



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Environmental Health Service,
Health Service Executive,
Mid-Western Area,
Health Centre,
P.O. Box 644,
Newcastle West,
Co. Limerick

Tel: 00353 (0) 69 62155/62545
Fax: 00353 (0) 69 62980
Web Site: www.mwhb.ie

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

22/1/10

Re: Application for Integrated Pollution Prevention and Control Licence.

Class and Nature of Activity: Class 6.1.0

The rearing of poultry in installations whether within the same complex or within 100 metres of the same complex, where the capacity exceeds 40,000 places.

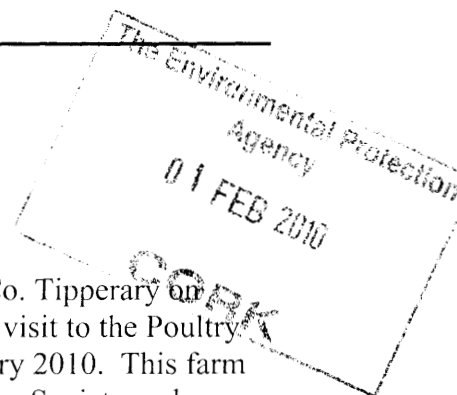
Applicant: Mr. Tom O'Sullivan, South Cappa, Foynes, Co Limerick
Ref. No: P0899-01

Dear Madam,

I refer to the above application prepared by NRGE, Mooresfort, Lattin, Co. Tipperary on behalf of applicant Mr Tom O'Sullivan. I would also refer to my on-site visit to the Poultry rearing operation and meeting thereon with Mr. O'Sullivan on 20th January 2010. This farm operates as a contract grower for Kantoher Poultry Producers Co-operative Society and produces 66,000 birds per breeding cycle. It exceeds the licensing threshold of 40,000 as set out under Annex 1 of the IPPC directive and the New First Schedule of the EPA Acts 1992 – 2007. The farm comprises three poultry houses of relatively modern design. Examination of Limerick County Council E-Planning system reveals that planning permission for the development was granted in 1991 and the units were constructed in the early 1992. The application as submitted incorrectly states the presence of four houses instead of three.

The farm is owned and operated by Mr. Tom O'Sullivan. He is also the responsible person on site and lives within the farm setting. The main activities at this facility occur during normal working hours between 8 am and 20.00 p.m. Stock inspection in line with normal farming practices are carried out everyday including weekends and holidays. Automatic systems such as feeding, water supply and in-house ventilation operate continuously on a 24 hour basis. There are inputs from the Co-operative staff in terms of feed and nutrition, veterinary control, animal welfare and health and safety. NRGE monitors environmental performance by way of internal audit. The poultry rearing operation is subject to licensing,

For inspection purposes only.
Consent of copyright owner required for any other use.



control and supervision by Veterinary Officers of the Department of Agriculture and Food. The farm produces stock under the An Bord Bia producer scheme called Poultry Products Quality Assurance Scheme. Such standard covers three broad areas

- Food Safety
- Animal Welfare
- Environmental protection.

On-site operations/process

The licensable activity involves the rearing of chicks from day old through the breeding cycle (35 – 42 days) to slaughter weight. The on-site activities can be summarised as follows.

- Bedding of houses with straw prior to placing of birds.
- Placing of day old chicks in broiler house.
- Feeding and rearing of birds for 35 – 42 days.
- Bulk delivery of feed to farm.
- Automatic feed and watering system.
- Daily flock management/husbandry.
- Removal of diseased/dead birds.
- Collection and removal of chickens for slaughter off site.
- Removal of manure from houses and transport off site for recovery/disposal.
- Washing and disinfection of broiler houses between batches.

On site facilities

The farm is located in a rural area within close proximity to the Shannon Estuary. There are also a number of residential properties East and West of the farmyard setting. Agriculture is the predominant industry in the locality. Facilities comprise of three purpose built chicken rearing houses, storage shed, a concrete yard, wash water storage tanks, ancillary structures, LPG tank X2 and equipment necessary for the management, husbandry and administration of the enterprise. The facility is served by water supply from a private well and not a Group Scheme as specified in the application. The structures and equipment on site were specifically designed and installed for the purpose of rearing poultry.

Ancillary structures onsite include a large agricultural storage shed which houses a mechanical conveyor belt, drum dryer, and combustion unit for the burning of wood shavings. An emissions flue pipe is connected to the burner unit. This Storage facility is used for deposition of wood shavings prior to burning, and chicken litter storage which is subject to a drying process as part of an experimental project aimed at producing heat energy from poultry litter.

The houses operate on a batch system. Following de-population of the previous batch the houses are cleaned of litter, washed and disinfected. The facility is then re-populated with day old chicks. These are fed and watered using an automatic system until they reach factory weight. The houses are then de-populated and the poultry transferred for slaughter. On average there are five-six batches per annum. While production on the site is continuous the on-site presence of the operator/farmer is normally for 2-4 hours between 8 am and 17.00 p.m. Usually, the houses are inspected twice daily, morning and evening. Currently the rearing units are occupied by 66,000 (approx) three week old birds.

EPA Guidance Note on Best Available Techniques for the Intensive Agriculture Section (July 2003).

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 existing broiler houses are constructed of concrete block and insulated timber material on a concrete base. They are windowless and have automatic lighting system. A computerised temperature control and ventilation system is in operation. Roof fans are used as part of a mechanical ventilation system and these are augmented with air vents along the eaves of the building.

The ventilation system automatically adjusts the fan speed and opening of the air inlets in response to in-house temperatures and humidity readings which are controlled by a temperature sensor linked to a computer. The process is continuous with the sensor informing the computer every 15 seconds as to the building temperature. Warm air is expelled through the apex of the roof by the extractor fan.

The heat sources within the house are a combination of energy sources generated from combustion of wood shavings, LPG and electricity.

The floors of the houses are constructed as a solid concrete slab and the birds are kept on litter comprised of straw which is spread over the entire house floor area. Wet litter is avoided for animal health reasons (infection control) and also to minimise ammonia emissions. The dry matter content of the litter is maximised by maintaining a well insulated building, strict temperature/humidity control and the use of a button nipple drinking system. The birds are fed cereal and soya protein feeds. The constituents of the animal feed are adjusted to suit the growth stages of the birds during the 35 - 42 days when they are on site. Gas is used to heat the poultry houses. In practice, heating is supplied for the first 2 – 3

weeks, after which the birds generate sufficient heat. From day 35 (approx) depending on weight, a percentage of the birds may be removed off site for transfer to a slaughtering facility. Electricity is used to operate the feed system, ventilation, lighting etc. Strict hygiene and bio-security measures are practiced to ensure the health status of the flock is maintained at a high level. Where bird mortality does occur the carcasses are removed and stored on site in a fully sealed PVC receptacle pending removal off site by a licensed haulier to an animal rendering plant.

When a batch of birds reach maturity and are removed off site for slaughter cleaning of the poultry houses is undertaken. This involves removal of the poultry litter by mechanical loader ("Bobcat"). The floors are then brushed down/cleaned and washed with water prior to disinfection. The houses are left to dry for approximately two weeks at which stage the bird rearing cycle re-commences.

Mr. O'Sullivan confirmed that he operates 5-6 breeding cycles per year.

Manure/Poultry Litter

Manure/poultry litter is generated as part of the poultry rearing activity. The applicant in written submission, states that poultry litter is currently transported to Ballyhooly County Cork for application to tillage lands. Applicant states that 330 tonnes (approx) per annum is generated. Poultry manure is a rich source of plant nutrients and is deemed to be a valuable fertiliser for farmland. The application of animal manure to farmland is regulated under S.I. 378 of 2006 (Good Agricultural Practice for Protection of Waters) Regulations. This entitles producers to supply chicken manure (litter) to farmers for landspreading subject to certain conditions such as an approved Nutrient Management Programme being in place and documented records of all consignments/dispatches to receiving landowners being maintained.

Experimental work is currently taking place on the farm with a view to pursuing the option of heat recovery from combustion of onsite generated poultry litter.

Aqueous discharges

Wash water from wash down of the houses is collected on site in two underground concrete storage tanks with a liquid effluent capacity of 31 m³. Roof and storm water discharge over ground to land and are uncontrolled in terms of collection and orderly disposal.

The application states that all wash water (soiled water) is recovered as a fertiliser in accordance with S.I. 378 of 2006.

Emissions

The main emissions from the poultry rearing activity are odour and dust emissions from the buildings ventilation system, poultry litter which is currently sent for tillage application and wash water which is stated in the submission is recovered by disposal as a fertiliser to land.

1. Air

Emissions to atmosphere from this plant include warm air from the extract ventilation system. The main contaminants present in ventilation emissions are odours, dust and ammonia. From past experience of complaint investigation arising from such facilities Poultry litter removal represents the most significant odour and dust emission potential. However, it should be noted that the removal of litter is restricted to a number of hours every 6 – 8 weeks in accordance with completion of batch rearing cycle. From discussions with site operator there are a number of control measures currently in place to minimise potential odour emissions. These include use of appropriate bedding material, appropriate stocking densities, quality of ventilation and house design along with minimisation of carcasses by maintaining flock health to a high standard. This office has been in receipt of no odour complaints from this facility. It should be borne in mind that the facility is located in a predominantly agricultural setting at a minimum distance of 300 metres from nearest dwelling occupancy. It is considered that good on-site housekeeping measures will minimise emissions.

2. Surface Water

Surface water is generated from roofs of the Poultry rearing units and concrete paved yardway surrounding the broiler houses. Poultry rearing activities are confined to within the three houses. The yard area exterior of the houses may be come contaminated with poultry litter during the course of litter removal, every 6 – 8 weeks. All surface water arising from roofs and yard is discharged to land. It was noted during the course of site inspection that no observation manhole for visual inspection is maintained. Surface water run-off should in theory be uncontaminated and therefore should have minimal impact on surface water quality off site.

The proposal submitted identifies that surface water is discharged to a land drain at Northern end of site. On-site inspection reveals that this is not the case and that generated surface water discharged over ground to land.

3. Wash water

Wash water arising from the wash down of the houses is collected in two underground storage tanks. The submission identifies in vague terms that such wash water is used as a fertiliser on agricultural lands. This is an important environmental issue and control

measures in accordance with B.A.T. have not been adequately addressed in the proposal as submitted. During the course of site visit Mr O Sullivan confirmed that the effluent storage tanks are emptied once every breeding cycle. He has 142 acres of available land for effluent disposal purposes but cited some reluctance in continued application of wastewater to lands on the grounds of animal disease prevention.

Currently, generated wash water from the concrete yard area at the Northern end of the site discharges to an interim effluent holding tank of limited capacity. The effluent is pumped from here to a concrete holding tank of 3100 gallons capacity, located on the North-Eastern end of the site. This tank is emptied at the end of each breeding cycle and discharged to a large slatted unit storage tank located underground at the Western end of the farmyard.

4. Poultry litter/manure

Manure/poultry litter is generated from the rearing activity at a rate of 330 tonnes per annum. The nutritional value of this averages 11 kg total Nitrogen and 6 kg total Phosphorous per tonne of manure as per the Nitrates Regulations (S.I. No. 378 of 2006).

All litter generated is collected and managed off site by Kantoher Co-operative Society. Traditionally the litter has been supplied under a Nutrient Management Programme to farmers for recovery to tillage lands as a fertiliser. The submission as presented identifies Richard Barry, Ballyhooly, Mallow, Co Cork as the off site recipient of poultry litter for tillage purposes where it is used as a fertiliser. I would point out that the E.P.A., B.A.T. document specifies that poultry litter may be used as a fertiliser for the activities described above but only in accordance with the European Communities (Good Agricultural Practice for protection of Waters) Regulations. In this regard the Licensee (litter producing facility) is required to prepare a detailed Nutrient Management plan providing details in relation to the lands on which the litter shall be recovered, records of all poultry litter movements off site, transportation, nutrient requirements of the land and the crop grown thereon.

5. Noise

The site is located in a rural environment at a minimum distance of 300 metres West of the nearest residential property and where agricultural (farming) is the predominant activity. The licensee resides on site. I am satisfied from on site inspection that the activities carried out at this installation are not likely to result in significant noise emissions. B.A.T. specifies the standard noise emission limit values of 55 (daytime) and 45 (night time) dB(A) at any noise sensitive location. The nearest residential properties are located 300m to the East in the form of caravan occupancy (at the rear of a newly constructed but unoccupied dwelling) and to the West where Boyce's garden visitor centre is located approximately 500m from the farm yard boundary.

6. Other Waste

Other wastes generated on site include animal carcasses, packaging and fluorescent tubes. Animal carcasses arise from mortalities associated with the rearing of poultry. Carcasses are stored on site in a covered wheelie bin (P.V.C.) and disposed of on a weekly basis by licensed haulier to an approved rendering facility. B.A.T. requires carcasses to be removed at least fortnightly for disposal. Written submission states that dead bird carcasses account for 3.5 tonnes (approx) of generated annual waste. Hazardous waste is limited to fluorescent light bulbs which are used for lighting and heating. Between 5 – 10 are used annually and the recovered tubes are removed by Electrical Contractor or taken to the local civic amenity centre in Newcastle West for recovery.

Non hazardous wastes generated on site would constitute general refuse, veterinary containers, packaging, disposable clothing and footwear. This material is stored on site pending weekly collection by private refuse collection 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 litter 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.

- The proposal as submitted in respect of wash water disposal is inadequate and does not address comprehensively environmental and public health concerns associated with such practice. 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 available lands for disposal of such effluent but has expressed concerns from an animal disease control perspective in regard to land application of wastewater.
- Regard should also be had for the fact that much of Mr O'Sullivan's land holding is elevated and drains in a Northerly Direction towards the Shannon Estuary. Further,

the soil type within the land holding is predominantly free draining consisting for the most part of shale and pencil gravel. BAT on landspreading of poultry washwater specifically states that waste should not be applied to steeply sloping fields and should take into account factors such as proximity to water courses, soil conditions, ground cover, and rainfall. Taking such factors into consideration would eliminate significant land availability for onsite disposal of poultry washwater within Mr O'Sullivan's farm.

- I am not satisfied that the issue of surface water disposal has been adequately or comprehensively addressed in the submission. 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. It should also be noted that no on-site inspection chamber/manhole is provided for monitoring/sampling of surface water.
- A system of compliance monitoring for potential environmental emissions should be incorporated into any proposed licence determination. An onus should be placed on the applicant to undertake periodic monitoring with regard to odour at the boundary of the site. No emissions, including odours from the activities carried on at the site should result in impairment of, or an interference with amenities or the environment beyond the installation boundary. Periodic groundwater quality monitoring of relevant parameters should also be incorporated into any proposed determination.

Veterinary Science Division (VSD) of Dept. of Agriculture, Northern Ireland have provided "strong circumstantial evidence" that broiler litter is a significant risk factor for the spread of Clostridium Botulinum bacteria causing Botulism in livestock as a result of the toxin being spread by wildlife or wind blown. The toxin is produced in decaying carcasses and vegetable matter. The presence of the carcasses of birds that have died during production is regarded as the likely source of the toxin. Source: "Control of Botulism in Cattle", Dr. Seamus Kennedy, Agri-Food and Biosciences Institute, Veterinary Science Division (December 2006).

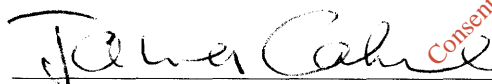
It is recommended from a public health viewpoint that such matter is investigated/examined having regard to the fact that there currently are eight applications pertaining to IPPC licence applications for Intensive Poultry rearing units in the Newcastle West area and each submission makes reference to disposal of chicken litter in accordance with Kantoher Co-operative Society Nutrient Management Plan. Potentially, this has significant implications given the high density of such units within a confined geographical area. Farmers in the West Limerick area have recently reported of significant livestock losses in 20 – 30 farms in the locality and a possible link with landspreading of Poultry waste is being alleged. While this has not been substantiated the claims are on public record. In the circumstances further

research/study/investigations may be warranted by the EPA to comprehensively address this issue.

- Significant activities which should form part of this IPPC licence application are taking place onsite but have not been referred to in this proposal. Specifically I refer to the production of heat energy (for heating of poultry houses) arising from combustion of wood shaving's. Gaseous emissions are been generated and emitted to the local atmosphere from such process. The operation/process is directly linked to onsite poultry rearing activities and should form part of the IPPC license application.
- Likewise, experimental work is currently taking place onsite with a view to creating heat energy from poultry litter and reducing onsite dependency on LPG. Mr O'Sullivan is currently engaged in a process of drying onsite generated poultry litter with a view to combustion of same in the onsite boiler. While such process will in theory eliminate the need for land-spreading of litter the combustion process will also generate atmospheric emissions and by-products (ash) which need to be controlled, disposed and monitored. Such activity should for part of the IPPC application as submitted.

Yours faithfully,

Agreed,


James Cahill,
Senior Environmental Health Officer


Annette Fitzgerald,
Principal Environmental Health Officer