
M E M O R A N D U M

DATE: 6 June 2000
TO: Board of Directors
FROM: Elaine Farrell
RE: Application for an IPC licence from James McGrath, Ashleigh House, for an integrated pig unit at Ballynameelagh, Cappagh, Co. Waterford.

Application Details	
License application received:	8/6/98
Notices under article 11(2)(b)(ii) issued:	31/7/98, 30/3/99
Information under article 11(2)(b)(ii) received:	1/2/99, 29/7/99, 18/10/99, 24/11/99
Notices under article 13(1) issued:	31/7/99
Information under article 13(1) received:	1/2/99
Notices under article 24(2) issued:	16/7/99
Response to notice under Article 24(2):	22/7/99
Article 14 notice issued:	1/12/99
Information under Article 14 received:	16/5/00
Site visits:	23/3/99, 9/9/99

Class of Activity

Intensive Agriculture:

6.2 The rearing of pigs in installations, whether within the same complex or within 100 metres of that complex, where the capacity exceeds 3,000 units on soil other than gley soils and where units have the following equivalents-

1 pig = 1 unit

1 sow = 10 units

The Activity

This application relates to a proposal to fully integrate an existing 900 sow pig unit (with approximately 2,400 finishers on site), to include facilities necessary to finish all the progeny to bacon weight (approx. 100kg- increasing numbers to 4500 finishers on site) with associated meal and distribution facilities. All buildings are being designed to comply with the EU Regulations on animal welfare. The activity of the proposed integrated pig unit will involve:

- a) Breeding of 900 sows and 90 replacement gilts
- b) Mating breeding stock.
- c) Farrowing piglets and fostering, etc.
- d) Rearing weaners to finishing stage, and
- e) Fattening finishing pigs, all on site.

The applicant applied to Waterford County Council on January 20 1999 for full planning permission for a 900 sow integrated pig production unit, including two dry sow houses (only one of which will be constructed), an extension to Farrowing House No. 2, four fattening houses, milling room, office and canteen facility with septic tank and percolation area, weigh bridge and wheel wash and permission to retain six farrowing houses, four dry sow houses, one weaner house, five fattening houses, the sick bay, the gilt house, the mixing room, cattle sheds and milking parlour.

The site boundary map excludes the area in which the cattle sheds and milking parlour are located. Although the cattle area is located close to the pig unit, it is considered a separate area with its own entrance and storage facilities for cattle slurry produced. Cattle slurry from this area is spread on Mr. McGraths land (in accordance with the NMP prepared for his lands).

Planning permission for the development was granted on 21 July 1999. Over half of the proposed construction has been completed.

Annual pig production is estimated at 21600 pigs (i.e. 415 pigs per week).

Feed delivery, dispatch of pigs to the meat factory and carrying out of a maintenance programme is undertaken between 8 a.m. and 6 p.m. Monday to Friday. The care and management of pigs is otherwise a 7-day week operation. The pig unit will give employment to 5 staff and one manager.

An EIS submitted with the application was deemed to be in compliance with Article 25 of the EIA Regulations following submission of additional information.

Proposed Determination

Waste:

Operation of the pig unit in its extended form will result in the production of approximately 16,650 m³ of slurry annually (including wash water) based on the *REPs guidelines 1999* for estimation of neat excreta produced by livestock.

Total slurry and wash water storage capacity on site at present is 5,331 m³ (this figure takes into account freeboard provided to allow for gas accumulation). This storage capacity is sufficient for 21.7 weeks at the present pig numbers (producing 12,771m³ slurry and extraneous water). In its extended form the total storage capacity will be 11,987 m³ (this figure takes into account freeboard provided to allow for gas accumulation) This includes two overground tanks of total capacity 1097 m³. The applicant has indicated that these overground tanks may not be used in practice, as the capacity of the underground tanks will be sufficient. Even with the additional slurry production from the extra number of fatteners, which will be on site, the storage capacity will be sufficient for 37 weeks.

Condition 7.2.6 of the proposed determination requires that a minimum of six months storage is available within six months of the date of grant of the licence.

The annual quantity of P in slurry produced at the unit is estimated in the application as approximately 19.98 tonnes (based on 1.2 kg/m³ P). The Agency calculates the phosphorus generated by a pig unit as follows (based on REPs 1996): - for a sow and progeny to finishing weights - 22 kg P. Therefore this pig unit would be expected to generate approximately 19.8 tonnes P per annum which tallies with the applicants projections.

Farmers have pledged a total of 3087 hectares of land (agreed in writing) for landspreading slurry from the unit. This consists of 56 farms- 55 farms in Waterford and 1 farm in Tipperary). The applicant owns 31 ha of this land.

Parts of the proposed landbank were excluded for the following reasons (as shown in Table 1 below): -

1. An assessment of the lands was carried out by the applicant which took account of current use, topography, drainage conditions, incidence of rock outcrop in the local area and auger logs etc. Following these surveys, Farms no. 2,5,9,10, 12,17,19,20,22,28, 32,35,40,42 and 44 were excluded by the applicant and his consultant for various reasons.
2. The spreadlands were inspected during the site visits and the landbank appeared to be suitable and adequate, apart from the location of land no.34 (fields no. 3 and 4) in Newtown which had a public water supply well located at the field entrance. These have been excluded in Schedule 3(iv) of the proposed determination.
3. Farms located within the groundwater source protection zone for the Dungarvan public water supply were also excluded:- 3.10, 36.3, 36.5 and 36.6. These have been excluded in Schedule 3(iv) of the proposed determination.
4. Areas in which the soil depth does not appear to be adequate for the protection of groundwater (as specified in “*Groundwater Protection Schemes*” (DoELG/EPA/GSI joint publication 1999):- 4.5 and 4.6. These have been excluded in Schedule 3(iv) of the proposed determination.
5. Farms overlying regionally important aquifers, on which the applicant must demonstrate that there is over 2m overburden (as specified in “*Groundwater Protection Schemes*” DoELG/EPA/GSI joint publication 1999) under Condition 5.5.5.
6. Reserve lands which have not yet been soil tested.

Table 1

Total Pledged Lands	Lands excluded due to the following:-			
	Applicant Exclusions	Lands excluded in Schedule 3(iv)	Condition 5.5.5 Exclusions	Reserve Lands (No NMP available)

Farm Codes	1-56	2,5,9,10,12, 17,19,20,22, 28,32,35,40, 42,44	3.10, 4.5, 4.6, 34.3, 34.4, 36.3, 36.5, 36.6	1.3, 1.6, 3.1, 3.7, 4.3, 4.4, 6.7, 6.8, 11.2, 11.6, 16, 18.2, 18.3, 21.1, 25, 26.5, 26.6, 30.1, 30.4, 30.5, 43.1, 43.4, 43.5, 45.12, 45.15, 47.1, 47.2, 47.3,	49-56
m ³ Slurry capacity	—	Not given	577	5207	—
Tonnes P (from pig slurry) capacity	—	Not given	0.7	6.2	—
Hectares	3087	1354.5	39	316	303.5

Therefore the remaining usable land (including that listed by the applicant as reserve land) comprises a net total of 1074 ha, with a capacity to take 16,695 m³ slurry and 20.1 tonnes P. This is sufficient for the slurry production from this facility.

Farms 49-56 (303.5ha) have not been soil tested. The applicant states that it is not envisaged that any of these farms will be required for pig slurry spreading for a number of years. If however it were required to introduce them at some time in the future, an NMP would then be submitted to the Agency for agreement.

The pig slurry and P capacity was calculated based on soil samples taken from the lands and the Teagasc May 1995 Recommendations.

No supplemental P is allocated to areas with P readings in excess of 10 mg/l for grazing ground and in excess of 15 mg/l for silage ground. The farming enterprises in the area are mainly cattle, sheep and tillage. In most cases the lands receive stored animal manure/slurry from on-farm sources and these calculations are included in the NMP. Pig and cattle slurry will be used to meet crop P requirements in the spreadlands except where there is a danger of overapplying organic nitrogen. In this case the balance of P will be spread in the form of chemical fertiliser.

A requirement to investigate alternative technologies for the treatment of slurry has been included as part of the Annual Environmental Report.

Other major wastes arising at this site include pig carcasses (estimated at 38 tonnes annually, stored in covered steel containers and sent weekly for rendering), and waste veterinary products and containers (returned to supplier). Both these wastes are classified as hazardous. Management of these wastes is controlled under Conditions 5.1 and 5.2.

Water:

Surface Water

The only surface water emission from the site relates to clean rainwater. This is diverted from 3 main points to one drain which collects the discharge. This drain ultimately discharges via a tributary stream of the River Brickey. The River Brickey has been monitored by the EPA in 1987,1991 and 1996. Its biological quality rating (which has not changed over these years) is 3-4

(moderate to slight pollution) at the point which has been monitored on all three occasions and 3(moderate pollution) at the nearest point downstream from the pig unit which was monitored in 1987 and 1991 but not 1996.

The applicant carried out biological and chemical monitoring of this stream both upstream and downstream from the piggery. Using the Biotic index of WQS the water quality was classified as Q3-4. There was no significant difference in most of the analysed results for the point upstream and that downstream of the piggery, with nitrate as N levels of 3 mg/l, ammonia-N levels of 0.02mg/l (upstream) and 0.04mg/l (downstream) and orthophosphate -P 0.06 mg/l and BOD <1 mg/l.

Monitoring of the surface water outfall from the unit is included in Schedule 4(i) Surface Water Discharge Monitoring. Visual inspection of the discharges is required on a daily basis with chemical analysis quarterly.

The dominant surface water features in the spreadland areas are the river Blackwater (Q4-unpolluted-EPA 1997), to the west, which is tidally affected and the Colligan river (Q4-EPA 1996) to the east. The Goish River (Q4), the Finisk River (Q4) and the Magaha River discharge into the dominant surface water features along their course. These large surface water features are fed by a number of smaller streams and drainage ditches. The applicant carried out a biological and chemical monitoring at a point labelled JR1 in the IPC application which is at the Finisk River downstream of the major landbank of the proposed spreadlands. Using the biotic Index of WQS the quality rating was assessed to be Q4. The chemical analysis showed a level of 2.6 mg/l Nitrate-N, 0.04 mg/l Orthophosphate-P, BOD 1.2 mg/l and Ammonia-N 0.01 mg/l.

While there are no proposed National Heritage Areas within the proposed spreadlands, Farm Codes 8,11,25,26,27 and 30 lie in close proximity to the River Blackwater a proposed NHA (site No.72). Farm 27 (fields 3 and 5) is very close to the river Blackwater. An adequate buffer appears to be provided on the map of the plot in the application.

Groundwater

Sixty percent of the proposed landbank is underlain by Waulsortian limestone formation and Kiltorcan Formation- regionally important aquifers where the groundwater flow is predominantly through either karst conduits or fissures and fractures within the rock mass.

The groundwater source protection zones for the Dungarvan public supply included some of the landspreading areas. Farm codes 3.10, 32, 36.3, 36.5,36.6 and 40 were in the protection zone. Farms 32 and 40 had already been excluded by the applicant. Over half of the area of Farm 3.10 is in the outer protection zone but while the area is described as probably highly vulnerable in the application, the vulnerability map for the publication "Dungarvan Public Supply Groundwater Source Protection Zones" (GSI 1998) indicates that the area is probably extremely vulnerable. Therefore based on the Response Matrix for Landspreading ("*Groundwater Protection Schemes*" (DoELG/EPA/GSI joint publication 1999) it is not acceptable to landspread on such areas. Farm codes 36.3,36.5 and 36.6 are located within the inner protection zone and the vulnerability appears to be high/extreme. Therefore Farmcodes 3.10, 36.3,36.5and 36.6 have also been excluded in the proposed determination.

Most of the spreadlands are located over aquifers classified as regionally or locally important. The vulnerability assessment of the lands varies from extreme to high with only two land parcels in areas considered moderately vulnerable. In most cases, the applicant has demonstrated (auger logs for 138 investigations) that there is over 1 m of overburden in the area. Any areas where the soil depth does not appear to be adequate (from data provided) were excluded from the spreadlands. Farm 34 (fields 3 and 4) which is located beside a public supply well has also been completely excluded.

A number of lands were excluded due to insufficient auguring in these areas, until such time as it is demonstrated to the satisfaction of the Agency that there is over 2m of overburden in these areas overlying regionally important aquifers.

The site of the piggery is over a regionally important aquifer (karst). Excavation carried out during the siting of the proposed septic tank indicated an overburden depth of over 2m. Monitoring of the well at the pig unit (JW1) has indicated elevated nitrate and microbial levels- Nitrate-N 8.2 mg/l, faecal coliforms 4, total coliforms 4 and chlorides 29 mg/l. The pig unit is down gradient of the well and is unlikely to be the source of the contamination. However, Conditions 7.2.2 and 7.2.3 of the proposed determination require a phased investigation of the groundwater contamination which may include a proposal for installation of additional monitoring well(s) within six months. It is also required under Condition 7.2.8 that the integrity of all underground and overground storage tanks (being used) and pipelines are assessed/tested within six months of the date of grant of the licence and every five years thereafter. Condition 7.2.9 requires the submission of proposals for the installation of leak detection facilities for all new buildings (i.e. from the time that the IPC application was submitted) within six months of the date of grant of this licence and following agreement with the Agency the installation of same within an agreed time period.

A disposal site in the event of a Class A outbreak had been identified however it was proposed to use an alternative disposal route due to the vulnerability rating of the site. The applicant submitted a letter of agreement from National By-Products (Renderer) who will remove the carcasses in the event of a Class A outbreak.

Air:

There are two aspects to the development relating to air quality: on-site issues and off-site landspreading. The nearest occupied house to the unit is located approximately 250 m south-east of the unit. This house is owned by a local farmer Mr. Patrick O'Keefe who has an agreement with the piggery to take slurry to spread on his lands. The next nearest residences are located approximately 400m NW of the site. No odour was evident at the entrance to the unit during the inspector's visits to the site but there have been two complaints regarding odour received from Mr. Tom Aherne, a resident of the area. Mr. Aherne, who is also a farmer who has agreed to take slurry from the unit, lives over 800m to the east of the pig unit. The complaints refer to odour which is particularly noticeable in the Summer arising from the vents at the side of the existing houses. The resident believes that if this vent is re-routed to exit air via the roof that the situation would improve greatly for him. The applicant has agreed to carry out this work as part of the construction work at the site.

In order to ensure that all measures are taken in order to minimise odour, the applicant is required under Condition 4.2 to carry out an assessment of the ventilation system within three months of the date of grant of the licence and submit proposals for works to be carried out in order to minimise odour.

The applicant has stated that odours from the installation will be minimised by adequate ventilation in the building to reduce odour, strict hygiene and cleaning will be observed around the unit and the skip for collecting dead animals will be covered at all times and will be removed for disposal of carcasses at least once weekly.

In terms of landspreading activities associated with the proposed unit, the applicant has proposed spreading using the low trajectory splashplate method and the bandspreading method where possible. Condition 5.5.11 of the proposed determination requires either soil injection, bandspreading or low trajectory splashplate be employed in all spreading activities to minimise odour except where the prior written agreement of the Agency has been obtained to any proposed alternatives. This will ensure that particularly sensitive areas near village churches schools and residences that the odour from landspreading is minimised. Low trajectory splash-plate may be acceptable in less sensitive areas.

In order to comply with Schedule 3 (v) of the proposed determination no landspreading is allowed to take place within 200m of sensitive buildings and within 100m of dwelling houses.

Noise:

Noise limits have been set at the boundary in accordance with the Agency Guidance Note on Noise.

Submissions:

One submission was received on 26/5/99 from Mr. Peter Sweetman of Waste Action Group, Borrisoleigh, Co. Tipperary.

Mr. Peter Sweetman, Waste Action Group,

1. Mr. Sweetman objects to the issue of a licence for this facility on the basis that the Pig BATNEEC document is out of date and does not represent best available technology not entailing excessive cost.

Response: -

The current BATNEEC guidance notes are the most up to date guidelines for the pig production sector and represent BATNEEC.

2. The current Teagasc recommendations to the maximum required phosphorus for the growing of silage is 6 units Morgan's P.

Response:-

In licensing the pig production sector the Agency requires annual approval of Nutrient Management Plans. Application rates can be amended in light of the results of soil P testing in order to ensure that a satisfactory balance of input and output is achieved. Monitoring of soil fertility status is requested every two

years for soils $<10\text{mg P l}^{-1}$. This testing rate exceeds that requested by Teagasc for agronomic recommendations. Agency policy has been that annual approval of a Nutrient Management Plan is required and that application rates can be amended in light of the results of soil testing in order to ensure a satisfactory balance between inputs and outputs is achieved.

Complaints

Two complaints regarding this facility was received by the Agency

Recommendation:

It is recommended that the Board of the Agency approves the Proposed Determination in the case of this application as outlined.

Signed,

Elaine Farrell