

Appendix 11: Environmental Risk Assessment

The 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 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.

A pre-application report has been carried out by the Environment Agency (pre-application number EPR/ FP3739QZ/A001) which determined that no detailed ammonia modelling was required for this site. See Environment Agency letters in appendix 13.

Table A1 Odour risk assessment and management plan

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?
Odour from the manufacture and selection of feed.	No dwelling houses within 400m of the installation	Air	Measures as described in How to comply - Intensive Farming. No on site milling and mixing. Feed specifications will be prepared by the feed compounder's nutrition specialist.	Unlikely.	Odour annoyance	Not significant if managed carefully.
Odour from feed delivery and storage.	No dwelling houses 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 is immediately swept up. The condition of feed bins is checked frequently so that any damage or leaks can be identified	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 litter. Inadequate system design, causing poor dispersal of odours	No dwelling houses within 400m 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 flock. 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.	No dwelling houses within 400m of the installation	Air	Measures as described in How to comply - Intensive Farming. Controls on feed and ventilation (see above) 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: Inadequate storage of carcasses on site.	No dwelling houses within	Air	Measures as described in How to comply - Intensive Farming. Carcasses are placed in	Unlikely	Odour annoyance	Not significant

	400m of the installation		sealed freezer immediately after they are removed from the house.			
House clean out	No dwelling houses within 400m of the installation	Air	Litter is carefully placed into trailers positioned at the entrance to each house. When full, the trailer is covered. Only approved and suitable products are used. There is no storage of used litter outside the houses at any time. Litter is transported in covered trailers. During the summer we will not empty sheds at weekends to minimise the impact of odour annoyance. Most of the litter is land-spread under the control of the site owners. The rest is exported to neighbouring farming businesses not under the owner's control. A written agreement is in place. It is planned in future to put all litter through an offsite Anaerobic Digester	Likely	Odour annoyance	Not significant if carefully managed

Table A2 Noise risk assessment and management plan

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?
Noise problems from large vehicles travelling to and from the farm. Mobile source	No dwelling houses within 400m 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 usually made during the daytime (between 0700 and 1800 hours), so that disturbance is minimised. Catching of birds always has to take place at night,	Unlikely	Noise annoyance	Not significant if managed carefully.

			but all vehicles maintained so as to minimise engine noise and are driven slowly to and from the site. Potholes in installation roads to be filled in.			
Vehicles on site for delivering feed, catching of birds at end of the growing period, removal of used litter from houses, removal of dirty water from underground tanks. Mobile source	No dwelling houses within 400m of the installation	Air	Measures as described in How to comply - Intensive Farming. Vehicles have to be well maintained and must be driven slowly around the site. Engines to be switched off when not in use. Vehicles which are fitted with an audible 'vehicle reversing' warning system are generally used only in the daytime. The exception to this is during removal of birds when such vehicles often have to be used at night.	Unlikely	Noise annoyance	Not significant
Feed transfer from lorry to bins Fixed source	No dwelling houses within 400m of the installation	Air	Vehicles are well maintained and are designed so that noise during feed transfer is minimised.	Unlikely	Noise annoyance	Not significant
Chickens Mobile source	No dwelling houses within 400m of the installation	Air	Noise from birds is not considered to be a likely cause for complaint during the growing period. During loading, bird noise is minimised by careful handling and by prompt removal of the lorry from the site when full.	Unlikely	Noise annoyance	Not Significant
Personnel Mobile source	No dwelling houses within 400m of the installation	Air	Staff, catchers 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	No dwelling houses 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
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Table A3 Fugitive emissions risk assessment and management plan

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?
To Air						
Dust: Sources: Litter and Feed	No dwelling houses within 400m of the installation: Nuisance, Contributes to odours, Human Health - inhalation. Surrounding vegetation: covers leaves and inhibits photosynthesis. Surrounding land: Nutrient enrichment of soils.	Air	Use of suitable litter materials, Use of pelleted feed delivered in sealed systems, Litter is tipped into trailers from minimal height, trailers are covered when full.	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 year. The management actions should prevent this happening.	Nuisance - dust on surrounding vegetation, cars, clothing. Smothering and direct damage to nearby vegetation	Not significant if managed carefully.
Ammonia: Source: Poultry housing and litter storage.	No dwelling houses within 400m of the installation: Nuisance, Contributes to odours, Human Health - inhalation.	Air	Measures as described in How to Comply – Intensive Farming. Litter kept dry and friable. Feed formulated to match flock requirements.	The impact of Ammonia air emissions from the installation have been assessed using the H1 methodology. The results demonstrate there will be	Aerial deposition and direct toxic effect on trees. Nutrient enrichment of soils and	Not significant

	Surrounding vegetation: direct toxic effect and changes to sensitive ecosystems. Surrounding land: Nutrient enrichment of soils			little likelihood of impact to nearby by wildlife sites.	changes to sensitive ecosystems.	
Zoonoses and notifiable diseases	Human health and livestock health	Air/Direct Contact	Detailed biosecurity precautions 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 Course: River Dalch	Land	Wash water run off is diverted to underground storage tanks, curbing prevents wash water entering the nearby water course. Used litter spilt on yard/roadways during clean out is swept up.	Unlikely	Pollution of water course leading to eutrophication and poisoning of flora and fauna.	Not significant if managed carefully.

Table A4 Accident risk assessment and management plan

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?
Spillages from pesticide handling & storage areas escaping.	Vulnerable groundwater beneath site.	Cracks in poor impermeable surface and	Repair infrastructure and design appropriate containment measures. Maintenance and regular inspection procedure designed and implemented.	Very unlikely.	Contamination of local groundwater and potential	Not significant with measures indicated now in place.

		through the ground.			nearby abstractions.	
Fuel oil in storage tank escaping the containment	Local water course	The surface water drainage system	Regular inspection in accordance with the site maintenance and inspection procedure. Barriers in place to prevent vehicles damaging equipment. Levels measured to prevent overfilling. If it occurs the oil spill equipment is located nearby.	Very unlikely	Contamination of local water course	Not significant
Feed spillage	Local water course	The surface water drainage system	Any spillage of feed around the bin is immediately swept up. The condition of feed bins is checked frequently so that any damage or leaks can be identified in accordance with the site maintenance and inspection procedure. Anti-collision measures to be installed around all feed silos.	Unlikely	Contamination of local water course	Not significant
Hazard Receptor Pathway Risk management Probability of exposure Consequence What is the overall risk? e.g. Below ground dirty water tank overflows.	Dirty water flows over yard to clean drain inlet at the back of the office and into local water course.	The surface water drainage system	Design of system will ensure that adequate capacity is provided for complete clean-out. If any problems occur, cleaning operations will be stopped immediately and attempts made to contain any spillage. If necessary, the Environment Agency will be contacted.	Unlikely	Contamination of local water course	Not significant