

---

# M E M O R A N D U M

---

**DATE:** 25<sup>th</sup> September 2003  
**TO:** Each Board Member  
**FROM:** Seán O Donoghue  
**RE:** Submission on application for IPC licence review from Martin O Donovan

Application Details	
Class of activity:	6.2: The rearing of pigs in installations, whether within the same complex or within 100 metres of that complex, where the capacity exceeds 1,000 units on gley soils or 3,000 units on other soils and where units have the following equivalents: 1 pig = 1 unit, 1 sow = 10 units  11.1: <i>“The recovery or disposal of waste in a facility, within the meaning of the Waste Management Act, 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required”</i> (for the proposed treatment of slurry generated on-site by anaerobic digestion and operation of associated plant including energy recovery).
License review application received:	11 <sup>th</sup> August 2003
Notices under article 17 issued:	16 <sup>th</sup> September 2003
Article 17 compliance:	24 <sup>th</sup> September 2003

## Licence Review

Martin O Donovan was issued an IPC license (Reg. 621) in February 2003 for an 832 sow integrated unit near Timoleague, Co. Cork. The licensee was notified on 18<sup>th</sup> July 2003 that a proposed increase in sow numbers (to 1150 sows) and the installation of an anaerobic digester (detailed below) would require a review of their licence. A planning application was submitted for the increase in sow numbers and an EIS was submitted with this application, which dealt with the impact of the increase in pig numbers. I have assessed this EIS and am satisfied that it complies with Article 25 of the EIA Regulations. A separate planning application was submitted for the proposed anaerobic digester, including associated storage tanks and storage basin, shed and feedmill. Planning permissions have been granted for both developments.

## Proposed Development:

The applicant proposes to increase sow numbers from 832 to 1150. An anaerobic digester is also proposed, which will digest a mix of slurry and a supplementary feedstock (added to increase gas yields) to produce biogas. New pig housing and slurry/digestate storage capacity will also be constructed to cater for the increase.

The slurry will be delivered, with initial storage time minimised for maximum gas yield, to a mixing tank, where it will be mixed with the supplementary feedstock at a ratio of 9:1. This feedstock will either be green crop (Maize, grass, oil seed, or corn), belly grass from nearby meat factories, or cake sludge from dairy effluent treatment plants. Two to three truckloads a week will be brought on site and stored in an indoor covered reception pit, from where it will be transported to the mixing tank by auger. The mix will then be transferred on a semi batch basis to two digesters in series, where it will be maintained at 50°C for thirty days (fifteen in each digester). The upward movement of the biogas

generated within the digester will provide sufficient agitation. The gas extracted from the digesters will be transferred via a gas treatment system consisting of a condenser and biofilter to a gas storage tank and subsequently will be burned in an internal combustion engine to produce approximately 0.6 MW of electrical power and waste heat. The waste heat will be used to maintain the temperature in the digesters and also provide heat for the pig unit. The digestate exiting the second digester will be transferred via a sealed pipe system to a centrifuge where the solid and liquid fractions will be separated. The liquid fraction will be stored either in existing storage tanks or in a new storage basin, with the solid fraction being stored in an indoor storage bay.

The applicant also proposes to construct a feed mill on site. The purpose of the mill is to aid the reduction of feed costs on site, while at the same time giving direct control to the unit and its nutritionist in the development and introduction of low protein diets to reduce emissions.

### **Waste:**

The proposed increase in pig numbers will generate an estimated additional 3250 m<sup>3</sup> of slurry per annum, bringing the total to 14,617 m<sup>3</sup> per annum. Additional slurry/digestate storage facilities will be constructed to Department of Agriculture standards and will have leak detection systems. The total slurry/digestate storage capacity on site will increase to 42 weeks. The proposed expansion will generate an estimated additional 4.32 tonnes of Phosphorus, bringing the total Phosphorus produced by the unit to 19.4 tonnes per annum. The existing approved landbank, which has a capacity of 22.1 tonnes P, can accommodate this increase whilst maintaining a reserve of 2.7 tonnes P (14%). Furthermore, the applicant estimates that 75% of the P in the digestate will be in the solid fibrous material which will be separated from the liquid digestate. If other markets, such as garden nurseries, are available for this material, significantly less land would then be required due to the reduction in volume caused by the removal of the solid, and as the Nitrogen content of the liquid digestate would then be the parameter which would limit spreading rates.

### **Air:**

There are two aspects to the development relating to air quality - on-site sources and off-site landspreading.

The Applicant provided a site map with the standard contour overlay (page 103 of 'Odour impacts and odour emissions control measures for intensive Agriculture', Odournet UK 2001) for an 1150 integrated sow unit at 6 ou/m<sup>3</sup> to identify the predicted odour impact from the site. There are 10 houses within this contour and relations of the applicant own five of these. There have been no complaints in relation to odour from the site since the original application was made, and according to the applicant, none in the history of the unit. During site inspections on the 9<sup>th</sup> and 31<sup>st</sup> January, 4<sup>th</sup> February and 3<sup>rd</sup> September 2003, odour from the unit was not noticeable. Given the absence of any complaints, odour emissions from this unit are not currently classified as causing significant nuisance and it is considered that the proposed increase in numbers will not alter this situation.

Condition 4.1 in the existing licence, which is retained in the PD, requires that the licensee shall ensure that all operations on-site shall be carried out in a manner such that air emissions and/or odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the site boundary and at odour sensitive locations. Condition 4.2 in the existing licence, which is also retained in the PD, requires the licensee to submit an odour management program for agreement with the Agency. The agreed programme, outlining any necessary odour management measures for the site, must be implemented within a specified timeframe, and reviewed annually.

The applicant also lists a number of measures, which he estimates will result in a net decrease in odour emissions from the current level, despite the increase in pig numbers. They are as follows:

- Delivery of fresh slurry to the digester (within 2 – 4 weeks)
- All pig manure movement and feedstock mixing to be via a sealed pipe network
- Imported feedstock to be stored in a covered pit indoors
- A standard fuel mix to be used at all times
- Low protein diet to be introduced on startup of the on-site mill.

According to the applicant odour from landspreading will be reduced by 80 - 90% from the spreading of digestate instead of slurry, due to the removal of odourous gases during the digestion process.

Observation of the code of practice and buffer zones for landspreading slurry detailed in the proposed licence will further minimise any impact.

The use of waste heat from the engines to heat the unit will result in a reduction in oil usage of 90% on site. Air emissions arising from combustion of biogas are not considered significant due to the low kilowatt rating of the engine.

**Water:**

All clean water from the site will continue to be discharged via SW1. All soiled water will be diverted to pig manure storage tanks. All passageways and areas where pig movements take place will be covered to minimise soiled water volumes.

**Noise:**

A noise survey was conducted in June 2002 for the previous application (Reg. No. 621), which found that noise emissions from the site were not significant. There have been no noise complaints to date, and it is not considered that the increase in sow numbers will give rise to a significant increase in noise levels. The operation of the internal combustion engines will give rise to noise emissions, but the engines will be in soundproofed housing. The applicant is confident, having experience of similar units, that this arrangement will prevent any significant increase in noise levels at the site boundary. A noise survey will be required to be conducted within 12 months of date of grant of licence under Condition 6.3 of the PD.

**Submissions:**

None.

**Recommendations:**

It is recommended that the Board approve the Proposed Determination as outlined.

Signed

---

Seán O Donoghue  
Office of Licensing & Guidance.

Procedural Note

In the event that no objections are received to the Proposed Determination of the review, the final revised licence will issue from the division in accordance with Section 85(4) of the Environmental Protection Agency Act 1992 as soon as may be.