **Permit number:** EPR/GP3101LS/A001

**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 need 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 harm can be caused?** | **What is the risk that remains?** **The balance of probability and consequence** |
| Odour from feed mixing, delivery and storage | Two neighbouring farms within 400 m of the installation | Air | Measures as described in ‘How to comply with your environmental permit for intensive farming V2 Jan 2010’(EPR 6.09 Sector Guidance Note)Odour Management Plan in placeFeed delivery will be sealed to minimise atmospheric dust. Any spillage of feed around the bin is immediately cleaned up The condition of feed bins is checked frequently so that any damage or leaks can be identifiedAll feed ingredients are stored in covered binsThe unit is relatively isolated so there is minimal risk of dust causing direct odour nuisance | Unlikely | Odour annoyance | Not significant |
| * Odour arising from problems with housing ventilation system
* Inadequate air movement in the house leading to high humidity and wet bedding
* Inadequate system design causing poor dispersal of odours
 | Two neighbouring farms within 400 m of the installation | Air | Measures as described in ‘How to comply - intensive farming’ The ventilation system will be regularly adjusted according to the age and requirements of the pigs (relevant to finisher unit)The ventilation system within finisher unit will be designed to efficiently remove moisture from the houseBuildings with higher ventilation rates will discharge exhaust air via roof vents for improved dispersalStocking density maintained at or below levels set out in welfare regulations | Unlikely | Odour annoyance | Not significant |
| Manure and slurry management: * Odours arising from poorly managed muck and slurry collection, removal and distribution
* The use of insufficient or poor-quality straw
* Spillage of water from drinking systems
* Disease and vice outbreaks
 | Two neighbouring farm within 400 m of the installation  | Air | Measures as described in ‘How to comply – intensive farming’Controls on feed and ventilation (see above) help to maintain air qualityAdditional controls include: Insulated walls and ceilings to prevent condensationRegular maintenance and correct positioning to avoid overflow from feed and drinking systemsConcrete floors to prevent water ingress, and surfaces arranged to avoid build-up of stagnant waterStocking density at optimal levels to prevent overcrowdingPens and yards kept cleanManure is removed onto an impermeable muck store which is exported on a regular basis.Dirty water drainage set up and regularly emptied to either reception pit at gilt growout or underslat slurry storage at the finisher unit.Frequent removal of manure and slurry; wind direction observedAny potentially odorous spillages cleaned up promptly | Unlikely | Odour annoyance  | Not significant |
| Carcase disposal: * Inadequate storage of carcases on site
* On-site disposal of carcases by incineration
 | Neighbouring dwelling houses within 400 m of the installation | Air | Measures as described in ‘How to comply – intensive farming’Carcases are placed in sealed containers and are removed to be disposed of by a dead stock collectorAll odour complaints are logged and investigated | Unlikely | Odour annoyance  | Not significant |
| Buildings: * Cleaning and disinfection
* Emptying slurry pits
* Removal of manure
 | Neighbouring dwelling houses within 400 m of the installation | Air | Pens and yards kept cleanDirty water collection systems enclosed and regularly emptied, to avoid anaerobic conditionsFrequent removal of manure and slurry, wind direction observedAny potentially odorous spillages cleaned up promptly | Likely | Odour annoyance | Not significant if carefully managed |
| Odour arising from manure/slurry spreading | Neighbouring dwelling houses within 400 m of the installation | Air | As aboveFYM is exported by a third-party farmLand-spreading information will be provided by Scampston Farming Co. who will be exporting all slurry and utilising it on their land.Intermittent activity only | Likely | Odour annoyance | Not significant if carefully managed |
| Odour arising from manure and slurryStorage – dirty tanks, slurry tank/lagoon FYM field heaps | Neighbouring dwelling houses within 400 m of the installation | Air | Site will operate under odour management planFeed selection to minimise excretion of nutrientsStorage areas (including field heaps) sited away from neighboursAreas of open, dirty concrete minimisedStores emptied regularlyComposting of manure (exported off site) | Likely | Odour annoyance | Not significant if carefully managed |

**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 need 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 harm can be caused?** | **What is the risk that remains? The balance of probability and consequence** |
| Noise problems from large vehicles travelling to and from the farm Mobile source | Neighbouring dwelling houses within 400 m of the installation | Air | Measures as described in ‘How to comply – intensive farming’ Vehicles are required to be driven onto and off site with due consideration for neighbours Deliveries of feed and fuel are made only during the working day, if possible, so disturbance is minimisedGeneral animal movements made during working hours and of short duration, with minimum stressAll vehicles maintained so as to minimise engine noise and are driven slowly to and from the site Roads and tracks maintained to minimise noise produced | Unlikely | Noise annoyance | Not significant if managed carefully |
| Large vehicles on site for delivering feed, loading live pigs at end of the growing period, removal of muck and slurry from houses, removal of dirty water from underground tanksMobile source | Neighbouring farm within 400 m of the installation | Air | Measures as described in ‘How to comply – intensive farming’ Vehicles need to be well maintained and must be driven slowly around the siteEngines to be switched off when not in useIdling of machines avoided and engine revs kept lowSlurry tanker filling and emptying done as an intermittent activityMachinery and equipment sited as far as possible from neighboursElectric submersed pump, intermittent operation, regular servicing | Unlikely | Noise annoyance | Not significant |
| Small vehicles travelling to and from the farm, e.g. staff and visitors’ cars, courier van deliveries, etc. Mobile source | Neighbouring dwelling houses within 400 m of the installation | Air | Measures as described in ‘How to comply – intensive farming’Small vehicles arrive during the normal working day and, therefore, are seen as low risk | Unlikely | Noise annoyance | Not significant |
| Feed transfer from lorry to bins and tanksFixed source | Neighbouring dwelling houses within 400 m of the installation | Air | Vehicles are well maintained and designed so that noise during feed transfer is minimised Conveyors and augers not operated when emptyTipping-type delivery vehicles and augers used, whenever possible, for bulk dry ingredient delivery | Unlikely | Noise annoyance | Not significant |
| Operation of fansFixed source | Neighbouring dwelling houses within 400 m of the installation | Air | Some buildings naturally ventilatedEfficient extractor fans used and maintained in good condition to avoid excessive noiseForced ventilation systems with automated controls to minimise run time and fan speed (for finisher unit) | Unlikely | Noise annoyance | Not significant |
| Alarm system and standby generatorFixed source | Neighbouring dwelling houses within 400 m of the installation, staff and pigs | Air | Weekly system test (required by law) is carried out each Friday morning, timed to minimise nuisance to neighbours All electrics and equipment are routinely maintained so that the back-up systems rarely need to be used in practice | Unlikely | Noise annoyance | Not significant |
| PigsMobile source | Neighbouring dwelling houses within 400 m of the installation | Air | Noise from pigs may be considered to be a likely cause for complaint during the growing periodDuring loading, noise from animals is minimised by careful handling and by prompt removal of the lorry from the site when full | Unlikely | Noise annoyance | Not significant |
| PersonnelMobile source | Neighbouring dwelling houses within 400 m of the installation | Air | Staff and other contractors are required to carry out their work without creating excessive noise from shouting and use of radios, etc. | Unlikely | Noise annoyance | Not significant |
|  Repairs | Neighbouring dwelling houses within 400 m of the installation | Air | Noise Management Plan in placeIf 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 |
| Manure/slurry spreading | Neighbouring dwelling houses within 400 m of the installation, wildlife | Air | Machinery operated at reasonable times, where possible, and idling avoidedEquipment maintained to optimum standards | Likely | Noise annoyance | Not significant if managed carefully |

**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 need 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 harm can be caused?** | **What is the risk that remains? The balance of probability and consequence** |
| **To air** |  |  |  |  |  |  |
| Dust (including bio aerosols) Sources: * Straw
* Feed
* Incinerator ash
 | Neighbouring dwelling houses within 400 m of the installation:* Nuisance
* Contributes to odours
* Human health (inhalation)

 Surrounding vegetation: Covers leaves and inhibits photosynthesisSurrounding land: Nutrient enrichment of soilsContributes to respiratory problems for pigs and staff | Air | Use of suitable bedding materials and good storage of such materials Use of liquid and pelleted feed delivered in sealed systems and stored in covered containersRegular clearing of dust to prevent build-up within buildings, on roofs and around vents, as part of the disease control strategy | Dust could potentially reach the road and neighbouring houses and surrounding land when a strong wind blows in that direction, which it does around 50 days per yearManagement actions should prevent this happening | Nuisance: Dust on surrounding vegetation, cars, clothingSmothering and direct damage to nearby vegetationPigs/staff may get stressed and become unwell | Not significant if managed carefully |
| AmmoniaSource: Pig housing and manure/slurry/dirty water storage, removal and spreading | Neighbouring dwelling houses within 400 m of the installation Pigs and staff: High levels can cause respiratory problemsAlso perceived as a nuisance as it contributes to odoursSurrounding vegetation: Direct toxic effect and changes to sensitive ecosystemsSurrounding land: Nutrient enrichment and acidification of soils | Air | Measures as described in ‘How to comply – intensive farming’Mitigation measures as for odourFeed formulated to match pig requirements and to minimise amount of ammonia producedRations under periodic reviewProvision of sufficient straw in bedding to bind nitrogen, where appropriate (gilt housing)Ventilation and heating control systems designed to provide optimal environment and regularly monitored and maintainedFrequency of slurry/manure removal to optimise pen cleanliness when alllowed Dedicated purpose-built facilities for slurry, dirty water and manure Manure/slurry spread at low level and in accordance with the Manure Management Plan and NVZ rules Fully trained operatorsSoils regularly analysed and applications made in response to crop requirements to avoid spreading more slurry/manure than is needed by Scampston Farming Co. | The impact of ammonia on air emissions from the installation has been assessed using the H1 methodology and detailed air dispersion modellingThe results demonstrate there will be little likelihood of impact to nearby wildlife sites | Aerial deposition and direct toxic effect on treesNutrient enrichment of soils and changes to sensitive ecosystems Respiratory problems in humans and mammals  | Not significant |
| Zoonoses and notifiable diseases | Human health and livestock health | Air/direct contact | Detailed biosecurity precautions in place, eg.frequent stock inspection, use of disinfectants and appropriate clean overalls, boots, etc. for staff, visitors and contractors, to prevent spread of diseaseSecure site visitor policyLivestock monitored for signs of disease and incidents reported quicklyUse of a health plan, with specialist veterinary input in place | Unlikely | Human and livestock health implications | Not significant if managed carefully |
| **To water** |   |   |   |   |   |   |
| Nutrients such as N and P plus organic matterSource: Wash water run-off to nearby watercourse, muck and slurry spreading | Adjacent Watercourse: Mill StreamNutrient leaching from soil to surface waters and groundwater, causing eutrophication and increased biochemical oxygen demand (BOD) of watercourses  | Land | Wash water run-off is diverted to underground/ dirty water storage tanksUsed bedding/feed spilt on yard/roadways during clean-out is cleaned upField manure heaps (third party exports so responsible for their location) - sited away from watercourses and boreholes Manure management plan followed, including NVZ rules for spreading manure and slurry (Scampston farming Co. and third-party responsibility) | Unlikely | Pollution of watercourse leading to eutrophication and poisoning of flora and fauna | Not significant if managed carefully |
| 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 possibleUse of approved chemicals onlyOperators fully trained and all equipment regularly maintained to avoid any in-field spillage or discharge | Unlikely | Contamination of surface and groundwatersKilling of flora and fauna | Not significant |
| **To land** |  |  |  |  |  |  |
| Ammonia from storage of dirty water, slurry, manure and housing | Sensitive nature and conservation sites identified in pre-application screening Is there a SSSI within 500 m?  | Air | As for odour and ‘To water’ aboveFeed selected to minimise excretion of nutrientsStorage sites sited away from sensitive receptors | Likely | Direct toxic effect on trees, nutrient enrichment and acidification of soilsChanges to sensitive ecosystems | Not significant if managed carefully |
| Waste materials, packaging, etc.Source: Non-organic waste storage and disposal | Neighbouring dwellings and surrounding habitats and countryside  | Air | Policy to avoid production, where possibleDedicated storage areas and facilitiesCollected by licensed contractors for recycling or disposalRegular checks made for rubbish dumped by third parties | Unlikely | Amenity value of countryside spoilt by rubbishPossibility of causing harm to wildlife | Not significant |
| **Pests** |  |  |  |  |  |  |
| Flies on manure heap could move off site and affect nearby residents Also, birds, rats, etc. | Neighbouring dwelling houses | Air | Pest management programme in placeManure heap is regularly inspected to check for maggots and flies Heap will be treated with pesticide and covered with sheeting if flies become an issueFood sources covered and secure from pestsPest control programme in operation | Unlikely | Flies and rats are a vector of pollution that can harm human healthConcerns about this pollution can cause offence and affect amenity | Not significant if managed carefully |

**Table 4 Assessment of Accident Risk**

| **What do you do that can harm and what could be harmed** | **Managing the risk** | **Assessing the risk** |
| --- | --- | --- |
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| **What has the potential to cause harm?** | **What is at risk? What do I need 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 harm can be caused?** | **What is the risk that 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 drain inlet/ ditch/stream/pond/swale and surrounding landAlso vulnerable groundwater beneath site | Flowing over yard or through cracks in poor impermeable surface and through the ground | Accident Management Plan in place Repair any infrastructure and design appropriate containment measuresMaintenance and regular inspection procedure designed and implementedRegular inspection of facilities and records keptDedicated container for storage with impermeable hard standing within bundRemoved from site by licensed contractorDamaged or suspect packaging rejected at time of delivery | Very unlikely | Contamination of local groundwater and potential nearby abstractions | Not significant with measures indicated |
| Fuel oil in storage tank/vehicles escaping the containment | Land, local watercourse | The surface water drainage system | Regular inspection in accordance with the site maintenance and inspection procedure and complies with SSAFO regulationsBarriers in place to prevent vehicles damaging tanks and equipmentConcrete base and bund containing tank and fill pointDouble valves locked when not in useIf spills occur, the spill equipment is located nearby | Very unlikely | Contamination of local watercourse | Not significant |
| Failure to contain firewater or off-site pollutants | Ditches, local watercourse |  | Accident Management Plan in placeDrain inlets to be covered by sandbags, drain bung inserted, diverter valve closed (where possible)Stem flow of run-off from edge of yard using sandbags, use loader to push soil into a dam and excavate a sump where possible | Unlikely | Contamination of local watercourse and surrounding land | Not significant  |
| Incorrect disposal of wash water | Clean drain, ditches, local watercourse and soakaways | Drains, ditches, land | Staff trained in correct operation proceduresAll drains markedAll drains shown on drainage plan | Unlikely | Contamination of ground and surface waters | Not significant |
| Spillage when loading and emptying incinerator of non-SRM material, e.g. ash containing trace elements, heavy metals, calcium, phosphate and dust | Neighbouring dwelling housesSurrounding land and watercourses | Air, land and water | Accident Management Plan in place Regulation and regular inspection of facilities and records keptImpermeable hard standing with liquid collectionAPHA-approved activity includes records and inspections | Unlikely | Contamination of local watercourse, groundwater, vegetation, soil, etc. | Not significant |
| Acts of vandalism which cause damage to structures and fittings | Surrounding land, surface and ground waters | Land, water  | Site security | Low | Contamination of soil and/or water | Low |
| Flooding and other storm damage | Surrounding land, surface and ground waters | Land, drains, watercourses  | Good site layout and designMaintenance of site infrastructure and local flood defencesObserve weather forecasts and warnings | Low | Water and soil pollution | Low |
| Power outage causing failure of slurry pumping systems, resulting in tank overflowFailure of automatic liquid level control sensors and devices | Surrounding land, surface and ground waters | Land, drains, watercourses  | Stand-by generator with automatic start-up and switch over | Low | Overflow of storage facilities | Low |
| Fire | Livestock, staff, buildings, fuel and oils, chemicals, bedding, feed, local habitats and neighbouring dwellings | Air | Regular inspection and maintenance of equipment | Unlikely | Toxic smoke and other pollutants, surface run-off from firefighting water, surface run-off from failed storage tanks, pipes and storesExploding gas and fuel canisters and containersIncreased numbers of dead animals for disposalDust and fibres from sheet building material which may contain asbestos | Low |
| Below ground dirty water tank and pipe ruptures/overflows (including used disinfectant) | Dirty water flows over yard to clean drain inlet at the back of the office and into local watercourse | The surface water drainage system | Curbing to prevent water entering nearby watercoursesUse of Defra/NOAH-approved disinfectantsBlock off drain inlet with sand bags kept by diesel tankContact office or duty manager. If necessary, contact Environment Agency | Unlikely | Contamination of local watercourse | Not significant |