Odour Management Measures adopted In Mogeely Pig Farm

The main odour associated with livestock housing tends to be related to ammonia. It arises primarily from surface areas and the presence of manure and the biological changes that occur as it decomposes and also from the body odour of the livestock storage of manure in the open air is a particular source of odour.

Within Section 9.0 of the Odour Emissions Control Measures document methods for good operational practices for reduction of odour impact are outlined. These measures include Cleanliness (Hygiene / Washing Routines), Building Design / Ventilation, Slurry Removal, Feed Additives / Animal Diet and Landscaping and we have reviewed these areas and other relevant areas as follows:

1. Landscaping & Earth Berms
2. Odour in dust emissions
3. Animal Feed-Use of Low Protein Diets & Health Status
4. Building Design & Ventilation
5. Unit management & Stockmanship
6. Slurry Storage / Removal
7. Animal Carcass Storage
8. Hygiene / Washing Routines

1.0 Landscaping & Earth Berms

1.1 Earth Berms

The site is surrounded by high earthen berms at the south, east and west, the earthen berm will be landscaped with trees and shrubs. As per the attached photograph(Below) of the partly completed earth berms, the size and extent of the earth berms screens the operation on three sides. On the northern side the existing topography with a sharp hill naturally screens the property. The berms will provide a degree of odour control as they will disturb air flow and thus enhance air mixing and dilution effects over the site.

Picture is southeast of site view from road side

2.0 Odour in dust emissions

Dust is an important factor in the release of odour into the atmosphere and may arise from bedding materials or from feed. Dust generation from site should be insignificant due to follow methods adopted on this farm.

2.1 Bedding

Dust from bedding pigs will not arise from the buildings as bedding materials will not be used, and the animals will instead be kept on slatted floors.

2.2 Feed

All animal feed will be delivered to site by lorry in covered feed bins, meal is then transferred from these bins to Mixing tanks via sealed elevator in order to ensure no loss of feed.

2.3 Feeding Systems

Dust from feed will be avoided as a system of wet feeding will be used and all feed will be delivered via pipeline and contained and mixed in sealed containers and then piped around to the feeding stations. The automated feed system will be fitted with an alarm in order to alert staff in the event of a malfunction.

3. Animal Feed-Use of Low Protein Diets & Health Status

3.1 Use of Low Protein Diet

All of the diets fed to the pigs on this farm will be formulated to minimize odour, nutrient and manure production while at the same time maximizing animal performance. The use of low-protein diets will be looked at and implemented on site when or where it is deemed appropriate.

3.2 Herd Health

A high health status will result in a more efficient production system due to the improved health status of the herd, the reduced disease pressures resulting from the cleaning procedures cared out on farm, and the improved genetic potential of the stock introduced onto the farm. A more efficient production system will minimise, feed usage and manure output per unit of pig meat produced as a result of improvements in Average Daily Gain (A.D.G.) and Feed Conversion Efficiencies (F.C.E.)

4.0 Building Design & Ventilation

The new buildings are of low emission design free of draughts and leaks; they contain modern computerised ventilation control systems based on Best Available Technique guidelines for the pig industry.

4.1 Ventilation

Ventilation systems will be run at optimum levels and will be fitted with computer monitors and alarmed backup systems. The ventilation system will prevent room temperatures from rising excessively which would cause an increase in manure decay rates and result in increased odour emissions. The ventilation system will contain multiple roof apex vents that will dispel air high into the atmosphere where it will mix with fresher air and thus minimise odour.

4.2 Floor

The flooring will be impervious and early cleaned and disinfected the floor gradients have been designed in order to avoid settling of wastes within channels.

5.0 Unit management & Stockmanship

One of the most important roles on any pig farm relates to the care and management of the pigs i.e. stockmanship, it is important that all pigs are kept in optimum conditions in so far as the temperature, humidity, stocking rates, availability of fresh feed and water and many other factors are concerned.

5.1 Stocking

Stocking density levels will be maintained at design level in order to ensure overstocking does not occur.

5.2 Training of staff.

Staffs are always kept up to date with industry standards and practices that help to keep odour emissions to an absolute minimum and ensure it is being followed.

6. Slurry Storage / Removal

The slurry from the unit will be regularly removed and will be used by customer farmers for land spreading as an organic fertiliser. Pig manure will be transported in suitably contained leak proof vehicles. Slurry Management will be kept to a high standard.

7. Animal Carcass Storage

Herd Health will be at all times kept to high standard in order to keep mortalities onsite to an absolute minimum. When mortalities occur, these carcasses are stored in leak proof sealed containers in order to prevent the release of odours. The containers are regularly

removed for delivery to a rendering plant by a licensed contractor. The unit is being operated in this manner as a condition of its present Integrated Pollution Prevention and Control license and this system will continue in the proposed new buildings.

8. Hygiene / Washing Routines

As the existing farm is run as a high hygiene minimal disease unit, strict hygiene and cleanliness will be observed around the facility. This will involve keeping animals and surface areas such as pen floors and walls clean as part of daily routine operational practice in order to minimise disease. Buildings are power washed and disinfected once vacated before a new batch of animals are moved in. The dirty water from washing will immediately flow into manure storage tanks via channels and slats and will not be allowed to stagnate within buildings as this can cause disease as well as odours. The maintenance of clean facilities will contribute to reduced odour emissions.

Conclusions & mitigation

As outlined above all known Best Available Technique mitigation measures to combat odour emissions will be employed to ensure that odour emissions continue to be minimised from the site. In addition, measures identified with respect to ongoing unit management and animal feeding will be incorporated into the site odour management plan.