## B2.7 ENVIRONMENTAL RISK ASSESSMENT

This assessment has been prepared after consulting:-

- Horizontal Guidance Note H1 – Environmental Risk Assessment for Permits and
- Horizontal Guidance Note H1 – Annex (b) Intensive Farming

The main impacts of poultry keeping are the effects of odour, noise and ammonia associated with the houses and with the removal of litter from the site.

The H1 Environmental Risk Assessment framework has been used to assess the farming activities, based on the following stages:-

1. Identify risks
2. Complete risk assessments for these
3. Choose control measures

The assessment is presented in this document based on risk assessments and management plans for odour, noise, fugitive emissions and accidents.

## Odour risk assessment

| What can harm, what could be harmed | | | Managing the risk | | Assessing the risk | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk management** | **Probability of exposure** | **Consequence** | **What is the overall risk?** |
| Odour from the selection of feed. | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. No on site milling. Feed specifications will be prepared by the feed compounder's nutrition specialist. | Unlikely | Odour annoyance | Not significant |
| Odour from feed delivery and storage. | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. Feed delivery will be sealed to minimise atmospheric dust. Any spillage of feed around the bin will be immediately swept up. The condition of feed bins will be checked frequently so that any damage or leaks can be identified | Unlikely | Odour annoyance | Not significant |
| Odour arising from problems with ventilation systems, inadequate air movement leading to high humidity and wet litter. | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. The ventilation system will be regularly adjusted and checked according to the age and requirements of the flock.<br>The ventilation system will be designed to efficiently remove moisture from the house. | Unlikely | Odour annoyance | Not significant |
| Litter management: Odours arising from wet litter (see above). The use of insufficient or poor quality litter. Spillage of water from drinking systems. Disease outbreaks, leading to wet litter. | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. Controls on feed and ventilation (see above) will help to maintain litter quality. Additional controls include: Insulated walls and ceilings to prevent condensation. Concrete floors to prevent water ingress. Stocking density at optimal levels to prevent overcrowding. Use of a health plan, with specialist veterinary input used as necessary. | Unlikely | Odour annoyance | Not significant |
| Carcass disposal e.g. inadequate storage or disposal of carcasses | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. Carcasses will be placed in frozen storage and will be transported off-site for final disposal | Unlikely, unless major mortality | Odour annoyance | Not significant if managed carefully |
| House clean-out | Neighbouring dwelling houses etc. within 400m of the installation | Air | Litter will be carefully placed into trailers, positioned at the entrance to each house. Minimal tipping. When full, trailers will be covered and the litter taken off-site. Dirty water will be contained in a sealed system. Spreading of litter and dirty water will be in accordance with a manure management plan. Odour from chemicals used for clean-out not considered a risk | Unlikely | Odour annoyance | Not significant if managed carefully |

## Noise risk assessment

| What can harm, what could be harmed | | | Managing the risk | | Assessing the risk | |
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| **Hazard** | **Receptor** | **Pathway** | **Risk management** | **Probability of exposure** | **Consequence** | **What is the overall risk?** |
| Noise from large vehicles travelling to and from the farm. | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. Vehicles will be required to be driven onto and off site with due consideration for neighbours. Deliveries of feed and fuel will be made only during the daytime so that disturbance is minimised. Catching of birds may have to take place at night, but all vehicles will be maintained so as to minimise engine noise and will be driven slowly to and from the site. | Unlikely | Noise annoyance | Not significant if managed carefully. |
| Noise from large vehicles on site for delivering feed or transporting birds. Equipment used to clean houses and vehicles used to remove used litter and dirty water from underground tanks. | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. Vehicles will have to be well maintained and driven slowly around the site. Engines will be switched off when not in use. Vehicles which are fitted with an audible 'vehicle reversing' warning system will generally be used only in the daytime. The exception to this will be during removal of birds when such vehicles may have to be used outside normal working hours. | Unlikely | Noise annoyance | Not significant |
| Small vehicles travelling to and from the farm (e.g. staff and visitor's cars, courier van deliveries etc.) | Neighbouring dwelling houses etc. within 400m of the installation | Air | Measures as described in How to comply - Intensive Farming. Small vehicles will generally arrive during the normal working day and therefore are seen as low risk. | Unlikely | Noise annoyance | Not significant |
| Feed transfer from lorry to bins | Neighbouring dwelling houses etc. within 400m of the installation | Air | Vehicles will be well maintained and designed so that noise during feed transfer is minimised. | Unlikely | Noise annoyance | Not significant |
| Operation of fans | Neighbouring dwelling houses etc. within 400m of the installation | Air | Efficient extractor fans will be used, maintained in good condition to avoid excessive noise. | Unlikely | Noise annoyance | Not significant |
| Alarm system and stand-by generator | Neighbouring dwelling houses etc. within 400m of the installation | Air | Weekly system test (required by law) will be timed in order to minimise nuisance to neighbours. All electrics and equipment will be routinely maintained so that the back-up systems will rarely be needed. | Unlikely | Noise annoyance | Not significant |

| What can harm, what could be harmed | | | Managing the risk | | Assessing the risk | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk management** | **Probability of exposure** | **Consequence** | **What is the overall risk?** |
| Chickens | Neighbouring dwelling houses etc. within 400m of the installation | Air | Noise from birds is not considered to be a likely cause for complaint during production. During loading, bird noise will be minimised by careful handling and by prompt removal of the lorry from the site when full. | Unlikely | Noise annoyance | Not significant |
| Personnel | Neighbouring dwelling houses etc. within 400m of the installation | Air | Staff, catchers and other contractors will be required to carry out their work without creating excessive noise | Unlikely | Noise annoyance | Not significant |
| Building work / repairs | Neighbouring dwelling houses etc. within 400m of the installation | Air | If work is required, it will be undertaken with due regard for possible noise nuisance and during the normal working day. If significant noise and disruption is likely, neighbouring residents likely to be affected may be notified in advance. | Unlikely | Noise annoyance | Not significant |

## Fugitive emissions risk assessment

| What 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?** |
| **Fugitive Emissions To Air** | | | | | | |
| Dust from litter and feed | Neighbouring dwelling houses etc. within 400m of the installation: Nuisance, contributor to odours, possible human health issues. Vegetation: covers leaves and inhibits photosynthesis. Surrounding land: Nutrient enrichment of soils. | Air | Use of suitable litter materials and feed delivered in sealed systems, litter will be tipped into trailers from minimal height and trailers will be covered when full. Ventilation systems will ensure good dispersal of air from the houses | Some potential exposure for nearest neighbours | Nuisance and possible health effects. Smothering and direct damage to nearby vegetation | Not significant if managed carefully. |
| Ammonia from poultry houses | Neighbouring dwelling houses etc. within 400m of the installation: Nuisance, contributor to odours, possible human health issues. Vegetation: direct toxic effect and changes to sensitive ecosystems. Surrounding land: nutrient enrichment of soils. | Air | Measures as described in How to Comply – Intensive Farming. Litter will be kept dry and friable and feed will be formulated to match flock requirements. | The impact of ammonia air emissions has been assessed using the H1 methodology. | Aerial deposition and direct toxic effect on trees. Nutrient enrichment of soils and changes to sensitive ecosystems. | Not significant |
| Zoonoses and notifiable diseases | Human health and livestock health | Air/Direct Contact | Detailed biosecurity precautions will be in place e.g. frequent stock inspection, use of disinfectants and appropriate clean overalls, boots etc. for staff and visitors to prevent spread of disease | Unlikely | Human and livestock health implications | Not significant if managed carefully. |
| **To Water** | | | | | | |
| Wash water run off to nearby water course | Adjacent water courses | Land | Wash water run-off will be diverted to an underground storage tank so that wash water will not enter clean water systems. Used litter spilt on yard/roadways will be swept up. | Unlikely | Pollution of water course leading to eutrophication and poisoning of flora and fauna. | Not significant if managed carefully. |
| **Pests** | | | | | | |
| Flies | Neighbouring dwelling houses etc. | Air | Dry litter and no storage of used litter outside the houses. All carcasses will be kept in frozen storage prior to incineration off-site | Unlikely | Vector for pollution & disease. Negative impact on amenity | Not significant if managed carefully. |

## Accident risk assessment

| What can harm, what could be harmed | | | Managing the risk | | Assessing the risk | |
|---|---|---|---|---|---|---|
| **Hazard** | **Receptor** | **Pathway** | **Risk management** | **Probability of exposure** | **Consequence** | **What is the overall risk?** |
| Spillages from chemical handling and storage | Vulnerable groundwater beneath site. | Cracks in hard surfaces and through the ground. | Maintain infrastructure, use suitable facilities and practices. Regular inspection procedures to be implemented. | Very unlikely | Contamination of local groundwater and potential nearby abstractions. | Not significant with measures indicated in place. |
| Oil in storage facilities escaping the containment | Local water course | Surface water drainage system | Regular inspection in accordance with the site maintenance procedure. Barriers will be in place to prevent vehicles damaging equipment. Levels will be measured to prevent overfilling. Bunding in place, spillage could be contained if it occurred. | Very unlikely | Contamination of local water course | Not significant |
| Feed spillage | Local water course | Surface water drainage system | Any spillage of feed around the bin will be swept up. The condition of feed bins will be checked frequently so that any damage or leaks can be identified in accordance with the site maintenance and inspection procedure. Bins which are vulnerable will be protected so that the risk of collision damage is minimised | Unlikely | Contamination of local water course | Not significant |
| Below ground dirty water tank overflows. | Dirty water flows into a local watercourse | The surface water drainage system | Clean-out procedures will be monitored carefully to prevent this. If tanks are full, cleaning operations will be stopped, if on-going. Any spillage will be contained using absorbent materials e.g. new litter, block off ditch if appropriate. If necessary contact the Environment Agency. | Unlikely | Contamination of local water course | Not significant |