



**ENVIRONMENTAL  
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## ATTACHMENT 6.2

# ENVIRONMENTAL NOISE MANAGEMENT PLAN

WOODVILLE **PIG** FARMS LIMITED  
BALLYMACKEY  
NENAGH  
Co. TIPPERARY

**2019**

<b>REVISION NO:</b>	EIAR_NMP_19_9350	<b>AUTHOR:</b>	Nial Ryan, MSc.
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**1.0 NOISE MANAGEMENT**

**1.1 GENERAL PRINCIPALS OF NOISE MANAGEMENT IN THE PIG SECTOR**

Generally, noise can be defined as any unwanted sound or sound that is not desired by the recipient.

An important challenge facing the pig industry is noise control. As urban development abuts agricultural areas, the demand for effective noise control in pig operations increases. Noise emitted from fans, feeders, farm equipment, and trucks delivering inputs and removing outputs from the pig farm can be an annoyance to neighbours and if severe enough can lead to complaints.

Fans, feeders and stock contribute to a large extent to the noise inside the sheds. The arrival, operation and departure of feed trucks, loading trucks, and clean out equipment contribute to noise levels outside the shed. Unattended alarms can be another source of annoyance to neighbours.

**Table 1.1:** Typical sources of noise and examples of noise levels in pig units

Description	Duration	Frequency	Day/night activity	Sound pressure levels dB(A)	Equivalent continuous L <sub>Aeq</sub> dB(A)
Normal housing levels	Continuous	Continuous	Day	67	NI
Feeding animals: pigs sows	1 hour	Daily	Day	93 99	87 91
Feed preparation	3 hours	Daily	Day/night	90 (inside) 63 (outside)	85
Stock movement	2 hours	Daily	Day	90–110	NI
Feed delivery	2 hours	Weekly	Day	92	NI
Cleaning and manure handling	2 hours	Daily	Day	88 (85–100)	NI
Manure spreading	8 hours/day for 2–4 days	Seasonal/weekly	Day	95	NI
Ventilation fans	Continuous	Continuous	Day/night	43	NI
Fuel delivery	2 hours	Fortnightly	Day	82	NI

NB: L<sub>Aeq</sub> = equivalent continuous noise - unit for noise of variable intensity; NI = no information provided.  
 Source: [ 559, ADAS 1999 ] [ 24, LNV 1994 ]

The noise from feed trucks, livestock transports and sludge removal equipment can result in noise levels during loading, feed delivery and clean out of well over 90 dB for periods of time. Noise from tractors can contribute significantly to noise levels. Use of such equipment on farms is considered normal.

As noise accounts for the majority of complaints that local authority and the Environment Protection Agency receive about environmental pollution, it is important that management are cognisant of noise issues in design and management of a facility.

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**Industrial Facility Guidance**

- Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4), EPA (2016)
- Relevant Best Available Techniques (BAT) Documents;
- EC/EU Best Available Techniques (BAT) Reference Document for the Intensive Rearing of Poultry or Pigs, 2017
- Commission Implementing Decision establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the intensive rearing of poultry or pigs, 15 February 2017

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## **1.2 HIERARCHY OF NOISE CONTROL**

The hierarchy for control should be to:

1. ***Prevent*** generation of noise at source by good design and maintenance.
2. ***Minimize or contain noise at source*** by observing good operational techniques and management practice.
3. ***Increase the distance*** between the source and receiver if possible.
4. ***Use physical barriers or enclosures*** to prevent transmission to sensitive receptors.
5. ***Sympathetic timing and control*** of unavoidably noisy operations.

It is nearly always more cost-effective to consider noise reduction at the design stage as later modifications are often more expensive, more difficult to install and may not be as effective.

## **1.3 GOOD OPERATIONAL PRACTICES TO REDUCE NOISE**

### **Documented Noise Management**

A written noise policy/management plan can be helpful in maintaining standards and demonstrating a commitment to good noise management. Such a plan can also be an important tool in staff training.

All staff should be trained on the content of the Noise Management Plan (NMP) to ensure a commitment to good noise management. A record may be kept of the date and name of person trained and made available for inspection by the licensing authority or environmental health responsible authority.

Methods for monitoring noise should be included in a noise policy i.e. perimeter checks and listening tests by the staff.

A logbook may be kept of any noise monitoring carried out, the findings and any remedial action taken. The log should indicate whether it was routine noise monitoring or the result of a complaint.

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### General Operational Controls

Measures for preventing or minimising noise need to be considered on a process, and perhaps a site-specific operation basis.

Emphasis should be on:

- good process design or redesign. Utilizing “*low-noise options*”, that is, design the problem out rather than relying on “*end-of-pipe*” abatement to deal with a noise problem
- good operating and management practice backed up by an environmental management system

Staff, contractors and visitors should be instructed not to raise voices or play radios unnecessarily at night. Pagers or mobile phones may need to be considered for on-site communications.

Hard materials should be lowered on to hard surfaces rather than dropped. The drop height of any bulk material should be reduced as much as possible.

Care should be taken to prevent unnecessary movements of vehicles during unsociable hours. Ensure loaders and vehicles etc. are well maintained especially exhaust systems and silencers. Site roads/tracks should be maintained in a state of good repair to reduce any noise from the passage of vehicles.

Avoid idling of machines between work periods and revving of engines.

Reduce noise caused by vibrating machinery with rotating parts by proper servicing, balancing and regular maintenance. Lack of maintenance may lead to overheating, resulting in engine covers having to be left open.

Any testing of emergency generators and alarms should be carried out during the daytime of the normal working week and preferably between 09.00 and 17.00.

The noise level emitted by alarms must not exceed that required to alert persons working within the site. However, to ensure the response given by call centres is 100%, alarms may also be tested at weekends. The disturbance caused by their testing can be minimized by testing at the same time and day of the week or month etc. If there are problems, local residents should be consulted and timings of testing discussed with them.

Many noise problems can be prevented by good management, consideration and ensuring a good standard of maintenance of any equipment.

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**General Noise Reducing Measures for Pig Farms**

- A. Site fans, loading and unloading areas on the side of stables furthest from neighbours where possible.
- B. Eliminate or reduce noise by seeking quieter equipment when replacing equipment.
- C. Chain feeders which are coated to reduce noise can be used rather than those that are metal on metal.
- D. Build new production units far enough from property lines so that farm noises are minimized to neighbours, if applicable.
- E. Feed delivery trucks should be scheduled during the day to minimize impact of noise on neighbours.
- F. Clean-out should be scheduled during times when impact on neighbours is minimal.
- G. Truck drivers should be instructed not to use engine brakes in the neighbourhood and should drive directly to the nearest trucking route from the farm.
- H. Truck engines should be turned off during loading to transport trailer.
- I. All equipment should have mufflers on the motors where possible.
- J. Workers should be instructed not to create additional noise by excessive and unnecessary yelling.
- K. 24 and 36 inch fans should be hooded to restrict noise through the fans.
- L. Alarm sounders can be removed from security systems and replaced with flashing strobe lights and auto dialers that contact the farm manager or specific individuals in the area who can rectify any problems.
- M. Build sound barriers to block sound transmission. These can be walls, insulation, coatings on walls, berms, and fences.

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#### **1.4 COMPLAINTS PROCEDURE**

A procedure should be in place for verifying and responding to complaints about noise. The existence of a complaints procedure can help to:

- Improve relationships with neighbours;
- Identify sources of noise and prevent future problems.

Prompt action in response to complaints, including a discussion with an explanation to the complainant, is very important and may stop issues escalating and further complaints being made. It should be remembered that when people are woken at night, for example, by something that they believe to be avoidable (whether it is or not) they might be short-tempered. A quick and sympathetic response to complaints can often defuse a situation to the benefit of the complainant and the operator.

A contact telephone number should be made available to local residents, which they can use to report noise disturbances to a 'responsible person' at the premises as and when they occur.

The complaints record form should be tailored to the specific business, location and neighbours, but most will have the following elements:

1. The form should be completed, signed and dated by a 'responsible person'.
2. The name, address and telephone number should be given by the caller.
3. Each complaint should be given a reference number.
4. The caller should be asked to give details of:
  - The time the noise was found;
  - How long it lasted;
  - How often it occurs;
  - The nature of the noise – what sort of noise was it? What did it sound like?
5. The 'responsible person' should then, if possible, make a note of:
  - The weather conditions at the time the noise was detected – usually temperature, recent rainfall, wind direction and a note of the conditions (light wind, no wind, strong breeze, or use the Beaufort scale); and the activity on the premises at the time the noise was detected, particularly anything unusual.

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## **2.0 NOISE MANAGEMENT PLAN**

The Noise Management Plan (NMP) is a core document that is intended to detail operational and control measures appropriate to management and control of noise at the site. The format of the NMP should provide sufficient detail to allow operators and maintenance staff to clearly understand the operational procedures for both normal and abnormal conditions.

A NMP should be prepared for all relevant processes. The NMP should also include sufficient feedback data to allow site management (and authorised inspectors) to audit site operations. An example of some of the issues to be considered is summarised as follows. More detailed guidance is provided with this document.

- A summary of the site, noise sources and the location of receptors.
- Details of the site management responsibilities and procedures for reporting faults, identifying maintenance needs and complaints procedure.
- Noise critical plant operation and management procedures (e.g. correct use of plant, process, materials, and checks on plant performance, maintenance and inspection).
- Operator training.
- Housekeeping.
- Maintenance and inspection of plant (both routine and emergency response).
- Record keeping – format, responsibility for completion and location of records.
- Emergency breakdown and incident response planning including responsibilities and mechanisms for liaison with the local authority.
- Public relations.

The NMP is a living document and should be reviewed monthly during the year of initial implementation and at least quarterly thereafter.

It should form the basis of a documented Noise Management System for the operating site. The Noise Management System documentation should define the roles of the key staff and management and set out templates in relation to the operating of the facility and reporting procedures to be employed.



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**Table 2.1:** Noise Action Plan Status Table

	<b>Noise Source</b>	<b>Specific Source</b>	<b>Action Plan</b>	<b>Monitoring Required</b>	<b>Review and Comments - Monthly</b>
1.a			All relevant staff to be trained on Noise Management measures.	Immediate	
1.b			Review and update NMP initially on an annual basis, or following any relevant changes at the site. Key Performance Indicators (KPIs): - Number of Complaints, - Number of abnormal noise events (check-sheets), - Results/recommendations of any surveys	Annual / as necessary	
1.c			Carry out weekly noise patrol checks and keep log of all findings, including weather conditions and wind direction. Note: any equipment, vehicles or staff/visitor actions leading to excessive/unusual increased noise. At times where a complaint has been received or issues identified during environmental checks, monitoring or during maintenance, daily noise monitoring should be carried out at times relevant to the complaint or identified issue until the investigation is complete.	Weekly / Daily as necessary	
1.d			Keep a log of environmental noise complaints, including description of the noise, details of investigation, any follow-up actions and outcomes.	On-going	
1.e			Keep a log of noise monitoring carried out, including reason for survey, main findings and remedial actions taken.	On-going	

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	Noise Source	Specific Source	Action Plan	Monitoring Required	Review and Comments - Monthly
1.f			Inform neighbours of any abnormal planned operations/projects which may lead to significantly increased noise. Provide detail of timing and likely duration to minimise noise impact. Provide contact details to neighbours of relevant members of staff for the receipt of environmental complaints.	As applicable	
2.	Construction	Excavators/large plant	Carry out construction activities associated with elevated noise levels during normal working hours where practicable. (07:00 to 19:00 Monday to Friday)	On-going	
3.	Construction	Off-schedule works	Any works outside of these times should be notified to any potentially effected local residents in good time and prior to specified works commencing.	Prior to off-schedule works	
4.	Pig Shed	Feeding	Employ passive ad libitum type feeding systems where practical, to prevent feeding time animal noise. Ensure feed supply rates are maintained to ensure continuous feed availability and prevent anticipation for feed delivery.	On-going.	
5.	Pig Shed	Destocking	Carry out destocking during normal working hours (07:00 to 19:00 Monday to Friday).	On-going	
6.	Employees	Employees/visitors	Inform all employees and visitors of noise awareness.	Monitoring on-going, awareness is continuous	
7.	Yard	Tractors (Litter removal)	The removal of shed litter should be conducted within normal working hours (08:00 to 18:00 Monday to Friday).	Monitor during operations	

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	Noise Source	Specific Source	Action Plan	Monitoring Required	Review and Comments - Monthly
8.	Equipment	Equipment	Consult with manufacturer regarding associated noise emissions prior to purchase of any new equipment.	As equipment is being purchased	
9.	Equipment	Equipment	Equipment (e.g. boiler, pump, motors etc.) should be located on the southern side of the buildings where possible.	As equipment is installed	
10.	Vehicles	Vehicles entering and leaving site	Maintain site roads in good condition.	As per preventative maintenance schedule	
11.	Vehicles	Site Vehicles	Ensure site owned/operated forklifts and vehicles are well maintained (especially exhaust systems and silencers).	Monitor on-going, awareness is continuous	
12.	Equipment	Equipment	Maintain equipment to ensure high efficiency.	As per preventative maintenance schedule	
13.	Equipment	New Equipment	Consult with manufacturer regarding noise levels before buying any new equipment.	As equipment is being purchased	
14.	Employees	Manual handling / Forklift operation	Reduce impulsive noise in external areas by lowering of materials to ground level where practical. Reduce drop heights of bulk materials by design.	Monitor on-going, awareness is continuous	

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	<b>Noise Source</b>	<b>Specific Source</b>	<b>Action Plan</b>	<b>Monitoring Required</b>	<b>Review and Comments - Monthly</b>
15.	Site wide	Alarm Testing	Testing of emergency generators or alarms should be carried out during the daytime of the normal working week between 09.00 and 17.00 Monday to Friday.	On-going	
16.	Site wide	All areas	Consider potential noise as an aspect in any future infrastructure works. Assess opportunities for reduction of existing noise sources where practical within project scope.	Project Planning	

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**Figure 1.1:** Noise Sensitive Location Map within 1Km



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**Table 2.2:** Noise Complaints/Non-Conformance/Noise-Monitoring-Report Log

Date	Type (Complaint / Non-Conformance / Assessment)	Complaint type / Area / Process / Report Type	Description	Corrective Action Taken	Outcome
	i.e. Complaint	i.e. Noise	i.e. Onsite vehicle operations	i.e. Driver re-trained in site traffic management plan	Driver adjusts behaviour to comply with TMP.
	i.e. Non-Conformance	i.e. New ventilation equipment	i.e. Unusual high noise due to loose bearing on fan found during weekly environmental check. Audible beyond site boundary	i.e. Included on maintenance schedule for DD/MM/YY	i.e. Noise returned to normal levels
	i.e. Assessment	i.e. Complaint investigation survey	i.e. Report Recommendations, No.1: ... No.2: ...	i.e. Recommendations implemented	i.e. No remaining actions

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