

INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER: 123-1

Applicant: Custom Compost Limited

Facility: Custom Compost Limited, Ballyminaun Hill, Gorey, County Wexford.

Recommendation: The Recommended Decision as submitted to the Board is approved.

(1) Introduction:

Custom Compost Ltd. produces compost for the mushroom industry at a facility about 3.5 kilometres from the town of Gorey, Co. Wexford. The original application received in October 1999 related to two facilities at Creagh, Gorey and Ballyminaun Hill, Gorey respectively. However, during the course of the application process and due to changes in the activities being carried on at the Creagh site, it was decided that the application no longer related to the Creagh site as activities licensable under the Fourth Schedule of the Waste Management Act 1996 were no longer being carried on at that facility. The applicant states that there are approximately 40 houses within one mile of the facility. A facility location map, site layout map and a map indicating the location of the nearest residential dwellings to the facility are provided in **Appendix 1**.

The facility has been operating since the early 80's and it supplies compost to a large number of mushroom producers around the country. The waste materials being accepted at the facility include horse manure (up to 17,150 tonnes per annum (tpa)), poultry litter (c.27,850 tpa). Approximately 3,000 tpa of gypsum is used in the process as a conditioning agent. Approximately 30,000 tonnes of straw is also used in the process. As with all of the mushroom compost production facilities the production of the compost has been a "low-tech" process in the past and the operation has given rise to a number of complaints and submissions primarily in relation to odours and noise. However, it should be noted that the Custom Compost site has introduced technology to some of the operations at its site including the aeration of process water and the introduction of aerated pads, aerated bunkers and buildings to Phase I of the process.

The production process for mushroom growing substrate is divided into three phases:

Phase 1 – Composting of the raw mix of bulk materials (horse manure, poultry manure, gypsum, straw, water)

Phase II – Pasteurisation and conditioning of the compost

Phase III – Spawning, running of spawn and bagging prior to dispatch for the growing of the *Agaricus bisporus* mycelium (button mushroom).

The facility currently produces approximately 25,000 tonnes of Phase I compost and 12,000 tonnes Phase II compost per annum that goes directly to the market. Approximately 42,000 tonnes of Phase III compost per annum is produced at the facility.

Odour emissions are the principal issue with this operation and the RD includes requirements for operational and infrastructural improvements at the facility to address odour emissions. This issue is discussed further in Sections 2, 3 and 10 of this report. It is my opinion that the implementation of the requirements set out in the

RD including the Noble Measures and if required the subsequent enclosure of the process and treatment of the odorous emissions as provided for in the RD will give rise to a very significant reduction in the odour emissions from this facility and to a sizeable reduction in the zone of odour nuisance impact on the wider community. However, due to the scale of the operation, the proximity of the nearest dwellings and the outcome from the modelling of Scenarios 1 and 2 (enclosure and treatment of odours) in the Odournet report, I have concern that there might be difficulties with regard to odour in respect of the nearest 4 or 5 residences and particularly the Byrne residence. This residence is immediately adjacent to the entrance to the facility. Mr. and Mrs. Byrne have made 24 written submissions to the Agency as well as having numerous telephone conversations in relation to the application outlining in detail how their quality of life has been adversely affected/destroyed principally by odorous emissions from the facility.

There are a number of other environmental issues pertaining to the operation of the facility including noise emissions, discharges to surface water, groundwater protection, the potential for the spread of disease and dust emissions from the facility. Each of these issues is addressed in the relevant sections below.

The facility is required to hold a waste licence as >1000m³ of waste and composted material is being composted and stored at the facility at any one time. The facility will be licensed under Class 2 of the Fourth Schedule of the Waste Management Acts, 1996-2003:

“Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)”.

EIS Required	No
Number of valid submissions received	Eighty

FACILITY VISITS:

DATE	PURPOSE	PERSONNEL
27/10/99	Site Notice check	Brendan Wall
09/02/01	Site Inspection	Damien Masterson, Brendan Wall
13/12/01	Site Visit with Odournet	Caoimhin Nolan - EPA, Toon Van Elst – Senior Consultant, Odournet UK, Jennie Preen – Junior Consultant, Odournet UK
17/11/03	To view operations on site	Dr Tom McLoughlin

(2) Facility Development

Infrastructure

The Recommended Decision (RD) requires that a significant level of infrastructure be provided at the facility. The required infrastructure is primarily for the control of emissions to the atmosphere, to groundwater and to surface water. The applicant will be required to expand their existing telemetry system at the facility to provide for the process and water storage monitoring requirements as per Condition 3.16 of the RD.

i) Control of Emissions to Air:

Condition 3.11 of the RD outlines the infrastructure required for the control of odours from the facility. In the case where the specified measures are not successful in sufficiently reducing the odours, the licensee will be required to enclose the composting process and to install odour control technologies at the facility over a specified timeframe as specified in the RD.

There are also a number of additional infrastructural requirements included in the Recommended Decision that pertain to odour control. Condition 3.13.2 requires that all process/goodie water storage tanks be enclosed within twelve months of the date of grant of the licence and Condition 3.11.1 requires that an odour filtration system be installed at all of the outlet vents on the process water storage tanks. Condition 4 of the RD sets out conditions to control the operation of the facility in such a manner that odour emissions shall be minimised.

ii) Control of Emissions to Surface Water:

Emissions from the facility are from contaminated run-off and clean roof-water. The licensee is required to provide for effective segregation of clean roof-water and contaminated surface water from the yards and to collect and store the contaminated surface water (Condition 3.12). This condition also provides for the design of the clean surface water drainage such that where possible rainwater may be diverted to on-site water storage tanks (other than the goodie water tanks) for use in the process.

Condition 3.5.4 of the RD requires the applicant to provide a 150mm high bund wall (of suitable construction) around the dirty yard area (yard used for the production of compost). This is required to prevent run-off of contaminated surface water into the drainage ditches along the southern and eastern boundaries of the site. These ditches join at the South Eastern corner of the site and ultimately drain to the Owenavorrhagh River. The RD also requires the applicant to assess the integrity of all tanks and pipelines at the facility to ensure that there are no fugitive emissions to surface/ground water from the process. Condition 3.12 provides for a system for the management of surface water at the facility and Condition 5.5 requires that all emissions to surface water from the facility flow through the surface water management system.

iii) Control of Emissions to Groundwater:

The composting process takes place on concrete yards and on specially aerated pads and in bunkers. The concrete yards can be liable to cracking and therefore could give rise to uncontrolled discharges of contaminated surface water to ground. Condition 3.5 of the RD requires an assessment of the integrity of all hardstanding areas within three months of the date of the grant of the licence and that the licensee ensure that all

surfaced areas where contaminated surface water or process water arise are impermeable within twelve months.

The RD also requires the bunding of all tank and drum storage areas (e.g. for the storage of fuel) and that the integrity and water tightness of these storage areas is confirmed by the licensee (Condition 3.10).

(3) Odour Control

The primary source of odours in this process arises from the Phase I activities. There are minimal odour emissions from the Phase II and Phase III processes.

Odour Assessment Supplied by Applicant

The applicant submitted the results of two sets of air quality dispersion modelling carried out by Bord na Mona Environmental Ltd, which was based on a number of on-site specific odour sources. One report is dated November 1999 and the second dated November 2001. The 2001 report was requested by the Agency as a number of operational and infrastructural changes had taken place at the facility in the intervening period as well as a significant increase in the quantity of material being handled at the site. It states that *“the introduction of the aeration pads is a distinctly positive measure but any mitigating effects it has on the total odour impact at the boundary is offset against the increase in tonnage.”* Both reports conclude that odour concentrations of a magnitude that may give rise to complaints are predicted to occur within the locality of the facility. The latter report predicts based on the 98%ile criterion that maximum ground level concentrations should not exceed 100ou/m³ above baseline at or beyond the site boundary. The results of the modelling assessment demonstrate that the 98%ile odour concentrations resulting from the Custom Compost operation are in excess of 10ou/m³ and therefore may give rise to complaints.

Odour Assessment carried out on behalf of Agency

OdourNet UK Ltd. (Leading International Odour Experts) completed an assessment of the odour emissions from this facility (and a number of other facilities) on behalf of the Agency and a copy of this report is included in **Appendix 2**.

The study modelled the estimated odour emissions from the facility in its current state of operation and also modelled the odour emissions in the case where the process had been enclosed and abatement technologies had been installed and commissioned. The report estimates that 81% and 13% of total odour emissions from the facility are from the Phase I composting process (Phase 1 aerated pads – 24%, Phase 1 Bunkers – 38% and Phase 1 Tunnels – 19%) and the raw materials storage, respectively. The odour modelling completed by OdourNet UK Ltd. provided isopleth figures modelled on the basis of 98 percentile for a 1-hour average limit concentration of 6ou/m³. The contours therefore represent the area where the maximum hourly average ground level concentration will be greater than 6 ou/m³ for more than 2% of the hours in the year. The report concludes that the current area of impact, where annoyance is likely to occur at a probability that is considered excessive, includes a large number of residential dwellings and extends to distances between approx. 1,600m and 3,000m from the centre of the production site (Scenario 0 of the OdourNET report). The contours show that the enclosure and application of odour abatement to the air

emissions from the composting process will ensure that odour emissions from the facility will be significantly reduced but would still leave 4-5 residences in a zone that would be affected by unsatisfactory levels of odour nuisance.

Professor Ralph Noble Recommendations:

Prof. Ralph Noble, Horticulture Research International, Wellesbourne, Warwick, UK, a leading technical expert in mushroom composting pertaining to odour control compiled an “*Index of Measures for the Reduction of Odours from Mushroom Composting Sites in Ireland*” at the request of the mushroom compost production sector as an alternative to the enclosure and abatement measures recommended by the Odournet Report and also prepared a review of the Odournet Report. The “*Index of Measures for the Reduction of odours from mushroom composting sites in Ireland*” was submitted to the Agency by the applicant to be considered in the course of the Waste Licensing process. The applicant stated for the record in a letter of 16/06/04, received 18/06/04 that the company had already implemented most of the “*Index of Measures*”. However, it also stated that due to potential serious commercial implications, the full implementation of certain measures, in particular those relating to substitution of some of poultry litter used with urea and split application of the poultry litter would have to be gradual and monitored very carefully. A copy of Noble’s “*Index of Measures for the Reduction of Odours from Mushroom Composting Sites in Ireland*” included as **Appendix 3** to this report.

Boiler Emissions to Air

There are two gas oil fired boilers (rated @ approx. 0.3 and 0.7 MW). These boilers are required to be tested for NOx, SOx and CO on an annual basis.

(4) Nuisance and Noise Control

- i) *Dust:* The enclosure of the bale breaking and blending line is required as per Condition 3.11 of the Recommended Decision. The enclosure of this part of the process should mitigate against any significant dust emissions from the facility. Condition 7.1 and Schedule E of the Recommended Decision provides for dust deposition monitoring at and around the facility.
- ii) *Vermin & Pests:* Condition 6.3 of the Recommended Decision requires the applicant to implement a vermin control programme at the facility.
- iii) *Noise:* The fixed noise sources on-site are the aeration fans (continuous and intermittent), the bagging plant and the spawn filling area. Truck movements and movement of mobile plant (loaders etc) around the site and the loading and weighing of lorries also present a significant source of noise. The Byrnes state in a number of their submissions that noise emissions from the facility also have a significant impact on them. Information on noise submitted by the applicant indicate that noise levels at the nearest noise sensitive location exceed existing limits set out in planning consent conditions (i.e. 55 dB(A) daytime and 35 dB(A) night-time). Monitoring of night-time noise levels at the nearest noise sensitive location over a 1¼ period between 04:00 and 05:45 saw the $L_{Aeq\ 15\ min}$ vary between 49 and 67 dB(A). It should be noted that the highest levels appeared to be short term and mainly associated with truck movements on the site with the $L_{A90\ 15\ min}$ varying between 46 and 54 dB(A) over the same period. The applicant indicates that with some of the operations on the site being continuous 24 hours a day, the night-time limit of 35dB(A) is

excessively strict and unachievable. The RD sets out noise limits of 55 dB(A) daytime and 45 dB(A) night-time at noise sensitive locations. In order to ensure that noise levels from the facility are minimised Condition 3.15.1 requires that all air ventilation systems and outdoor motors are enclosed where possible. Condition 3.15.2 requires a noise survey of all noise sources on-site and at boundary and noise sensitive locations within three months of the date of grant of this licence. The report on this survey shall be submitted to the Agency and shall assess the source of any exceedances (if any) of the daytime and night-time noise limits at Noise Sensitive Locations as set out in the Recommended Decision and shall include recommendations for attenuation and mitigation measures required. These recommended measures shall be completed within nine months from the date of the licence.

(5) Waste Types and Facility Operation

Waste Types: The applicant will be restricted to the acceptance of 17,150 tonnes of horse manure and bedding, 27,850 tonnes of poultry manure. These are the upper-limits indicated in the application form. The RD (Condition 4.8) requires the substitution of at least 15% of the poultry litter used at the facility with urea within six months from the date of grant of this licence as part of the implementation of the Noble measures at the facility. This is also incorporated in Schedule A of the RD.

Facility Operation: Condition 4 of the RD provides for the day to day operation of the facility. Condition 4.1 requires the development of waste acceptance procedures at the facility and these will ensure that all wastes arriving at the facility are inspected prior to use and handled in an acceptable manner.

Condition 1.4 specifies that on-site and off-site deliveries of wastes, raw materials or product shall be confined to the hours of 08.00 and 20:00 hours Monday to Friday, and between 08.00 and 13.00 hours on Saturday. There shall be no on-site or off-site deliveries of wastes, raw materials or product on Sundays or Bank Holidays. Unless otherwise agreed by the Agency the use of noise generating mobile plant and equipment shall be restricted to the hours referred to in this Condition.

(6) Emissions to Groundwater

The applicant described the site as being underlain by the Campile Formation which forms the top of the Lower Paleozoic Duncannon Group and the underlying subsoils to consist of a minimum 2 metre layer of "heavy clay". The applicant states that using the GSI Aquifer Classification Scheme, the Campile Formation is considered to be a Regionally Important aquifer with recorded yields of 400-2,000 m³/day. There is one old well on site adjacent to the sump pit with an estimated yield of 10 m³/day. The applicant also states that the company drilled a water supply well about 400m southwest of the site and that the safe yield of this well is estimated at some 200 m³/day. Condition 3.17.1 requires an assessment to be carried out of the suitability of the on-site groundwater well with respect to protection of the groundwater source and its use including its use as a representative monitoring location. This assessment will be carried out by a suitably qualified and experienced hydrogeologist.

Condition 7.1 of the RD requires the applicant to carry out monitoring of the groundwater as set out in Schedule E.

(7) Emissions to Surface Water

7.1 Surface Water Run-Off

Where possible all rainwater falling on the facility (except roof-water) and washdown water is stored in an on-site retention tank and reused in the process. The applicant states that there is now no risk of overflow of this tank as the water requirements for the increased tonnages being processed at the site have had to be supplemented by the sourcing of a new off-site groundwater well about 400 meters from the facility. Requirements for SW infrastructure required as outlined in Section 2 of this report should ensure that the risk of contaminate run-off to surface water is minimised.

(8) Air, Water and Waste Management Plans

There is no Air Quality Management Plan in place for the area in question.

There isn't a published Water Quality Management Plan for the Owenavorrhagh River. Emissions from the facility in accordance with the conditions of a waste licence should not impact on the water quality in the River.

The Waste Management Plan for the South East Waste Management Region as adopted makes reference to a number of permitable/licensable facilities which includes this facility.

(9) Recommendation

The Recommended Decision contains a number of conditions, which will significantly improve the environmental performance of this facility. In reaching a decision on the waste licence application for this facility, I have had regard to the following:

- The current state of the mushroom compost production process in operation at this facility.
- The current operation has given rise to a number of odour complaints at and in the vicinity of the facility and will continue to do so in its present state as is evident by the number of submissions received from local residents and as noted by Agency Inspectors on a number of occasions.
- The proximity of the nearest sensitive receptors with respect to odour and noise.
- The two Bord na Mona odour assessment reports submitted by the applicant noted that odours from the facility were likely to result in a nuisance to the community within the locality of the facility.
- The OdourNet UK report that was produced on behalf of the Agency to assess the most significant issue with the mushroom compost production sector i.e. odour. The findings of this report are incorporated into the Recommended Decision.
- The requirement that Best Available Technology be employed at the facility
- The technologies currently being used in other EU member states.
- The alternative proposals for odour reduction by Professor Ralph Noble submitted by the applicant.

(10) Submissions/Complaints

There were eighty (one relating only to the Creagh site that is no longer subject to the application) valid submissions received in relation to this waste licence application. One of these submissions was further comment from the applicant in relation to the Waste Licence application. A summary of the issues raised in the submissions received is provided below. Submissions were received from three statutory consultees: Wexford Co. Council; the South Eastern Health Board and the Eastern Regional Fisheries Board. The contents of the submissions have been taken into account in drafting the Recommended Decision.

1. Odour (74)

The majority of the submissions received refer to the obnoxious odours that emanate from the Custom Composting facility and the adverse affect they are having health and quality of life of people in the area. Local residents consider that odours generated at the facility have had a detrimental impact on their day to day lives in the vicinity of the facility. Families cannot enjoy life as they often have to keep windows closed in their houses due to odour emissions from the facility. They state that they cannot enjoy their gardens during good weather as the fresh air that would be expected is replaced by a stink. Local residents complain that they often have to wash and re-wash clothes as they become impregnated with the foul smell while on the clothesline. Some submitters also state that they are too embarrassed to have visitors to their homes due to the comments that are passed when the odour is detectable.

One submission states that in addressing the odour issue, the Agency should consider the situation at each site on a case but case basis as the practices that resolve the problem at one site may not work on another.

A number of submissions refer to various assurances given by the company over the years that further developments at the site would reduce the problem but state that these assurances don't appear to have been followed through and the people feel let down as a result. They state that despite further aeration of processes and enclosure of some operations at the facility, there has been no improvement in the odour situation from their point of view.

The Byrne's in one submission have also expressed their concern that the Agency may not consider their situation with regard to odour nuisance seriously.

Inspector's Response:

The facility is currently giving rise to significant odours in its vicinity and the Recommended Decision provides for the control of emissions from the facility over a phased time period. The RD provides for a number of waste handling and storage improvements and operational and process control changes in the short-term (i.e. Noble Index of Measures) to reduce the emissions of odours from the facility. If these measures do not achieve an adequate reduction in odours, the RD also provides for the enclosure of the composting process at the facility and the subsequent collection and treatment of air emissions from the facility (Condition 3.11).

2. Health and Disease Control (23)

Local residents have expressed concerns over the possible direct and indirect health effects that the emissions from the facility may be having on them, ranging from the psychological effect of the stress of continually having to contend with the odours and noise from the facility to the fear that the odour causing compounds, spores and airborne micro-organisms may be causing or aggravating conditions such as asthma (particular concern regarding childhood asthma), farmer's lung and other respiratory illnesses. One local resident also raises concern regarding the risk of botulism being caused in farm animals near the facility due to the large quantities of poultry litter being stored and used in the process.

The Environmental Health Department of the South Eastern Health Board reviewed documentation relating to the Waste Licence application as well as planning and other information related to the site held by Wexford Co. Council and made the following comments in a submission on the application (13/12/04):

- i.) There is an extremely high number of complaints of nuisance and ill health effects from local residents in regard to this establishment;*
- ii.) Exposure to excessive odour nuisance can be associated with complaints of headaches, nausea, sleep interference and irritability. Comprehensive monitoring of the emissions from the Custom Compost premises would be required to determine if there is a link between such emissions and reported ill-health in the locality;*
- iii.) In reference to two of the expert reports prepared for the site, the Custom Compost Ltd commissioned Bord na Mona Environmental Consultancy Services report and the EPA commissioned OdourNet UK Ltd report the SEHB notes conflict in regard to the best method for odour control. OdourNet UK Ltd conclude that "The most significant improvement to the management of site odour emissions can be achieved by enclosing the Phase1 composting process, including the storage of horse and chicken manure". The Bord na Mona report states that " Operation of the aeration pads to present specifications should ensure that there is no increase in odour at the Custom Compost Plant Boundaries";*
- iv.) When applying the precautionary principle and determining what constitutes "BATNEEC" in relation to this application, the potential health risks must rank as a significant factor. The cost factor in determining the best available technology for control of environmental pollution must have reduced impact where risks to health are evident.*
- v.) Mr. John Redmond, Senior EHO notes a comment from the applicant in correspondence dated 20/11/01 questioning the veracity of complaints in light of the Bord na Mona report and states that based on the evidence of the level of complaint, appeals of planning and his own personal experience travelling the road between Ballycanew and Gorey, he is satisfied that there continues to be a serious odour nuisance problem at this location and notes that while travelling this road himself on Saturday 4th December 2004 there was a clearly detectable foul odour in the vicinity of the plant.*
- vi.) In conclusion, Mr. Redmond states that it appears that Custom Compost Ltd are reluctant to provide the enclosure recommended by OdourNet UK Ltd and they argue that satisfactory results can be achieved without this. He notes that the Bord na Mona report states that "Operation of the aeration pads to present specifications should ensure that there is no*

increase in odour...”. He also notes that it does not claim that the current unsatisfactory position will be rectified and surmises that perhaps the position adopted by the applicant is based on grounds of cost. He also states his opinion, that the level of environmental nuisance endured by the local residents should outweigh any argument based on abatement costs.

Inspector’s Response

No verifiable evidence has been submitted to the Agency regarding the negative impact of the activities at the facility on human or animal health. The Recommended Decision contains a number of conditions that should minimise the impact that the facility will have on human and animal health over time. The enclosure of the manure storage and bale breaking and blending lines should have a significant effect in minimising the potential for off-site movement of airborne microbes. Also, Condition 7 and Schedule E of the Recommended Decision provides for the monitoring of airborne microbes at the facility.

See also response in Issue 1 above regarding odours.

3. Noise (23)

A number of the submissions refer to excessive noise levels from the facility from sources such as compressors, the aeration/ventilation systems, bagging machines, mobile plant, lorries revving excessively and empty lorries on rural roads in the early hours of the morning. The nearest residents make reference to Planning Enforcement Actions instigated by the Local Authority in relation to exceedance’s of the noise limits specified in Planning Permissions for the facility of 55dB(A) daytime and 35dB(A) night-time. The Byrne’s who dwell in the house directly adjacent to the entrance to the facility state that the development of the new Phase 1 buildings brought the same noise sources closer to their residence.

Response:

The Recommended Decision sets out noise limits at noise sensitive locations. In order to ensure that noise levels from the facility are minimised Condition 3.15.1 requires that all air ventilation systems and outdoor motors are enclosed where possible. Condition 3.15.2 requires a noise survey of all noise sources on-site and also requires mitigation measures where noise sources are shown to be contributing to exceedances (if any) of the noise limits. Compliance with these conditions should ensure that noise does not give rise to nuisance at noise sensitive locations.

4. Quality of Life (15)

Many of the submissions relate how the quality of life of the local residents has been impacted over the years by this development and principally due to the odorous emissions from the site. The submissions refer to being unable to entertain visitors due to the embarrassment of having to explain away the appalling smell; being unable to play or spend time in the garden due to the odour; having to re-wash clothes that have been on the clothes line while the odour is present and having to keep windows and doors closed and sealing vents to try and prevent the odour entering the house. In summary, they state that it is impossible to enjoy a reasonable quality of life because of the nuisance odours from the facility.

Response

Compliance with the various conditions in the RD will improve the environmental performance of this facility and the zone of negative impact on the quality of life of **most** of the local residents will be significantly reduced.

5. Traffic Levels and Roads (11)

A number of submissions refer to the volume of heavy vehicle movement associated with the development and the unsuitable nature of the local roads for dealing with large heavily laden lorries. They refer to excessive noise from empty lorries related to the facility using local country roads very late at night or very early in the morning. Some of the submissions also refer to damage being caused to the road surface and to the road verges by heavy vehicles because of the unsuitability of the roads. The submissions also refer to the danger posed by these trucks to pedestrians and other motorists due to the narrow nature of these country roads.

Response

The issue of traffic control and road quality beyond the boundary of the facility is a matter for the local planning authority.

6. Devaluation of Property (10)

A number of submitters claim that their homes have been de-valued or are un-saleable because of their proximity to this facility as it is currently operated. In a number of cases, the submitter states the desire to leave the immediate area because of the odour but that they are prevented from doing so because they are unable to sell their current home due to their proximity to the site.

Response

The issue of the devaluation of property does not come within the scope of the Waste Licensing process.

7. Surface Water Contamination (8)

A number of submissions raise concerns regarding control of contaminated surface water at the site and state that the local surface water drains are overloaded with nutrients. They also refer to the risk of overflow from the “goodie-water” storage sump. A submission from the Eastern Regional Fisheries Board states the importance of the Owenavorrhagh River and its tributaries including the Banoge subcatchment as an important salmonid system with good populations of Salmon, brown trout, sea trout, lamprey and eels and outlines the following concerns:

- i.) that any discharge from the facility should be subject to licence such that it ensures the Quality of Salmonid Waters Regulations Standard of the receiving waters;*
- ii.) all surface waters from the site should be channelled through adequately sized petrol/oil interceptors and be subject to attenuation prior to discharge to the watercourse;*
- iii.) that systems be put in place to ensure that there shall be no discharge of suspended solids or any other deleterious matter to*

- watercourses during any construction phase or any landscaping works;*
- iv.) *and that fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from the watercourse and that refuelling must be carried out in bunded areas.*

Response:

The risk of negative impacts on surface waters from this facility will be minimised if the conditions of the Recommended Decision are complied with. The infrastructure required and the monitoring that will need to be undertaken with respect to surface water protection have been outlined in Sections 2 and 7 of this report.

8. Airborne Micro-organisms and Spores (6)

Concern is raised in a number of submissions regarding the potential health implications of spores and airborne micro-organisms released from the process and particularly the potential risk of causing or aggravating conditions such as Asthma, Farmer's Lung, etc.,. One submission also refers to recommendations regarding the use of Personal Protective Equipment (PPE) (i.e. face masks) by employees engaged in certain parts of the process in a Health & Safety Statement submitted as part of the application. The submitter notes that emissions from the bagging plant are ventilated directly to the atmosphere and as they live immediately adjacent to the site, do they need to consider PPE as well. It is also noted that the Bioaerosol Monitoring carried out at the site for the application was carried out on quite a blustery day and may not be representative of the average levels of bioaerosols that occur.

Response:

Requirements of the Recommended Decision to store poultry litter and horse manure indoors and to enclose the bale breaking, mixing and blending line will greatly reduce the risk of dust, spores and airborne micro-organisms being released to the atmosphere in an uncontrolled manner and should minimise the potential for the off-site movement of airborne microbes. Bio-aerosol monitoring is also a requirement of Condition 7 and Schedule E of the Recommended Decision. The HSA will be notified of the RD in due course having regard to functions with regard to safety at work legislation.

9. Planning Permissions and Failure to Comply (6)

A number of submissions allege failure to comply with certain conditions of Planning Permissions and in particular, failure to comply with noise limits set in planning conditions (i.e. 55dB(A) daytime and 35dB(A) night time) and conditions relating to control of odour from the site. They also refer to parts of the site being unauthorised development.

Response:

The issues of alleged failure to comply with conditions of Planning Permissions and unauthorised development is a matter for the Planning Authority to consider. The issue of noise control is dealt with under Issue 3 above and in Section 4 of this report.

10. Dust (5)

Excessive emissions of dust from the facility are raised as a concern in a number of submissions. The handling of gypsum and poultry litter and the blending and mixing

process are identified as the main sources of dust from the facility. Concerns regarding possible health implications of dust and bio-aerosols arising from the process are also raised.

Response:

The enclosure of the composting process and the enclosure of the chicken litter and gypsum storage areas should ensure that dust emissions are minimised at the facility. Given the high volume of water used in the process, dust emissions emanating from the compost material are generally not an issue.

11. Court Actions (5)

A number of submissions refer to court actions instigated by the Local Authority under the Air Pollution Act in relation to emissions of odour from the facility. The South Eastern Health Boards submission notes that there is a case listed in the District Court under the Air Pollution Act, 1987, the date of the alleged offence being in Feb 2003.

Response:

The Agency is aware of one case pending in the District Court in relation to odour and noise at this facility and a possible third party application to the High Court.

12. BATNEEC/BAT/BPM (4)

A number of submissions discuss or question BATNEEC (Best Available Technology not Entailing Excessive Cost), BAT (Best Available Techniques) or BPM (Best Practicable Means – Air Pollution Act, 1987) for the site. One submission states that if the applicant considers that the current infrastructure at the site represents BATNEEC, then it is not effective and emissions from the site are offensive. Another submission expresses the belief that BAT / BATNEEC is not and won't be used by the company and that cost will be used as the excuse not to implement or rectify matters.

Response:

The infrastructural improvements and changes of operational practices required over a specified timescale by the conditions of the Recommended Decision represent BAT for this sector.

13. Negative effects on business (4)

A number of submissions relate how the nuisance odours from the facility are impacting on other local businesses: a Garden Centre; a Bed & Breakfast; a small engineering business and an artist who works from his home. The submissions refer to potential customers either commenting in the strongest terms on the odour or simply leaving the premises as they are unable to tolerate the odour. One of the submissions states that many of clients are international visitors and they comment that they are astounded that such a situation would be allowed to persist.

Response:

Compliance with the requirements of the conditions set out in the RD should bring about a significant improvement in the environmental performance of this facility and should minimise any negative impacts on other local businesses.

14. Omission of Odour Limits in Proposed Decisions for Similar Activities (3)

A number of the submissions make reference to the absence of Emission Limit Values for odour (i.e. such as the $C_{98, 1-hour} 6 \text{ ouE/m}^3$ recommended in the Odournet Report) in PD's issued for other facilities in the sector and indicate that it is their view that limits of this type should be included in any PD for this facility.

Response:

Accurate representative and reproducible objective monitoring of odours is still technically difficult to achieve and therefore it is inappropriate to set a limit of the type referred to above in the RD. The RD requires subjective daily odour monitoring.

15. Groundwater/Drinking Water Quality (1)

One submission raises concern regarding potential risks posed to nearby potable water supplies and private wells by the control of wastewater at the facility.

Response:

Compliance with the conditions of the Recommended Decision should minimise the risk of dirty yard water or process run-off causing contamination of groundwater.

16. Light Pollution (1)

One submission makes reference to light pollution from flashing beacons on vehicles on the site and from on-site lighting.

Response:

Condition 4.4.3 of the RD requires a report on limiting the use of security lighting at night, and assessing alternative systems so as to avoid nuisance and visual intrusion. The findings of this report shall be implemented as agreed by the Agency and should mitigate any nuisance effects from lighting at the site.

17. Breach of Competition Law (1)

One submission states that allowing this company operated their facility at lower than the European Standard as adopted in the Benelux countries would constitute a breach of Competition Law as these countries are also selling mushrooms in the British market.

Response:

The infrastructural improvements and changes of operational practices required over a specified timescale by the conditions of the Recommended Decision represent BAT for this sector. The impact of the facility with respect to Competition Law is not within the scope of the Waste Licensing Process.

18. Fisheries Protection (1)

See Issue 7., Surface Water Contamination above.

Signed _____

Damien Masterson
Inspector
Office of Environmental Enforcement

Dated: _____

APPENDIX 1

Site Location Map, Site Plan and Locations of Nearest Dwellings

APPENDIX 2

OdourNet UK Ltd. Report

APPENDIX 3

Prof. Ralph Noble's "*Index of Measures for the Reduction of Odours from Mushroom Composting Sites in Ireland*".