

## AHDB Pork Model Template B3.58B

### Environmental Risk Assessment

### Odour Management Plan

#### Background

An Odour Management Plan (OMP) is required where a site is within 400m of a sensitive receptor such as a neighbour and/or has a history of substantiated odour complaints.

The Environment Agency (EA) will use the Pig Industry Good Practice Checklist to check that all the relevant points are covered within the OMP.

[www.nfuonline.com/pigpoultry-code-of-conduct-good-practice-checklis/](http://www.nfuonline.com/pigpoultry-code-of-conduct-good-practice-checklis/)

Note: The level of detail needed in the OMP will depend on the level of risk. Sites with a history of odour complaints or which are very close to sensitive receptors may need to consider additional mitigation techniques.

The overarching principle is that vague statements such as ‘the buildings will be inspected regularly’ should be avoided. It is essential to say **who, how, when, where and what** follow-up actions will be taken, eg the farm manager will perform a weekly walk-around inspection of the buildings, the findings will be recorded in the inspection and maintenance records in the farm office.

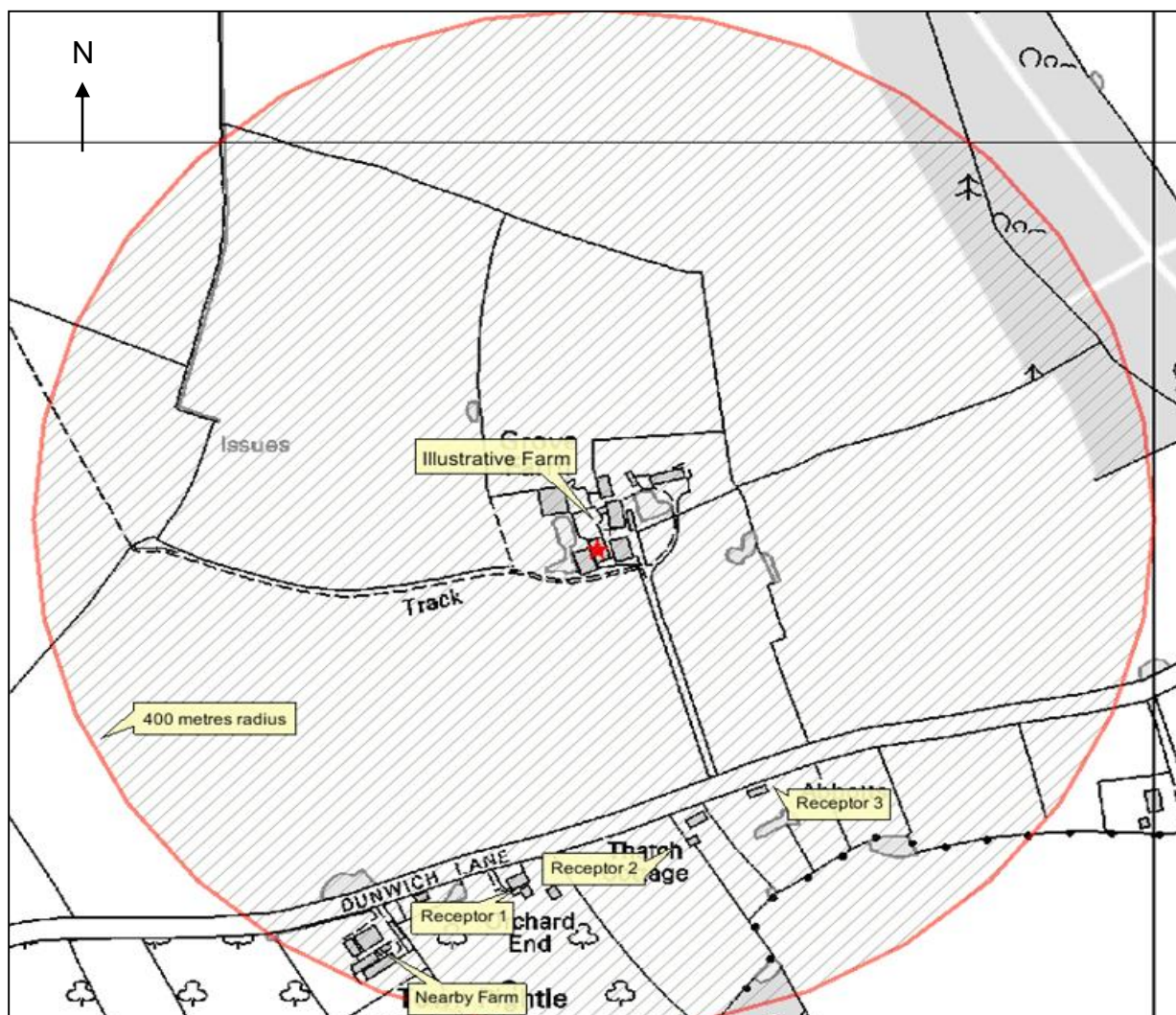
The following tips will help to ensure the OMP is acceptable:

- The OMP must be site-specific and achievable. Don't put in detail that may not be followed, eg Frank Smith will check the carcass bins weekly
- **Complaints procedure:** This needs to follow the requirements set out in the Environment Agency's [H4 Odour management guidance Appendix 1](#). It would be acceptable to include a reference to this section to show that the operator is aware of the way to investigate any complaint and record the outcome. An example of a complaints form should be included
- **Dispersion of odours:** The type of ventilation needs to be described and how dispersion will help prevent any odour issues. This should consider the distance and direction of any sensitive receptors to the site. Describing the use of increased fan velocity covers some but not all the points as the fan location and design also need to be included. More detail is given in: [How to Comply Appendix 4 s A4.3.3](#)
- **Dust:** A description of how dust is minimised, how remaining dust is controlled and how equipment and housing are cleaned needs to be included
- **Dirty water management:** How stagnation is prevented is just one aspect, descriptions are needed for drainage management systems, including collection tanks, drains and their maintenance
- **Cleaning:** All points in [How to Comply Appendix 4 s A4.3.5](#) need to be described. These include housing, carcasses, drainage and general site management and whose responsibility it is

- **Manure handling/storage and treatment:** More detail is needed if stored or treated on own land. The main points are in: [How to Comply Appendix 4 s A4.3.6](#)
- **Manure spreading:** More detail is needed if spread on own land. The main points are in: [How to Comply Appendix 4 s A4.3.7](#)
- **Fugitive emissions:** Detail is required on how fugitive emissions such as leaks from doors, tanks, bins and pipes will be avoided or if unavoidable, how they will be minimised
- **Abnormal operation:** Detail is required on the contingency action plans and additional measures to be taken in the event of elevated odour pollution to avoid any complaints, eg hospital pens which may lead to elevated odour levels
- **Review of the OMP:** A statement needs to be included to bring the OMP in line with H4 odour guidance, which states that 'you review the effectiveness of your odour control measures at least once a year. This interval may be shorter if there have been complaints or relevant changes to your operations or infrastructure
- **H1 risk assessment:** Each OMP needs to make reference to the risk assessment of odour pollution, which was performed in accordance with [Section 3 of H4 guidance](#). A statement such as 'a [H1 risk assessment](#) dated DD/MM/YY, submitted with application EPR/AB1234CD/A001 showed that the sources have been identified as contributing to a potential low/medium/high risk odour source'. An example risk assessment can be found in H1 Annex B Intensive Farming
- Although the Pig Industry Good Practice Checklist states under the monitoring section 'odour impact of all on-farm activities should be monitored constantly', this frequency of monitoring would not be required unless there was a potentially higher odour risk.



**Figure 1: Receptors in the vicinity of Illustrative Farm**



**Table 1: Receptor locations**

Receptor	Distance from site	Direction	Type of receptor
Receptor 1: School Lane Cottage	195m	South	Residential
Receptor 2: Manor Cottage	205m	South	Residential
Receptor 3: Poppy Cottage	295m	South	Residential
Receptor 4: Home Farm	310m	South west	Workplace and residential

The purpose of this Odour Management Plan is to:

- Establish the likely source of odours arising from the farm
- Set out procedures at the farm in order to mitigate or minimise the risk of odour
- Formalise an effective method of dealing with any odour complaints quickly and efficiently.

**Potential odour sources**

In accordance with Section 3 of H4 guidance, a risk assessment of odour pollution was performed (H1 risk assessment dated DD/MM/YY, submitted with application EPR/AB1234CD/A001).

As a result, the following sources have been identified as contributing to a potential *medium risk* odour source:

- Odour emissions from feed selection (maximum of XX tonnes of feed stored on site at one time)
- Odour emissions from manure and slurry storage (maximum of XX tonnes of manure and XX slurry stored on site at one time)
- Odour emissions from yard areas
- Odour emissions from housing
- Odour emissions from drinking water systems
- Odour emissions from ventilation
- Odour emissions from cleanout
- Odour emissions from carcase storage and disposal
- Odour emissions from feed delivery, mixing and storage
- Odour emissions from manure and slurry spreading
- Odour emissions from dust build up
- Odour emissions from out loading.

### **Pathways and receptors**

The pathway for all of the above sources is via the atmosphere. With the most sensitive receptors being inhabitants of nearby residential dwellings the wind direction will significantly influence how receptors are affected. We have not received any complaints from neighbours relating to odour from the farm. The prevailing wind direction is south westerly and therefore odour emission should be predominantly blown away from nearby neighbours.

Odour related issues	Actions taken to minimise odour	Completion date
Effects of diet on odour and ammonia emissions (feed selection)	<ul style="list-style-type: none"> <li>• Feed composition is closely matched to pigs' requirements, especially protein</li> <li>• Sows are fed two diets, through separate feed bins and wet/dry feeding systems</li> <li>• Growing and finishing pigs are fed three different diets, either ad-lib dry or through the wet feed system</li> <li>• Diets are continually reviewed with a professional nutritionist to ensure good performance</li> <li>• Records of crude protein levels and diet formulation are kept in the site office.</li> </ul>	On-going
Manure storage	<ul style="list-style-type: none"> <li>• Manure is removed from the site on a monthly basis. Increased odour emissions are expected when store is out-loaded. We will avoid removing manure when the wind direction is blowing towards Westfordby, if cropping/soil constraints allow</li> <li>• Liquid runoff from the manure store is captured and directed to the slurry storage system</li> <li>• Yard areas are scraped and cleaned down on a daily basis to prevent the build-up of dirty water</li> <li>• Manure storage area is covered to prevent ingress of rain.</li> </ul>	On-going
Slurry storage	<ul style="list-style-type: none"> <li>• As part of the improvement programme, the slurry store will be covered with a floating cover</li> <li>• Slurry stores designed and operated with effective emptying and agitation functions</li> <li>• Slurry in store only stirred if necessary during emptying</li> <li>• Slurry is removed from site on a regular basis, ie weekly</li> <li>• Slurry introduced beneath surface of store</li> <li>• Unnecessary running of vacuum pumps will be avoided.</li> </ul>	On-going
Cleanliness of yard areas	<ul style="list-style-type: none"> <li>• Yard surfaces are properly maintained</li> <li>• Manure from all housing is loaded directly to trailers for transport to muck stores when houses are cleaned out</li> <li>• Yards and open surfaces are designed to ensure effective separation of uncontaminated rainwater from slurry and manure</li> <li>• The slurry collection system works effectively to prevent ponding of slurry, which may release strong odours.</li> </ul>	On-going as part of the inspection and maintenance programme
All housing and management	<ul style="list-style-type: none"> <li>• The existing housing has been reviewed as being BAT and therefore no improvements are necessary</li> <li>• All pens and stock are checked for cleanliness as part of daily welfare checks</li> <li>• All pens and buildings are cleaned out in accordance with written cleaning plan</li> <li>• Potentially odorous spillages (feed ingredients, manure/slurry, etc.) are cleaned up promptly</li> <li>• Stocking density maintained at or below levels set out in Defra Welfare Regulations</li> <li>• Temperature and humidity in animal housing is monitored daily and controlled manually to optimise the housed environment for the pigs and air quality conditions</li> </ul>	On-going

	<ul style="list-style-type: none"> <li>• Ventilation corresponds to animals requirements; housing is insulated to help keep cool in the summer</li> <li>• Ventilation within the dry sow housing will be improved to have automated controls within six months, in accordance with improvement programme</li> <li>• Build-up of waste feed in front of feeders is prevented and waste feed is removed from pens</li> <li>• Feeders and drinkers have been designed to prevent wastage and leaks</li> <li>• Pen and wall surfaces are constructed from non-porous smooth surfaces</li> <li>• Troughs and feeders are constructed and arranged to minimise feed waste and prevent pigs from climbing in or wallowing.</li> </ul>	
Emissions from dry sow housing (straw based)	<ul style="list-style-type: none"> <li>• Pens well bedded with clean, dry bedding to ensure clean animals and to bind ammonia, scraped out three times a week and manure is transferred to covered muck store</li> <li>• All scraped areas within buildings are maintained and managed to prevent ponding</li> <li>• Bedding material is stored to ensure it is kept clean and dry to prevent wastage and deterioration.</li> </ul>	On-going
Emissions from farrowing house (part slatted)	<ul style="list-style-type: none"> <li>• Drinkers over troughs, solid floored, under-floor heated, creep areas</li> <li>• Slurry removed from buildings as frequently as possible to slurry store</li> <li>• Slurry and drainage channels kept clear of deposits</li> <li>• Manure (in excess) is not allowed to accumulate above the slats.</li> </ul>	On-going
Emissions from 1st and 2nd stage houses (fully slatted)	<ul style="list-style-type: none"> <li>• Slurry removed from buildings as frequently as possible to slurry store</li> <li>• Slurry and drainage channels kept clear of deposits</li> <li>• Manure (in excess) is not allowed to accumulate above the slats.</li> </ul>	On-going
Cleaning out	<ul style="list-style-type: none"> <li>• Cleaning out occurs as soon as possible after destock</li> <li>• Yards and open surfaces designed to ensure effective separation of uncontaminated rainwater from slurry and manure</li> <li>• The slurry collection system works effectively to prevent ponding of slurry, which may release strong odours</li> <li>• Slurry is removed from site on a regular basis, ie weekly.</li> </ul>	On-going
Ventilation	<ul style="list-style-type: none"> <li>• Ventilation corresponds to animals' needs and is checked to be functioning correctly</li> <li>• Air outlets positioned to optimise dispersion to atmosphere</li> <li>• Buildings insulated and insulation kept in good order.</li> </ul>	On-going
Animal carcasses	<ul style="list-style-type: none"> <li>• Pig carcasses are kept in covered storage and disposed of promptly on-site by incinerator</li> <li>• Storage container is sealed preventing leaks</li> <li>• Incinerator is licensed and well maintained</li> <li>• Incinerator odours controlled by after-burner.</li> </ul>	On-going

Feed delivery and storage	<ul style="list-style-type: none"> <li>• Dry feeds and feed ingredients are stored in covered hoppers to prevent the feed from getting wet and spoiling</li> <li>• Liquid feed ingredients are stored in covered tanks to minimise odour. The tanks have vents which are located to ensure good dispersion of odour</li> <li>• Liquid and dry feed is distributed via sealed pipework, minimising the opportunity for odour release</li> <li>• The feed storage and distribution pipework is checked by the site manager in accordance with the site's preventative maintenance schedule. Any leaks will be repaired quickly and any spillage cleaned up</li> <li>• Dry feed is mixed within a shed. All spillages are cleaned up and disposed of promptly</li> <li>• Waste food stuffs are not allowed to enter long-term slurry store.</li> </ul>	
Spreading slurry	<ul style="list-style-type: none"> <li>• Slurry is applied by tanker with low trajectory splash plate or boom</li> <li>• Slurry is applied to growing crops where possible, all un-cropped land is cultivated within 12 hours of application</li> <li>• Spreading of slurry is co-ordinated with local weather forecasts and follows Defra Code of Good Agricultural Practice</li> <li>• Slurry spread in accordance with NVZ regulations.</li> </ul>	On-going
Spreading manure	<ul style="list-style-type: none"> <li>• FYM mainly exported to other farms for utilisation as soil conditioner and organic fertiliser.</li> </ul>	On-going
Dust (especially as an odour vector)	<ul style="list-style-type: none"> <li>• Unit is relatively isolated so there is minimal risk of dust causing direct odour nuisance</li> <li>• All dry feed ingredients are stored in covered hoppers/bins</li> <li>• The breeding and finishing herds are fed liquid diets, minimising dust.</li> </ul>	On-going
Out loading of pigs to slaughter	<ul style="list-style-type: none"> <li>• Pens are cleaned out before loading and trailer wash down areas and out-loading pens are kept clean and well maintained with no ponding of effluents.</li> </ul>	On-going
Dealing with odour complaints	<ul style="list-style-type: none"> <li>• Any odour complaints will be reported to the site manager. The site manager will log and investigate causes of all odour complaints. The site manager will identify the source of the odour issue and will monitor odour levels at the site boundary as part of the investigation</li> <li>• The complaint details and subsequent investigation will be recorded on the site compliant form and a copy will be kept in the site office.</li> </ul>	On-going
General comments	<ul style="list-style-type: none"> <li>• Neighbours will be informed (where necessary) prior to activities which may cause odour</li> <li>• Odour levels will be monitored on site by all staff. The source of abnormal odours will be identified and appropriate action will be taken to reduce odour levels back to normal levels</li> <li>• The effectiveness of odour control measures will be reviewed at least once a year or sooner in the event of any complaint or relevant changes to operations.</li> </ul>	

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