SUB (1)

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

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01/06/10

Ms. Kate Stafford,
Office of Climate, Licensing & Resource Use,
Environmental Protection Agency,
Headquarters, P.O. Box 3000,
Johnstown Castle Estate,
Co. Wexford.

Re: Application for Integrated Pollution Prevention and Control Licence.

Class and Nature of Activity: **Class 6.2:- The rearing of pigs in an installation, whether within the same complex or within 100metres of the same complex, where the capacity exceeds 2000 places for the production of pigs.**

Applicant: **Ballyfaskin Enterprises Ltd, Ballyfausteen, Ballylanders, Co. Limerick.**
Ref. No: **P0915-01**

Dear Madam,

I refer to the above application prepared by NRGE, Mooresfort, Lattin, Co. Tipperary behalf of applicant Mr. Pat Ryan. I would also refer to my on-site visit to the rearing operation and meeting thereon with Mr. Pat Ryan on the12.04.10 accompanied by Mr. James Cahill SEHO and Ms. Kathleen Dalton Student EHO. The site is located on the Regional Road R 662 with a second access onto a local road L 8529, approximately 3km southeast of Ballylanders. The farm is owned and operated by Mr. Pat Ryan. The enterprise provides full time employment to Mr. Ryan and three staff members. The site is located in a rural area. The weekly output of bacon pigs is approximately 250 animals. The farm at present can accommodate an integrated herd of 400 sows and their progeny who are reared to bacon weight.

The existing site is subject to a current planning application to Limerick County Council Ref no: 10/234. Examination of Limerick County Council G.I.S. (Planning System) indicates that Mr. Ryan has been requested to submit further information in support of this application. This proposal is to construct a new store, cover existing open pig manure storage tank with a house for hospital pens, replace four existing pig houses with two new modern design buildings and construct a covered geo-membrane lined storage basin adjacent to Mr. Ryan's existing pig farm. The proposal is necessary in order to comply with Animal Welfare Regulations and Nitrate Directive Regulations. The proposed development would in part be a replacement of existing old pig houses and an extension to pig housing in the existing farm yard.

The applicant has previous planning history as follows:

09/588 permission was sought and granted for the extension of the farrowing house D and replace existing farrowing house E and associated site works.

07/2101 permission was sought and granted for the construction of a new store, cover existing open pig manure storage tank with a house for hospital pens, replace 4 no. existing pig houses with new modern design buildings and construct a covered geomembrane lined pig manure storage basin adjacent to the pig farm.

06/3081 permission was sought and granted for the construction of a new loose dry sow house.

On site facilities

The farm is located in a rural area which is not densely populated. Agriculture is the predominant industry in the locality. The installation comprises animal houses, manure collection and storage tanks, ancillary structures and equipment necessary for the accommodation, management and husbandry of the animals and the administration of the enterprise. There is no canteen or other staff facilities within the site. There is an office and dry store on site. There is a mobile home on site which is used as a staff changing facility for employees.

On-site operations/process

The structures and equipment on site were designed and installed for the purpose of breeding and rearing pigs for sale off site for processing into human food by the pork/bacon industry. While production on site is continuous, the presence of operative staff and delivery/collection is normally between 06.00 and 20.00 hours.

The E.I.S. as submitted details the processes on the proposed site as follows:

- Cleaning and disinfection of units prior to restocking
- Breeding and feeding of pigs.
- Delivery of feed to the farm
- Dispatch of pigs for slaughter
- Dispatch of all animal tissue and other solid waste materials
- Collection of all animal manure and wash waters

The input materials on site are water, and animal feed. There will also be an input of veterinary medicines which are administered in accordance with the relevant legislation. There is also an input requirement of electricity, diesel and heat required to power the processes and services.

EPA BATNEEC Guidance Note For The Pig Production Sector.

In assessing and evaluating this application regard is had for the content and provisions of the above document. The Guidance Note is one of a series issued by the Environmental Protection Agency (EPA) which provides guidance on the determination of Best Available Techniques (B.A.T.) in relation to applicants seeking IPPC licenses under Part IV of the EPA Acts 1992 – 2003 and is intended for use as a tool in determining BAT for the activities specified in this licence application.

Process Description

The pig breeding and finishing activities on site are similar to any intensive pig units throughout Ireland. To provide stock with the best genetic potential, gilts are outsourced, which in turn will produce commercial mothers, to ensure that all pigs produced are of a very high standard.

Selection of the stock by physical measurements (e.g. litter size, growth rate, backfat depth) and the use of computers enable genetically transmitted performance to be improved each year. Thus the facility will be stocked with pigs which have a high genetic potential which will be continually monitored and improved by replacement.

The health status of the stock is probably the most important single element to ensure the efficiency of the enterprise. All stock entering the Unit has to be free from all major diseases. Accordingly, all replacement stock for this pig farm is sourced from breeding units which are also free of these diseases. As a secondary method of disease prevention all the pigs are vaccinated with Mycoplasma as soon as they arrive and once again 3 weeks later.

The final part of maintaining health within the unit is to allow sufficient space on the unit such that pigs are moved in an "All in – All Out" basis as they progress from building to building. Each age group of pigs have a different level of immunity, and even in high health status herds it is important not to mix pigs of different age groups. Equally important is the necessity to clean out pens or rooms after each batch moves on to the next section of the unit. This avoids the build up of bacteria and viruses which challenge the incoming pigs and which may affect their growth efficiency. The E.I.A. states that within this unit special emphasis has been laid on providing a system that ensures adequate time for cleaning, disinfection and resting between successive batches of pigs.

On site there are farrowing rooms. These rooms are where the sows or in pig gilts are placed prior to farrowing and for up to 28 days after farrowing. The older farrowing rooms have perforated ceilings which allows air to circulate.

Oil heats water which runs through a loop system and heats pads which are placed on the slats. A small amount of shredded paper is used as bedding. The newer farrowing rooms are constructed of plastic slats and insulated cladded walls and ceiling.

After farrowing the weaned piglets are moved to the 1st stage room while the sows are returned to the dry sow house. The piglets are kept in this stage for a few weeks. The older units have heaters placed under the windows to provide heat.
The pigs are then moved to the 2nd stage and spend 4 weeks in here. The heat in these units is self generated by the pigs themselves. The pigs are maintained over slats. Every Friday these animals are taken to the factory.
The sows that are returned to the dry sow house and are in due course subject to artificial insemination and the breeding cycle commences again.
The older rooms in the facility have fresh air provided through windows or through vents close to the ground .Mechanical extract ventilation is provided. However the older units are not as energy efficient as the newer units which have the insulated walls and ceilings. The construction of the newer facilities will reduce energy costs on site.
Once each batch of pigs leave each room the slatted units are power hosed and disinfected. Twice a year these units are whitewashed using a lime based solution.

Dead animals are placed in a sealed steel container located to the rear of pig rearing units. Such containers are stored on a concrete hard standing which was observed to be clean and well maintained. The container is then picked up with a loader and taken to the farm gate where it is tipped into the collection truck. The entry of vehicles into the farm yard is strictly controlled in order to maintain a high standard of animal health. The dead animals are removed by Duggan Skip Hire who are the licensed hauliers that transport the carcasses to Waterford Proteins for rendering.

Pigs which are being sent to the factory are loaded at the loading bay adjacent to the fattening house. Dispatches of pig manure will be from the extraction points at the perimeter of the structure and through the yard gate to the public road. Manure can be collected by farmers using their own sealed transporters or it is transported by a haulage contractors in large trucks.

Veterinary waste is to be stored in one location until collected by an authorised waste disposal agent. The company Healthcare Initial Ltd is contracted by the applicant and a copy of the contract is submitted with the E.I.S.

The feed used on site is prepared by Devenish Nutrition Ltd who ensure that the pig feed meets industry requirements.

The following are the primary emissions generated as a result of on-site activity:

1. Air

Emissions to atmosphere from this plant include warm air from the heat system for piglets, the on-site odours generated and the off site odours generated by landspreading.

The odour generated from landspreading of slurry is the single biggest source of complaint from the general public. However this office has been in receipt of no odour complaints from this facility to date. It should be borne in mind that the facility is located in a predominantly agricultural setting with low residential housing density. The submission has failed to identify any details on the measures that will be employed to reduce odour emissions especially significant pulse release of odours that are associated with pigs and pig manure.

The BATNEEC note for pig production sector specified that pig units should be sited a distance of preferably 400m from the nearest neighbouring dwelling.
The prevailing winds on site are from the southwest. Mr. Ryan's nearest neighbours (Gallahue's) are to the northwest of the site and are approximately within 150m from the site curtilage . Mr. Ryan's own home is south of the site. His parental home is north of the site and both dwellings are within 100m of the site curtilage.

2. Surface Water

Surface water is generated from roofs of the pig rearing units and the surrounding yardways . The applicant has not supplied details of the drainage system for the roof/surface water other than to state that it is drained to a field and then an unnamed stream.
Surface water run-off should in theory be uncontaminated and therefore should have minimal impact on surface water quality off site. The application states that the storm water collection surfaces and facilities are to be maintained in a clean and fully functional condition.
The River Aherlow is the final destination of the surface water which drains from Mr. Ryan's farm to an unnamed stream and then feeds into the river. According to the EPA's available Biotic Index of River Water Quality the River Aherlow is determined to be Q4 which indicates a reduced community diversity and a water quality which is described as fair.

Currently there is no manhole/monitoring point on site at the discharge point from the site so that this emission can be sampled and monitored and this is an issue which needs to be addressed in any proposed determination.

3. Wash water

Wash water will be generated on site by means of the soiled water from the yards and the wash water from the disinfection of the units. This water is to be treated in the same manner as manure and diverted to the storage tanks. The capacity of the storage tanks take into consideration the volume of waste water generated.

4. Manure

Manure is generated as part of the pig rearing activity.

Applicant states that approximately 7950m³ of manure is generated per annum. The manure generated on site is estimated to contain 6.8 tonnes of P and 34.8 tonnes of N. Currently the applicant has storage capacity for about 40 weeks production of manure and this is well in excess of the 6 month storage capacity required. This capacity will be significantly increased when the new developments in accordance with planning application are completed. During the course of our site visit it was observed that manure storage is well below current capacity because of the local demand for manure as an agricultural fertiliser by neighbouring farmers. In practice this results in moderately low levels of manure being stored on site at any given time.

The E.P.A., B.A.T. document specifies that pig manure may be used as a fertiliser for the activities described above but only in accordance with S.I. 378 of 2006 European Communities (Good Agricultural Practice for protection of Waters) Regulations. In this regard the applicant is required to prepare a detailed Nutrient Management plan providing details in relation to the lands on which the manure shall be recovered, records of all manure movements off site, transportation, nutrient requirements of the land and the crop grown thereon. Mr. Ryan has submitted a template for a pig manure register which documents all consignments/dispatches to receiving landowners. Following discussions with Mr. Ryan it was confirmed that there is currently no record being kept of manure disposal. It is also a requirement that manure will not be supplied to customer farmers between 15th October and 31st January in any year except with the consent of the Planning Authority or E.P.A. From an enforcement and control viewpoint it is difficult to establish how such a condition can be supervised/controlled other than by self regulation by participating farmers.

5. Noise

The site is located in a rural environment where housing density is low and where agricultural (farming) is the predominant activity. B.A.T. specifies the standard noise emission limit values of 55 (daytime) and 45 (night time) dB(A) at any noise sensitive location.
Noise limits may be raised outside of the normal day to day levels during the construction phase. There is no submission relating to the existing background noise levels. The most likely increase in noise levels is during feeding and collection of animals for the factory.
As part of his planning application the applicant is proposing to plant shrubs and trees in a low embankment on the perimeter of the site to blend the site into the landscape. This will obviously positively impact as a noise attenuation measure.

The noise sensitive dwellings which we have identified are the applicants own dwelling and his parental home both of which are within 100m of the site curtilage. Mr. Ryan's nearest neighbours are the Gallahue's who are to the northwest of the site and are approximately within 150m from the site curtilage. The BATNEEC note for pig production sector specified that pig units should be sited a distance of preferably 400m from the nearest neighbouring dwelling.

This department has not received any complaints in relation to these noise sensitive areas to date. The applicant should be requested to identify and detail the location of residential dwelling houses and sensitive locations within proximity of the unit. I am satisfied from on-site inspection/observations that the activities carried out at this installation are not likely to result in significant noise emissions. Notwithstanding same, a system of compliance monitoring for noise emissions should be incorporated into any proposed licence determination.

6. Other Waste

The other sources of waste on site are as follows:

Fluorescent and other specialised light tubes are deemed as hazardous waste. Mr. Ryan has proposed that the tubes will be accumulated in a store and he has indicated that he will periodically bring the spent bulbs to a local civic bring centre. It is estimated that no more than 20 bulbs will be used annually. The applicant maintains a waste management register for fluorescent tubes on the site.

Waste paper from the site will be generated in the small on site office. It is recommended that this paper is recycled where possible.

Dead animal carcases, are another source of waste. Animal carcasses arise from mortalities associated with the rearing of pigs. The proposal submitted indicates that dead animals and dead tissue will be stored in a sealed waste proof container on site. In accordance with B.A.T. the applicant is to have the carcasses collected by Duggan Waste at 2 week intervals. The waste is then removed to an authorised rendering facility at Waterford Proteins.

Veterinary waste which would include used syringes, packaging form medicines and similar products are to be stored on site and then removed by an authorised waste collector every 6 months by Healthcare Initial Ltd who the applicant has contracted to provide the service.

Observations/Recommendations

From on-site observations, inspection and discussions with Licensee I am satisfied that the on-site facilities, operation and management conform to a high standard of practice. Notwithstanding same the facility does give rise to listed environmental emissions and has the potential to cause nuisance and give rise to complaint, particularly during that phase of the operation when manure is removed and recovered off site.

It is acknowledged that the licensing process comprehensively addresses in a holistic manner the prevention, control and monitoring of generated emissions through the Recommended Determination (R.D.). This office is concerned primarily with highlighting issues of public health/environmental health concern where it is of the opinion that the Licence application

does not adequately address such concerns. In this regard a number of issues are identified as being worthy of further clarification/information so that potential public/environmental health impacts are properly controlled/eliminated. These are set out hereunder.

- From a public health viewpoint the protection of groundwater sources is an important aspect of this proposal. The GSI has classified the aquifer for this site as being a locally important aquifer and is classified as being of Inchacoomb formation. While the Inchacoomb aquifer is predominant there is also some areas near and within the site which are of Assaroola formation. However both aquifers are of local importance. The E.I.S. claims that the presence of a 3m deep layer of boulder clay during previous excavations for the existing manure tanks verifies the existence of this layer.
  Limerick County Council's G.S.I system shows that the groundwater is identified as having a high to low vulnerability with extreme vulnerability being identified in close proximity to the site.

There are three source protection areas identified within the vicinity of the application. The source protection areas are as follows:

Cullane Group Water Supply – the distance from the proposed site to the outer protection zone of the source is approximately 1.7km. It is approximately 2.6km from the proposed site to the source of the supply.

Ballyduff Group Water Supply- the distance from the proposed site to the outer protection zone is approximately 1.6km and is approximately 2.75km to the source of the supply.

Anglesboro Public Water Supply – the distance from the proposed site to the bore hole of this supply is approximately 3.2km.

Ballylanders Public Water Supply- the distance from the site to the borehole of this supply is approximately 1.2km with approximately 210m from the site to the outer protection zone of the source.

- There is a requirement under B.A.T. for intensive agricultural sector to demonstrate recovery capacity for nutrients generated. A Nutrient Management Plan (NMP) is required based on European Communities (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006). In this instance the applicant has not identified any land holdings which he is supplying. The NMP should provide maps of all intended spreadlands and soil sample results of such intended spreadlands.
- Where his type of operation (landspreading) gives rise to a risk to these identified groundwater sources a precautionary principle should be adopted. The location of private wells not identified within the spreadlands is a cause of concern and should be addressed in a revised E.I.S.
- Regard should be had in the submission of any NMP, for the fact that a significant area of land in the immediate and general environs of the existing pig rearing facility

is of such poor quality as to be deemed unsuitable for waste disposal purposes by virtue of high water table and poor percolation/drainage qualities.

- Regard should also be had for the fact that the general locality is serviced by two public water supplies namely Ballylanders and Anglesboro. There are two Group Water Schemes in close proximity to the pig rearing facility namely Ballyduff and Cullane. The spreading of manure on such land where the source maybe located must be strictly supervised in order to protect the sources from contamination. The appropriate buffer zones for each source must be implemented and strictly observed.

- The applicants farm overlies a locally important aquifer. The EPA/GSI Groundwater Response Matrix suggests that landspreading is acceptable over locally important aquifers where there is a minimum consistent thickness of 1m of soil/subsoil.The applicant should be asked to verify the depth of subsoil. It is recommended that the applicant conduct a vulnerability assessement of all landspreading areas utilising the Geological Survey of Ireland Groundwater Protection Scheme Map to assess which areas of spreadland may be extreme, high, moderate or low vulnerability. In areas where there is extreme vulnerability or where there is rock outcropping these lands should be excluded from landspreading. There should also be verification of the subsoil thickness over all spreadlands.

- Where the spreadlands infringe on the zone of contribution of the aquifer they should be removed from the spreadland.

- The applicant shall be requested to have regard to the Teagasc Code of Practice for Spreading of Slurry.

- Regard should be given to the fact that agricultural run-off is known to be a potential source of oocysts which cause cryptosporidiosis. Conventional methods of water disinfection are incapable of killing the occysts. Cryptosporidiosis can give rise to serious illness especially in vulnerable groups of the community. The water sources identified above are groundwater sources which at best receive basic disinfection treatment. Cryptosporidium is known to be resistant to conventional treatment and accordingly caution has to be exercised.

- The E.I.S. submitted does not identify the stream to which the surface water drains to. There are no provisions for the monitoring or sampling of such surface water drainage at the point of discharge. Whilst there is an inspection chamber in the yard for the surface water run-off an inspection chamber should also be located closer to the point of discharge. No detail is provided in respect of ultimate disposal to a receiving watercourse for surface water generated on site. Under B.A.T. the identity and type of receiving water (river, ditch, estuary, stream, lake, etc) must be stated. A National Grid reference must be given for all discharge points.

- B.A.T. also requires weekly visual inspection of surface water monitoring points and B.O.D. C.O.D. monitoring. No monitoring data in respect of same is submitted by applicant.

- The existing site is serviced by two wells. One of the wells is located off site on the applicants own land. It is piped approximately one mile to a large holding tank in the farm yard. From here the water is used on the farmyard. The other well is a lined, covered well which is located on site and serves the applicants home, his parental home, the dairy operation and one section of his pig farm. The E.I.S. contains a certificate of analysis for the well which is on site. These results indicate the presence of 12 coliforms /100ml. Under the E.C. Drinking Water Regulations 2007 the acceptable level of coliforms is 0. It is recommended that whilst both wells should be tested it is of importance that the well which is serving the applicants home, and his parents home are tested for bacteriological and chemical criteria without delay. In the event of non compliance appropriate disinfection of the supply to ensure potability shall be sought.

- The applicant should be requested to identify the existence of any private wells in the vicinity of the farm.

- The location of the drainage system serving parental home should be confirmed in order to ensure that it is an adequate distance from the well onsite.

- Drinking water points which are available for employees either in the canteen or a drinking water points on the farm must be of a potable quality.

- The applicant should ensure that fuel storage areas are adequately bunded and that the bunded area is capable of 110% of the capacity of the largest tank within the bunded area.

- At the time of inspection a faint odour was detected at the site perimeter. There is no monitoring of odour emissions provided for in the E.I.S. The applicant shall have regard to an assessment model by Odournet UK in their report " Odour Impacts and Odour Emission Control Measure for Intensive Agriculture". A system of compliance monitoring for potential environmental emissions should be incorporated into any proposed licence determination. An onus should be placed on applicant to undertake periodic monitoring in regard to odour at site boundaries. No emissions, including odours from the activities carried out at the site, should result in impairment of, or an interference with, amenities or the environment beyond the installation boundary.

- It is recommended that the use of a low trajectory splashplate method is deployed in order to reduce odour during landspreading.

- There is no noise assessment details included in the E.I.S. and this is a serious omission.

- An adequate number of wash hand basins must be provided on site for the purposes of handwashing. The wash hand basin should have supply of cold and hot water, antibacterial handwash and a means of handrying.

- Mr.Ryan informed us that he is undertaking on site pest control activities on his own behalf. It is recommended that a map indicating the location of the bait points is available. The inspection and replenishing of bait should also be recorded. A material Safety Data Sheet for the bait used should also be kept on site.

- During the inspection of the facilities an in-house fly infestation was noted. Flies are a potential vector of infection and should be subject to appropriate control measures. Such measures have not been identified or addressed in the E.I.A. submitted

- Periodic groundwater quality monitoring of relevant parameters should also be incorporated into any proposed determination.

Yours faithfully,

Tina Graham,
Environmental Health Officer

Agreed,

James Cahill,
Senior Environmental Health Officer

Agreed,

Annette Fitzgerald
Principal Environmental Health Officer