



**OFFICE OF
LICENSING &
GUIDANCE**

**REPORT OF THE TECHNICAL COMMITTEE ON
OBJECTIONS TO LICENCE CONDITIONS**

TO:	Board of Directors	
FROM:	Technical Committee	LICENSING UNIT
DATE:	12 th October 2004	
RE:	Objection to Proposed Decision for GREENHILLS COMPOST LTD Waste, Reg:117-1	

Application Details	
Class(s) of activity:	Class 2 of the 4 th Schedule of the WMA, 1996- Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
Location of activity:	Carnagh Upper, Kilcogy, Co. Cavan
Licence application received:	1/10/1999
PD issued:	14/05/03
First party objection received:	30/7/2003 (Applicant)
Third Party Objection received	Two received: From Patrick and Maureen Harten, Kilcogy, Co. Cavan on 1/8/03 and from John Beglan, Erne Valley Concerned Residents (EVRC), Kilcogy, Co. Cavan on the 1/8/2003
Submissions on Objections received:	Three received one from the applicant and from the two persons named above.
Prof Noble report	A paper by Prof R. Noble ¹ which included a review of the OdourNet UK report and gave alternative recommendations for the avoidance of nuisance odours from mushroom composting sites in Ireland was sent to the applicant and to the 3 rd party objectors by the Agency in June 2004 for their

¹ Prof Ralph Noble, Horticulture Research International, Wellesbourne, Warwick, UK, is a leading technical expert in mushroom composting pertaining to odour control

<p>Submissions on Article 34 notice</p>	<p>comments and observations.</p> <p>Three submissions were received one from the applicant on 24/6/2004, one from Patrick and Maureen Harten on 1/7/2004 and one from Erne Valley Concerned Residents on 24/6/2004</p>
<p>Additional Information received:</p>	<p>The chairperson of the Technical Committee describes the outcome of his visit to a UK mushroom composting facility that is using Prof Noble's measures.</p>

Company

Greenhills Compost Ltd (GCL) produce compost for the mushroom industry at a facility at Carnagh Upper, Kilcogy, Co. Cavan. The facility has been operating for over 10 years in its current location and it supplies compost to mushroom producers almost nationwide. The waste materials being accepted at the facility include poultry manure (c.6,000 tpa). Approximately 500 tpa of gypsum is also used in the process.

Consideration of the Objection

The Technical Committee, comprising of Dr. T. McLoughlin (chair), Dr Brian Donlon, and Mr Caoimhin Nolan, has considered all of the issues raised in the first party objections and third party objections, submission on objections and also submissions made on an article 34 notice and this report details the Committee's comments and recommendations.

Part I: Grounds of the objection contained in the main part of the objection

documents and submissions on objections.

First Party Objection

Objection 1 from Raymond McKenna, Greenhills Compost Ltd., Kilcogy, Co. Cavan

Ground 1.1: Condition 1.5 and Schedule A

Condition 1.5 and Schedule A of the licence limits the production process to the composting of "chicken litter" only, to a maximum quantity of 6000 tonnes per annum.

Chicken litter is predominantly used in the production process. However, turkey litter is also sometimes used, so the general term "poultry litter" is preferable to "chicken litter". In addition, in the event of an outbreak of disease on poultry farms, the company will need to use alternative organic litter sources. The company has in place an emergency plan for compost production, in the event of a total ban on the movement of poultry manure, which as happened in Holland in the recent past. Therefore restricting the company to the use of

“chicken litter” is not practical and they wish to have this amended. The company has expanded since applying for a waste licence in September 1999 and they are now processing up to 10,000 tonnes of poultry manure per annum.

Submission on Objection

They strongly oppose use of pig slurry – No Odour emission rates supplied. Inclusion of other new materials is beyond the parameters of this licence application. They request that all raw materials be dried (not in liquid form) so as to minimise danger of spillage & leakage. Company should not be allowed to increase tonnage from 6,000 to 10,000 as this is a major alteration. New values for odour emissions would have to be submitted. Cavan Co. Co as planning authority have turned a blind eye to operations at the facility. The increase in tonnage is unauthorised and any plans to build a new facility should be subject to rigorous planning and EPA approval.

Technical Committees Evaluation:

The technical committee notes the applicants comments in relation to the waste type (i.e. chicken litter) specified in Schedule A. Having regard to the similar nature and composition of chicken litter and turkey litter, the technical committee considers that the term ‘poultry litter’ would be more appropriate. This would allow the applicant to accept chicken litter and/or turkey litter subject to the agreement of the Agency (see Note 1 to Schedule A). The acceptance of alternative waste sources should be allowed in the event of disease on poultry farms subject to the agreement of the Agency,

It is not recommended that the total tonnage of 10,000 tonnes per annum be allowed as this was not applied for in the application and the odour modelling was performed on the lower figure of 6,000 tpa. It should be pointed out that the applicant never mentioned the use of pig slurry in his application rather he refers to ‘poultry litter’.

Recommendation:

Amend Schedule A by replacing ‘Chicken Litter’ with ‘Poultry Litter’ and replace ‘Chicken Litter’ with ‘Poultry Litter’ throughout waste licence.

Insert Note 2 to Schedule A : Such other alternatives as agreed by the Agency in the event of an outbreak of disease on poultry farms.

Ground 1.2: Condition 2.1.1

Composting is a continuous process, 24 hours per day, hence “at all times” should be changed to “during office hours”.

Submission on Objection

Danger of pollution is on a 24-hour basis. They support the PD which requires some staff to be present at all times. The maintenance of a telephone line to report incidents is required.

Technical Committee Evaluation

The composting process is one which takes place on a continuous basis 24 hours per day. The technical committee acknowledges that it may not be possible for the facility manager or a suitable qualified and experienced deputy to be present at the facility late at night/early morning. Having regard to this, the technical committee recommends that the manager/deputy should be present as a minimum during the hours of operation specified in Condition 1.3.

Recommendation

Amend Condition 2.1.1 as follows:
The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility **at all times during the hours specified in Condition 1.3, unless otherwise agreed with the Agency**

Ground 1.3 Condition 3.5.2

Because yard areas cover a large area, this work will have to be done on a phased basis, so nine months to complete this is impractical. The company requested that the timeframe be changed to 18 months, to allow this work to be undertaken correctly.

Submission on Objection

This is a condition that any decent firm operating in a sensitive environment would have already carried out. All targets to the PD and timeframes should be complied with.

Technical Committee Evaluation

The survey required by Condition 3.5.1 will highlight which surfaces need to be upgraded/replaced at the facility. Taking into account the size of the yard areas and the works involved, the technical committee recommends that the timeframe for completion of the work required under Condition 3.5.2 be extended to 12 months from the date of grant of the licence.

Recommendation:

Amend Condition 3.5.2 as follows:
Within twelve months of the date of grant of this licence.....

Ground 1.4: Condition 3.7.1

Chicken litter and gypsum storage areas be fully enclosed within nine months of granting the licence. The company suggest that this storage area will be enclosed under the same roof as the bale blending line, which would be more practical for production purposes. Because this will require a large capital expenditure, the company requests that this timeframe be increased to 18 months. The company also requests that the breathable membranes to be used as side sheeting on these building on health and safety grounds. These membranes are widely used in Holland and Belgium.

Submission on Objection by EVRC

Request that timeframes be brought forward not extended.

Technical Committees Evaluation:

Condition 3.7.1 requires the chicken litter (amended to poultry litter under Ground 1 above) and gypsum storage areas to be fully enclosed within 9 months of the date of grant of the licence. The TC considers that it is not necessary for the gypsum storage areas to be enclosed. However, having regard to the potential for odours to arise from the litter storage areas, it is considered that they should be enclosed. The TC consider that the use of silos for the storage of poultry litter would be appropriate to ensure that odour emissions are controlled and that access to this material by vermin is properly controlled. The design of the storage structure should be agreed with the Agency as a Specified Engineering Works (Schedule B) and the applicant should have regard to HSA Regulations when designing this.

Recommendation:

Amend Condition 3.7 as follows:

3.7 Storage Areas For Poultry Litter and Gypsum.

Within nine months of the date of grant of this licence, the licensee shall provide an enclosed building or structure for the dry storage of poultry litter and gypsum.

Also, refer to Ground No. 4.3.14 below

Amend Schedule B to include:

Enclosure of poultry litter storage areas and various elements of process

Ground 1.5: Condition 3.11.1

Condition 3.11.1(i) requires the bale breaking line and the blending line to be enclosed within 12 months. The company requests this timeframe be extended to 18 months as per “Objection 1.4” above.

Submission on Objection by EVRC

Request that timeframe for enclosure of bale breaking/ blending line be brought forward and that the use of silos for gypsum and chicken litter storage is mandatory.

Technical Committees Evaluation:

The TC notes the significant potential for dust, aerosol and odour emissions and in order to minimise the risk of potential disease transfer off-site and considers that the bale breaking, blending and poultry litter shredding should be carried out within an enclosed building at the timeframes specified in the PD.

Recommendation:

Refer to the recommendation for Ground 1.10 below

Ground 1.6: Condition 3.12.1

Condition 3.12.1 requires that the surface water drainage system meet a certain minimum standard within 9 months of obtaining the licence. Again this will require on-site works and capital expenditure, so the company requests that this time frame is increased to 15 months.

Submission on Objection

Site is unsuitable and in close proximity to NHA area. Request EPA to adhere to proposed timeframes.

Technical Committee Evaluation

The TC considers that an extended time period should be allowed to upgrade the surface water drainage system in accordance with that requested in the objection.

Recommendation

Amend Condition 3.12.1 - Within 15 months of the date of grant of this licence effective surface water management infrastructure shall be provided and maintained at the facility. As a minimum, the infrastructure shall consist of the following.

Ground 1.7: Conditions 3.12.1d & 5.4.4

Condition 3.12.1(d) and 5.4.4 stipulates that all clean surface water discharge to the stream at one location (SW1). However, as a minimum, the site requires 2-3 surface water discharge points, as the stream borders the site and it is not possible to direct all clean surface water to one point only.

Submission on Objection

Vital that the outflow is capable of control and immediate monitoring in event of an incident. It is possible to route all clean water to one outlet. More cost effective to monitor one outlet.

Technical Committee Evaluation

The TC notes the comment from the objector that it is not possible to direct all clean surface water to one point only. The TC considers that the number of the clean surface water discharges should be minimised but that any other clean surface water discharges should be monitored.

Recommendation

Amend Condition 3.12.1.d
All clean surface water collected at the facility shall be discharged to the stream at locations to be agreed with the Agency.

Amend Condition 5.4.4
Following the completion of the surface water management infrastructure required by Condition 3.12, there shall, unless otherwise agreed by Agency, only be one surface water discharge from the facility, i.e. SW-1.

Amend Schedule E: Note 3 to Table E1.
Any other discharges from the facility shall be labelled and monitored in accordance with Table E.5.1.

Ground 1.8: Condition 3.15.2

Condition 3.15.2 requires that a noise attenuation barrier be installed along the boundary of the facility. If noise is problematic at the site, the noise source will be first treated. The company request that this condition be removed from the licence and further noise surveys to be undertaken as part of the waste licence will determine if problems exist.

Submission on Objection

Noise barrier is essential. Request that local residents agree to any noise barrier construction.

Technical Committee Evaluation

The TC notes the comment of the objector and the submissions on the objection. We consider that the installation of a noise attenuation barrier is necessary to minimise the effect of noise emissions from the facility on the environment.

Recommendation

No Change.

Ground 1.9: Conditions 3.13.2 & 3.11.1(ii)

Condition 3.13.2 requires that all process water storage tanks be enclosed within 12 months of granting the licence. The company requests that this be changed to 18 months, as this will require large capital expenditure.

Condition 3.11.1(ii) requires that appropriate odour filtration systems be placed at outlet vents on all process/goodie water storage tanks and a system of aeration be installed on each process water storage tank. This will require a longer time frame to complete: 24 – 36 months. Also, the company suggests that after enclosure of the compost production areas, there will be low levels of process water on-site.

Submission on Objection

They support timescale and the improvements listed in PD (which are covered in Grounds 1.9 to 1.12 incl.). Phase II process is malodorous. No confidence in breathable membranes as sidings as this is an attempt by company to evade capital expenditure to fully enclose and comply with conditions.

Technical Committee Evaluation

The TC notes that emissions from the process/goodie water storage tanks represents 33% of the total odours from the site as identified in the OdourNet Report commissioned on behalf of the Agency. We consider that the timeframe stipulated in the PD should not change. The TC considers that such tanks should be enclosed and that a system of aeration and odour filtration should be provided in such tanks (under Specified Engineering Works). The timeframe for undertaking such works should remain at 12 months.

Recommendation

3.13. 2 will be replaced by 3.11.1 (iv):

Unless otherwise agreed by the Agency, within twelve months of the date of grant of this licence the licensee shall enclose all goodie water storage tanks and provide appropriate odour filtration systems placed at outlet vents on all goodie/process water storage tanks.

Ground 1.10: Condition 3.11.1(iii),

Ground 1.11: Condition 3.11.1(iv) and Ground 1.12: Condition 13.11.1(v) (sic)

Condition 3.11.1(iii) requires all Phase I and Phase II production processes be carried out in fully enclosed buildings within 18 months. The company would require a time frame of 24 months to complete this project. In addition, the company request that it will need a period of 24 hours in which Phase I compost can be left outside in order to re-inoculate the micro life, as this is crucial for production of quality mushroom compost.

Condition 3.11.1(iv) requires that a system of collecting air emissions from all production areas be installed within 24 months of granting the licence. The company requests that this timeframe is increased to 36 months. The company is fully aware of the needs of the mushroom industry regarding Phase III composting as outlined in the Goodbody Report. The company request that only emissions from Phase I areas should be collected as emission from Phase II are not malodorous. The company states that it would not be viable to finance any further capital expenditure on its existing Phase II complex as it is outdated.

Condition 13.11.1(v) requires that all air emissions from the composting process are passed through an appropriate abatement system within 36 months of granting the licence. The company requests that this is increased to 48 months to allow sufficient time to research all the desired technologies. 36 months is impractical, due to the volume of other works to be undertaken as part of the waste licence and due to the lack of successful abatement technologies for Irish composting companies, suited to Irish condition, currently available.

Technical Committee Evaluation

In view of the Noble measures which are discussed under Part 111 below and as outlined in Annex 1, the TC recommends that condition 3.11 be changed as follows. See earlier reference to this condition-ground 1.5

Recommendation

Amend 3.11.1 to read

- (i) Within nine months of the date of grant of this licence, the licensee shall provide adequate aerated floor facilities for use in the Phase I and II composting process.
- (ii) Within twelve months of the date of grant of this licence, the bale breaking line and the blending line shall be enclosed.
- (iii) Within one month of the date of grant of this licence a system of submerged aerator(s) shall be all installed in each of the goodie/process water storage tanks at the facility.
- (iv) Unless otherwise agreed by the Agency, within twelve months of the date of grant of this licence the licensee shall enclose all goodie water storage tanks and provide appropriate odour filtration systems placed at outlet vents on all goodie/process water storage tanks.

Amend 3.11.2 to read

Within eighteen months of the date of grant of this licence the licensee shall submit a report assessing the effectiveness of the odour control measures implemented at the facility.

Amend 3.11.3 to read

Unless otherwise agreed by the Agency and taking account of the findings of the report under Condition 3.11.2 the licensee shall ensure that the following programme of works shall be carried out to minimise odour emissions from the facility. The programme of works shall proceed based on the following:

- (i). Within twenty four months of the date of grant of this license all of the Phase I production process shall be carried out in fully enclosed buildings.
- (ii). Within thirty months of the date of grant of this license, the licensee shall provide a system for the collection of all air emissions from the following sources: (i) goodie/process water storage tanks, (ii) bale breaking/blending line, (iii) manure storage and (iv) Phase 1 process. Negative pressure shall be maintained throughout all areas where the compost process occurs to ensure that there is no significant escape of fugitive odours.
- (iii). Within forty two months of the date of grant of this license the licensee shall ensure that all air emissions from the composting process are passed through an appropriate abatement system to be agreed by the Agency.

No Change to Condition 3.11.4 and 3.11.5

Ground 1.13: Schedule E2

Schedule E2 requires that dust deposition be monitored at 4 locations, 3 times per year. Dust deposition monitoring was carried out as part of the initial Waste Licence Application. This report concluded that the dust deposition level recorded at this site was not problematic and under 350mg/m²/day. The company understands that it is necessary to monitor emission in order to determine where problems exist. However the extent of dust deposition monitoring specified in Schedule E2 is excessive for the nature and scale of activities on the site. The company object to this and wish to change the stipulations to 2 locations (1 upwind and 1 downwind of the site), once per year only.

Submission on Objection by EVRC

Noise and dust are an issue for residents. EPA should stand by monitoring regime in PD.

Technical Committee's Evaluation

The Technical Committee notes that submissions expressing concern over dust emissions from this facility were received during the application process. The dust monitoring requirements specified in Schedule E.2 are considered appropriate at this time. Condition 7.2 of the PD allows the Agency to amend the frequency, locations and scope of monitoring if necessary following on from the assessment of the dust monitoring results submitted.

Recommendation

No Change

Ground 1.14: Schedule E4

Schedule E4 requires that noise be measured at 2 noise sensitive locations twice per year. The noise level (Leq) here in September 1999 was 51.6dB(A), which is well below the EPA limit of 55dB(A). Therefore the requirement to monitor noise twice per year is excessive for the scale of activities here. Noise levels will not change within the site from year to year. Therefore the company request that this condition is changed to annually, for one noise sensitive location only.

Submission on Objection

See Submission to Ground 1.13 above.

Technical Committee Evaluation

The TC is concerned regarding the elevated noise emissions from the facility. In particular the night-time noise level. The mitigation measures proposed were dealt with separately in Ground 1.8 above.

Recommendation

No Further Change

Ground 1.15: Schedule E8

Schedule E8 requires that treated sewage be monitored annually. There is no treated sewage generated on the site, so the company wishes to have this condition removed.

Submission on Objection

With the number of employees on site sewage must be collected in sewage tank, treated and monitored at least annually.

Technical Committee Evaluation

The TC is concerned that sewage generated on-site may not be dealt with appropriately. We consider that sewage generated on site should be treated to appropriate standards and that any sludge production is disposed of in accordance with best practice (see Condition 3.14). The technical committee considers that the treatment system should be monitored on an annual basis to verify the performance of the system and Condition 7.2 of the PD allows the Agency to amend the frequency, locations and scope of monitoring if necessary.

Recommendation

No Change

Ground 1.16: Condition 11.1.1

Condition 11.1.1 requires that the company pay €15,437.84 annually to the EPA. This amount is excessive, given the cost already imposed by the waste licence on infrastructure, monitoring and reporting. The fee does not seem to be based on the scale of activities at this site, where only “10,000 tonnes of waste chicken litter is processed”. The company requests that this fee is reduced to reflect the size of the activities at this site.

Technical Committee Evaluation

The TC considers that the annual contribution to be paid to the Agency is appropriate for the activity licensed and should remain unchanged. This fee should cover the assessment of various proposals and reports, specified engineering works and regular site inspections and audits by Agency personnel.

Recommendation

No Change.

Objection 2 from Patrick and Maureen Harten, Kilcogy, Co. Cavan

Ground 2.1: Condition 1.3

They request that the hours of operation are restricted to 8am – 7pm Monday to Friday, 8am – 1pm on Saturdays and no working on Sundays or Bank Holidays. They request that the hours for despatch of product off-site be brought in line with hours of deliveries on site.

Technical Committee Evaluation

The TC considers that the objector’s request to limit the hours of despatch of product offsite is fair and that doing this will reduce the impact of the operation of the facility on neighbouring residents. For reasons described under Ground 2.3 below, the TC also proposes to limit the use of noise generating mobile plant at the facility to reduce the potential for noise emissions.

Recommendation

Change Condition 1.3 as follows:

On-site **and off-site** deliveries of wastes, raw materials or product shall be confined to the hours of 08.00 to 19.00 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 with the Agency the use of noise generating mobile plant and equipment shall be restricted to the hours referred to in this**

Condition.

Ground 2.2: Condition 2.4.1 Management of the Facility

Since relations between them and the neighbouring facility are frayed, they request that a copy of all recording and reporting for public inspection is held at the local environmental department at Cavan County Council so as to reduce any possibility of intimidation.

Technical Committee Evaluation

Condition 2.4.1 of the PD requires the licensee to put in place a Communications Programme to inform and involve the local community. This is a requirement of the licence and the onus is on the licensee to ensure that the requirement is met. As part of the Communications Programme the licensee may propose to disseminate the information directly to interested parties or to Cavan Co. Co. The Communications Programme will also be assessed by the Agency as part of the enforcement of the licence, if granted.

Any persons who are dissatisfied with the implementation of this licence condition may make a complaint and the licensee is required to take actions as a result of all complaints (ref. Condition 9.4).

Recommendation

No change

Ground 2.3: Condition 3.2.1

They request that additional temporary noise impact and any permanent additional noise impact from fixed or mobile plant resulting from any engineering works be assessed. And that any reporting or certification comes from a wholly independent and suitably qualified person.

Technical Committee Evaluation

The TC notes the objectors' concerns in relation to noise. The licence requires noise monitoring and noise emission limits are set in Schedule D. The TC has recommended restrictions on the use of noise generating mobile plant and equipment (see Ground 2.1 above). Other noise control measures provided for under the Conditions of the licence include the installation of a noise barrier and the enclosure of fans (Conditions 3.15.1 and 3.15.2).

Recommendation

No change

Ground 2.4: Condition 3.3.2

They request that the notice board be in place as soon as possible within at least two to three weeks of any grant of licence.

Technical Committee Evaluation

Condition 3.3.1 requires the notice board to be put in place. As no timeframe is specified for installing the notice board, it should be put in place immediately upon issue of the licence.

Recommendation

No change

Ground 2.5: Condition 3.5.1

They request that all the engineers assessing the yard surface be wholly independent and suitably qualified.

Technical Committee Evaluation

Condition 3.5.1 already requires that the assessment of yard surfaces and drains be carried out by “a suitably qualified independent engineer”. All specified engineering works are covered under Condition 3.2.

Recommendation

No change

Ground 2.6: Condition 3.5.4

Please note that kerbing ought to be installed around bridge and bale storage area on other side of the river to prevent contamination of surface water.

Technical Committee Evaluation

This condition relates to kerbing around areas where contaminated surface water or process water arise. The TC notes that the area referred to be used only for the storage of clean straw bales and that installation of kerbing is therefore unnecessary at this location.

Recommendation

No change

Ground 2.7: Condition 3.7.1

Odour Net UK Ltd recommends the use of silos for the storage of raw materials. They request that EPA say the use of silos to store these materials is obligatory.

Technical Committee Evaluation

The TC consider that the use of silo/enclosed buildings for the storage of poultry litter would be appropriate to ensure that odour emissions are controlled and that access to this material by vermin is properly controlled.

Recommendation

Change Condition 3.7.1 as per TC’s response to Ground 1.4 of objection 1 above.

Ground 2.8: Condition 3.11.1

They note from Condition 3.11 that the effectiveness of these improvements will not be known for as long as four years. They request that any time-scales for these improvements be reduced to three years.

Technical Committee Evaluation

The TC considers that the timeframes specified in the PD are appropriate for the installation of the specified infrastructure.

Recommendation

Refer to proposed changes to 3.11 above

Ground 2.9: Condition 3.11.5

They request that doors that lead to any area that has smells or noises emanating be closed by necessity and that there be no possibility of over-ride.

Technical Committee Evaluation

The TC note that Conditions 3.11.4 and 3.11.5 of the PD specify measures to keep doors closed as much as possible.

Recommendation

No change

Ground 2.10: Condition 3.12.1

They request that the pipework on site plans is checked by an independent engineer (not Gaffney & Cullivan) and that figures for surface water are recalculated to ensure that all tanks are of large enough capacity and can accommodate long and extended periods of rainfall.

Technical Committee Evaluation

See response to ground 2.5 above.

Recommendation

No change

Ground 2.11 Condition 4.1.2

They have found poultry carcasses from the chicken litter in their gardens that animals have taken from Greenhills Compost's storage facilities. Silos would be more effective as storage facilities. Any load of chicken litter that is deemed unsuitable should be detected immediately and turned away. They would request that there would be no temporary storage facilities for unsuitable waste.

Technical Committee Evaluation

The TC consider that the use of silo/enclosed structures for the storage of poultry litter would be appropriate to ensure that odour emissions are controlled and that access to this material by vermin is properly controlled. Condition 4.1.2 requires waste inspections to be carried out on incoming poultry litter, and Condition 4.1.4 requires any unsuitable waste to be stored in "fully enclosed containers to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance". The TC consider that these Conditions will provide adequate control over the acceptance and management of incoming wastes

Recommendation

Change Condition 3.7.1 as per TC's response to Ground 1.4 of objection 1.

Ground 2.12: Condition 4.2.2 Composting Process

In Schedule C the technology approved for process control on Phase I and Phase II is aeration pads and fans. These were installed on some bunkers since August 2002. The additional noise that was generated was considerable. The resulting continuous smell is undeniable. They request that any additional fans/aeration pads are subject to enclosure of motors and that use of these are restricted to normal operating hours until such time as the complete process is enclosed.

Technical Committee Evaluation

The TC notes the objector's concerns in relation to noise. The licence includes a number of noise control measures, monitoring and emission limits which are discussed further under Ground 2.1 and 2.3.1 above and that these measures, should ensure that the facility does not cause environmental pollution.

Recommendation

Change Condition 1.3 as per TC's response to Ground 2.1 above.

Ground 2.13: Condition 4.2.3

When it is necessary to turn the clamps every three days, they request that management organise their schedules so this takes place during normal working hours and not on Saturday afternoons, Sundays or Bank Holidays.

Technical Committee Evaluation

It is up to management to organise their own schedule. However, the noise-generating mobile plant and equipment is restricted in accordance with Condition 1.3 (see Ground 2.1 above).

Recommendation

Change Condition 1.3 as per TC's response to Ground 2.1 above.

Ground 2.14: Condition 4.3 Landscaping

They request that they are consulted as to the height, size, type and nature of any screening that takes place on their direct line of vision. Greenhills Compost Ltd. has erected a 6m barrier fence directly in front of their front door. This was erected without planning permission and as such is an unauthorised structure. The facility was also refused planning permission for building two bunkers and a bagging shed and Greenhills Compost Ltd. should not be licensed until it is legally compliant with the Planning legislation.

Technical Committee Evaluation

The TC note that the Agency is not the competent authority in relation to planning matters. Any comments to be made by the public on the visual aspects of the noise attenuation barrier or landscaping can be considered by the Agency under the enforcement of the licence. Condition 2.4.1 also requires a Communications Programme to be set up by the licensee with the local community and this will also provide an opportunity for residents to comment on landscaping proposals.

Recommendation

No change

Ground 2.15: Condition 4.4.2

They request that any lights employed at the facility are screened and directed in towards the areas where operatives are working and that security lighting be of a minimal intensity. All they can see from their front door at night is an orange neon glare. This is light pollution and as they are keen on astronomy, they cannot look at the night sky.

Technical Committee's Evaluation

The Technical Committee considers that the applicant should submit a report to the Agency within six months of date of grant of the licence examining the use of light restrictors, and passive infrared lighting. The findings of this report should be implemented as agreed with the Agency.

Recommendation

Insert new Condition 4.4.3. Renumber subsequent sub-conditions.

The licensee shall submit a report to the Agency within six months of date of grant of this licence 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 with the Agency.

Ground 2.16: Condition 5.1

They request that odours are considered an emission and as such should be part of Schedule E and F for the purpose of this licence.

Technical Committee Evaluation

Schedules E and F of the PD refer to monitoring to be carried out and recording/reporting requirements. Monitoring of odours in an objective and consistent manner can be difficult and is not presently included in Schedule E of the licence. Subjective odour monitoring is required however under Condition 7.9.1 as part of the daily nuisance inspections.

Recommendation

No change

Ground 2.17: Conditions 5.5.1 and 5.5.2

When designating noise sensitive locations, they wish their residence to be considered a noise sensitive location. They require that low noise emitting plant (fixed and mobile plant), be employed at all times. At present a conveyer belt system produces a clearly audible impulsive component to the noise levels experienced at their residence.

Technical Committee Evaluation

Schedule E.1.1 requires the locations of the noise sensitive locations (which are to be monitored) to be agreed with the Agency. The exact locations of these will be dealt with under the enforcement of the licence and will be decided based on the proximity and sensitivity of nearby receptors to noise emissions from the facility. The control over noise emissions from the facility is discussed further under Grounds 2.1 and 2.3.1 above.

Recommendation

No further change.

Ground 2.18: Condition 7.1

Monitoring noise at two noise sensitive locations, bi annually and details being written up by the licensee seems inadequate, infrequent and open to manipulation. They request that the current noise levels are re assessed by an independent assessor and noise sensitive locations and the monitoring schedule are revised in advance of granting any licence to Greenhills Compost.

Technical Committee Evaluation

The control over noise emissions from the facility is discussed further under Grounds 2.1 and 2.3.1 above. In relation to monitoring, Condition 2.1.2 of the licence requires that all personnel carrying out specifically assigned tasks shall be qualified to do so. The Agency will also carry out its own noise monitoring to verify the findings of such monitoring carried out on behalf of the licensee. To ensure that noise emissions from the facility are adequately assessed, the TC considers that the number of noise sensitive locations to be monitored should be increased from two to four. The TC note that the number of locations to be monitored by the licensee can be reduced with the agreement of the Agency at a later date if necessary under the provisions of Condition 7.2.

Recommendation

Amend the noise stations listed in Table E.1.1 to read as follows:

- NSL1
- NSL2
- NSL3**
- NSL4**

Ground 2.19: Condition 7.6.1

Their well water was contaminated for over a week in May 1 – May 10, 2003. A Northern Regional Fisheries Board employee, Mr Frank Berry discovered that Greenhills Compost Ltd was the source of the contamination as a broken pipe gushed out its contents onto their property. Total coliforms and faecal coliforms were present thus rendering it unfit for human consumption. Ms Sarah Nolan of Oldcastle Laboratories made the following recommendations:

- Treat well before using it again – chlorinate it;
- Install UV lamp to protect well from further incident;
- Monitoring 4 times a year; or
- Act on incident.

They have no confidence in their well at the moment. They were not approached by the management of the facility to provide them with an alternative water supply, to remedy the damage done or to compensate them in any way for the inconvenience caused. They request that all of Sarah Nolans recommendations be implemented by Greenhills Compost in advance of any grant of licence.

Submission on Objection by Applicant

In relation to the issue of groundwater contamination, they have no knowledge or evidence of such contamination and they believe the well in question to be upstream and upslope of the facility.

Technical Committee Evaluation

The TC note that in the submission from the applicant on this objection, the applicant states that they have no knowledge or evidence of groundwater contamination in this instance, and that the well referred to is upstream and upslope of the facility. The Fisheries Board did not inform the Agency of this incident. Condition 7.6.1 and Schedule E.1.1 of the licence requires all private wells within 250m of the facility to be monitored. In the event that monitoring of such wells indicates that the facility is having an adverse affect, Condition 8.4.3 requires this to be treated as an emergency and the licensee is required to provide an alternative supply of water. Pending the provision of dedicated infrastructure to treat sewage arising at the facility (refer to Ground 1.15 of objection 1), the TC considers that the frequency of groundwater monitoring (as specified in Table E.7.1) should be increased from bi-annual to quarterly.

Recommendation

Amend Table E.7.1 (Schedule E.7) so that the monitoring frequency for each parameter is Quarterly.

Ground 2.20 Condition 8 Contingency Arrangements

They request that if such incidents are ongoing or frequent that the manner in which an alternative water supply is provided is agreeable to them. If well contamination persists then Greenhills Compost Ltd should bore a new well for them.

Technical Committee Evaluation

See TC's response to Ground 2.19 above.

Recommendation

No change

Objection 3 from John Beglan, Erne Valley Concerned Residents, Kilcogy, Co. Cavan

Ground 3.1: Condition 1.3 Deliveries to Site

They request that restrictions on hours for dispatch of product from the plant be the same as hours for deliveries to the site.

Technical Committee Evaluation

See TC's response to ground 2.1 of objection 2 above.

Recommendation

Change Condition 1.3 as per ground 2.1 of objection 2

Ground 3.2: Hours of Operation

They propose that the hours of operation also be designated and they propose hours of operation to be 8am – 7pm Monday to Friday and 8am-1pm on Saturdays and no hours of operation on Sundays or Bank Holidays.

Technical Committee Evaluation

See TC's response to ground 2.1 of objection 2 above.

Recommendation

Change Condition 1.3 as per ground 2.1 of objection 2

Ground 3. 3: Condition 1.6.2

That all works are undertaken within the time scale contained in the notice. They request that there is no flexibility or relaxing of this point. The time-scale for the implementation of improvements is to be adhered to and in some cases reduced to a shorter time scale.

Technical Committee Evaluation

The TC notes that Condition 1.6 appears twice in the PD and consider that the numbering of Conditions here should be corrected. The reference in the objection to Condition 1.6.2 relates to the Notices which the Agency may issue following a non-compliance with the Conditions of the licence. The onus is on the licensee to meet all of the requirements of the licence, including those timeframes for the completion of certain works. The TC consider that the wording of Condition 1.6.2 (which will now become Condition 1.7.2 under the revised Condition numbering) is adequate to allow the Agency to issue Notices in the event that the licensee does not comply with the requirements of the licence.

Recommendation

Change the Condition numbering (and sub-condition numbering) under Condition 1 to read as follows:

1.6 The following shall constitute.....

- a)
- b)
- c)
- d)

1.7 Where the Agency considers that.....

- 1.7.1
- 1.7.2
- 1.7.3
- 1.7.4
- 1.7.5

1.8 Every plan, programme.....

Ground 3.4 :Condition 2.4 Communications Programme (Cond. 2.4.1)

They request that copies of this public information be kept at the local environmental office at Cavan County Council.

Technical Committee Evaluation

See TC's response to Ground 2.2 of objection 2 above.

Recommendation

No change.

Ground 3.5: Condition 3.2 SPECIFIED ENGINEERING WORKS

They request that any new Engineering Works that result in permanent or mobile plant or machinery to be assessed for noise impact. Existing plant and machinery already cause too high levels to emanate from factory yard.

Technical Committee Evaluation

See TC's response to Ground 2.3 of Objection 2 above.

Recommendation

No change.

Ground 3.6: Conditions 3.2.2 and 3.2.3

They request that the person who is present at all times is a competent, suitably qualified person. This person should be appointed by agreement with the local residents group. They request that the validation report is sent to EPA as a matter of course, rather than *on request*.

Technical Committee Evaluation

The TC note that these requirements are adequately met by Condition 2.1 of the PD. Agency personnel will visit this facility on a regular basis and examine the site infrastructural works and can require that validation reports be submitted if necessary.

Recommendation

No change

Ground 3.7: Condition 3.3.2 Facility Notice Board

They request that the facility notice board be in place within 2-3 weeks of the grant of the licence.

Technical Committee Evaluation

See TC's response to Ground 2.4 of objection 2 above.

Recommendation

No change.

Ground 3.8: Condition 3.5 Facility Roads/Surface

This should be an appointed engineer, agreeable to the local residents group to wholly ensure independent opinion.

Technical Committee Evaluation

See TC's response to Ground 2.5 of objection 2 above.

Recommendation

No change.

Ground 3.9: Condition 3.7 Storage Areas for Chicken Litter and Gypsum

Time scale of nine months is too long. A survey of sources of odours carried out by Odour-Net UK Ltd April 2001 states a preference for storage of such raw materials in silos.

They request

- That the time scale for improvements in storage area be shortened.
- That the use of silos is mandatory
- In the event of the “enclosed structures” requires planning permission that Greenhills Compost show copy of planning grant to EPA before proceeding with these structures.

Technical Committee Evaluation

See TC's response to Grounds 1.4 and 2.7 above.

Recommendation

Change Condition 3.7.1 as per TC's response to Ground 1.4 of objection 1 above.

Ground 3.10: Condition 3.11.1 Odour Control Infrastructure

- (i) 12 months to enclose bale breaking and blending line is too long a time scale.
- (ii) Enclosing Phase I and Phase II should be sooner than 18 months. This phase generates three quarters of all odours in the composting process. All abatement technologies should be of a necessary high quality especially if sensitive receptors are in close proximity to the site (Residents 60m from site).
- (iii) Collection of air emissions (24 months). To wait two years for collection of air emissions is too long considering that the use of aeration pads and fans is rendered useless if a collection and treatment system is not in place.
- (iv) Treatment of air emissions (36 months). They will have three years of untreated stench to live with. They have already lived with over ten years of this. The company had the ability financially to improve this but chose profit over public relations.

The company flagrantly defy the planning regulations. There are unauthorised structures on site. Planning was refused for 6 no. Phase III spawn growing tunnels together with ancillary buildings, erect 2 no. Phase I bunkers and retain existing bagging shed.

Greenhills Composts management simply built the 2 no. Phase I bunkers a few feet from where it had requested planning permission and now still retain the bagging shed. The residents group held a meeting with the local planning officer (Mr Paddy Connaughton, the local environment officer Mr Peter Cork). They were given assurances that the unauthorised structures would be removed. They remain in place today. Written confirmation was requested from Cavan County Council that such unauthorised structures exist and this as yet has not been obtained. They enclosed minutes of this meeting, a copy of the letter sent to Mr Connaughton and a copy of the letter sent to Mr Seamus Neely, Director of Services, Cavan County Council. It is hard to believe that the EPA would licence a facility that is not legally compliant with the planning laws. Secondly, they have no confidence that the management of this facility will comply with the rules and regulations as set out by the conditions of this proposed licence. They request that no structures be allowed without obtaining planning permission and that the company's habit of erecting any old structure and then applying to retain it be outlawed.

Technical Committee Evaluation

See TC's response to Grounds 1.5, 1.9, 1.10, 1.11 and 1.12 of Objection 1 above. The TC note that the Agency is not the competent authority in relation to planning matters.

Recommendation

Change Condition 3.11.1 as per TC's response to Grounds 1.10, 1.11 and 1.12 of Objection 1 above.

Ground 3.11: Condition 3.11.2

They request that the EPA rather than the licensee assess if the odour management measures are effective.

Technical Committee Evaluation

The TC notes that the onus is on the licensee to ensure compliance with the licence. However the operation of the odour management system will be assessed by the Agency during audits and site inspections as part of the enforcement of the licence .

Recommendation

See grounds 1.10 etc and amendment to Condition 3.11.2

Ground 3.12: Condition 3.11.3

Again rather than the licensee assessing if there is a need for additional odour control they request that the EPA make these assessments and make any recommendations for additional odour control.

Technical Committee Evaluation

See TC's response to Ground 3.11 above.

Recommendation

See grounds 1.10 etc and amendment to Condition 3.11.2

Ground 3.13: Condition 3.11.5

They request that all doors into the bale blending and chicken litter shredding area, Phase I and Phase II enclosures and bagging enclosures remain shut as a basic requirement for managing odours and preventing the escape of same from structures.

Technical Committee Evaluation

See TC's response to Ground 2.9 of objection 2 above.

Recommendation

No change

Ground 3.14: Condition 3.12.1 Surface Water Management, parts a-d and Condition 3.13.1 Process/Goodie Water, parts a-d

These points completely evade the fact that the facility is wrongly sited. (Dames and More Geological/Water Survey, Waste Licence Application) and if a major incident were to occur, it would devastate the local river and NHA area downstream.

They request that the pipework on site plans is checked by an independent engineer (not Gaffney and Cullivan) and that figures for surfacewater are recalculated to ensure that all tanks are of a large enough capacity and can accommodate long and extended periods of rainfall.

Technical Committee Evaluation

Compliance with the Conditions of the licence should ensure that the facility will not cause environmental pollution and will provide adequate protection of surfacewaters. Also see the TC's response to Ground 2.10 of objection 2.

Recommendation

No change

Ground 3.15: Condition 3.13.2

They request that this is recommended rather than by agreement and the time scale is 12 months or less.

Technical Committee Evaluation

Enclosure of the process water storage tanks is required under Condition 3.13.2. Also see TC's response to Ground 1.9 of Objection 1.

Recommendation

No change.

Ground 3.16: Condition 3.14

Septic Tanks are not compliant with treatment systems as outlined in the Agency's Waste Treatment Manual, "Treatment Systems for Single Houses". There are no site tests with the planning application and They feel that the ground in the area cannot support these systems (See Dames and Moore Geological Survey, Waste Licence Application).

Technical Committee Evaluation

See TC's response to Ground 1.15 of Objection 1.

Recommendation

No change.

Ground 3.17: Condition 3.15 Noise Control

They request that this is a definite recommendation with the enclosure of all motors, of both fixed and mobile plant mandatory to eliminate noise. They request that this be carried out after three months of date of grant of this licence.

Technical Committee Evaluation

The TC considers that this requirement is adequately met by Condition 3.15.1 of the PD.

Recommendation

No change

Ground 3.18: Condition 3.15.2 "..... a noise attenuation barrier...."

What sort of visual impact will this have? They request that local residents agree to any noise barrier construction or plantation. Any construction that gives rise to serious visual impact should be agreed with the nearest resident 60m adjacent to the facility.

Technical Committee Evaluation

The TC considers that a noise attenuation barrier is required as detailed in the TC's response to Ground 1.8 of Objection 1 above. The TC notes that the installation of noise control infrastructure is listed in Schedule B of the licence as a specified engineering works (SEW) and proposals to be received by the Agency relating to this will therefore be available for

public inspection. Any comments to be made by the public on the visual aspects of the noise attenuation barrier can be considered by the Agency under the enforcement of the licence.

Recommendation

No change

Ground 3.19: Condition 3.16.1(iv)

They request that the EPA should designate odour abatement control parameters rather than being agreed by the EPA.

Technical Committee Evaluation

The specific technologies to be employed at this facility for the purposes of odour abatement will be agreed by the Agency as a specified engineering works. Until such proposals are agreed by the Agency and the technology becomes known, it would not be appropriate to set specific control parameters for the operation of this system.

Recommendation

No change

Ground 3.20: Condition 4.1.4 Acceptance of Unsuitable Waste

They request that the temporary storage of unsuitable waste should not be an option. Unsuitable waste should be discovered on inspection and the delivery turned away. They have no confidence in the management implementing proper facilities for the storage of unsuitable waste based solely on their experience of finding carcasses in the vicinity of the plant, in particular at the nearest resident's property where dogs/foxes have carried them from the facility.

Technical Committee Evaluation

See TC's response to Ground 2.11 of objection 2.

Recommendation

No further change.

Ground 3.21: Condition 4.2 Composting Process (Cond. 4.2.1 – The pre wetting of all bales)

In some areas of this licence the language used is very vague and open to interpretation. They request that the manner in which this process is managed is described to the management with more detail.

Technical Committee Evaluation

The licence includes a number of Conditions to control the operation of the facility which include the provision of certain infrastructure, the adoption of certain management practices and the monitoring of environmental media to establish the impact of those activities. The licence sets out the requirements under which the waste activities may be carried out. The onus for compliance with the Conditions of the licence rests solely with the licensee, and the manner in which this is achieved is up to licensee.

Recommendation

Amend 4.2-composting process in accordance with the measures outlined in Annex 1-Noble measures

Ground 3.22: Condition 4.2.2 Schedule C Process Control

Use of aeration pads/fans. These are recommended for use before the enclosure of

- (a) Bale breaking line -12 months
- (b) Phase I and II - 18 months
- (c) Treatment of air emissions – 24 months

They request that there be no operation of fans or aeration pads outside of normal operating hours, ie, 8am – 7pm Monday to Friday, 8am – 1pm Saturdays and no operation of them on Sundays or Bank Holidays. It is known that the use of fans/aeration pads is useless unless enclosure of processes is in place (Odour Net UK Ltd, Survey, April 2002). Therefore the recommendation to enclose the entire process should either reduce in time-scale or, use of aeration pads/fans restricted to normal working hours until this is in place.

Technical Committee Evaluation

Full compliance with the Conditions of the licence should ensure that the facility does not cause environmental pollution and that noise and odour emissions are controlled. Condition 3.11 sets out a phased programme for the provision of odour abatement infrastructure. Condition 4.2.2 and Schedule C requires the licensee to carry out composting in a controlled manner and to monitor certain process controls. The operation of fans and other noise emitting plant is discussed further under Grounds 2.1 and 2.3 of objection 2.

Recommendation

No further change.

Ground 3.23: Condition 4.2.3

Pending the completion of the odour abatement system referred to in Condition 3.11, all outdoor clamps of intermediate compost shall be mechanically turned at least every three days. This may give the impression for the necessity to work Sundays and Bank Holidays. They request that the facility manage their process so that no operations are carried out outside the normal hours of operation.

Technical Committee Evaluation

Pending the completion of the odour abatement system, the regular turning of outdoor clamps is necessary to prevent anaerobic conditions forming which give rise to significant odour emissions. See also grounds 2.1 and 2.13 above.

Recommendation

Change Condition 1.3 as per TC's response to Ground 2.1 of objection 2.

Ground 3.24: Condition 4.3 Landscaping

After conditions 3.11.1 (i-v) and Conditions 3.11.2 and 3.11.3 have been fully met the eventual height of the structures at the facility may be too high to be effectively screened. They request that a higher proportion of more mature trees in conjunction with saplings form the basis of the planting schemes, rather than the use of saplings alone. They would request that some agreement is necessary between the local residents and the management of the facility as to what forms the screening of the facility.

Technical Committee Evaluation

See TC's response to Ground 2.14 of objection 2.

Recommendation

No change

Ground 3.25: Condition 4.3.2 Licensee assessing whether additional screening is necessary

They request that the local community should have involvement and comment as to whether additional screening is necessary.

Technical Committee Evaluation

See TC's response to Ground 2.14 of objection 2.

Recommendation

No change

Ground 3.26: Condition 4.4.2

They accept that it is important for the safety of operatives that adequate lighting is essential. However, They request that all night-time lights be screened from the rear and directed inwards and down into the yard. They request that the same be carried out for any security lighting in order to reduce light pollution from the factory.

Technical Committee Evaluation

See the TC's response to Ground 2.15 of objection 2.

Recommendation

Change as per Ground 2.15 to Objection 2 above.

Ground 3.27: Condition 4.5.3

They request that strict contingency measures are put in place and approved by the EPA in case such a tanker has an accident/emergency while driving through NHA area.

Technical Committee Evaluation

Condition 4.5.3 requires that all wastes removed off-site shall be transported in a manner which will not adversely affect the environment. Notwithstanding this, the TC consider that any significant spillages of process water during its transport off-site should be regarded as an emergency, and the contingency arrangements specified in Condition 8 would then apply.

Recommendation

No Change.

Ground 3.28: Condition 4.6.2 Maintenance

Any calibration etc. of treatment/abatement and emission controls should be written up by an independent person and not done by licensee.

Technical Committee Evaluation

The TC notes that Condition 4.6.1 is the relevant Condition, which refers to the calibration and maintenance of emission control equipment. The TC consider that the present wording of this Condition is appropriate, given that it requires all calibration and maintenance to be done in accordance with the manufacturer/supplier/installer's instructions.

Recommendation

No change

Ground 3.29: Condition 5 Emissions

There is no schedule for odour emissions and no limits are set and no monitoring mandatory as part of this proposed licence. Why is there no odour monitoring ongoing as part of this licence since odour nuisance is a major complaint. They request for this licence that odour be considered as an emission and included in Schedule D and E, *Emission Limits* monitoring.

Technical Committee Evaluation

The TC agree that this is an important issue and suggest that a specific condition be included in the license.

Recommendation

Insert a new sub-condition 5.6 as follows:

5.6 Odour Trigger Levels

5.6.1 Within three months of the date of grant of this licence, and based on monitoring information from the facility the licensee shall agree trigger levels for Hydrogen Sulphide (H₂S) and Dimethyl Sulphide (DMS) levels monitored at the Phase I clamps/bunkers and at the goodie water storage tanks.

Ground 3.30: Condition 5.5.1

Noise sensitive locations should be designated with the nearest residence numbered among the noise sensitive locations.

Technical Committee Evaluation

See TC's response to Ground 2.17 of objection 2.

Recommendation

No change

Ground 3.31: Condition 5.5.2

They request that low noise emitting plant, (including mobile plant and machinery), is mandatory. This condition relies/depends on good management practices – which are consistently proven to be poor.

Technical Committee Evaluation

See TC's response to Grounds 2.1 and 2.3 of objection 2.

Recommendation

Change as per Ground 2.1 above.

Ground 3.32: Condition 7.1 Monitoring as per Schedule E

There are only two noise sensitive location stations in Schedule E. They request that more noise sensitive locations are added in here with the nearest resident 60m away numbering among them. Thirty minutes bi-annually seems infrequent for monitoring noise emanations from the facility. They feel that noise monitoring should be random and carried out independently. (A licensee can turn off machines for noise monitoring). They request that a survey is carried out on current noise emanations from the facility and if levels are above what are shown in the waste licence application, that the frequency of monitoring is revised.

Technical Committee Evaluation

See TC's response to Ground 2.18 of objection 2.

Recommendation

Amend the number of noise sensitive locations specified in Table E.1.1 as per TC's response to Ground 2.18 of objection 2.

Ground 3.33: Condition 7.6 Groundwater Monitoring

There has already been an incident with a local well. The well of Patrick and Maureen Harten (residents 60m from facility), was contaminated in May 2003 when a pipe carrying process water burst and drained for days onto the adjacent property. The management of the facility at no time contacted Mr Harten to put his well right or to compensate him in any way. They request that Mr Hartens well is put to right immediately with the agreement of Mr Harten and at the expense of the facility. They request that the schedule for monitoring this particular well be revised to at least four times a year.

Technical Committee Evaluation

See TC's response to Ground 2.19 of objection 2.

Recommendation

Amend Table E.7.1 (Schedule E.7) as per TC's response to Ground 2.19 of objection 2.

Ground 3.34: Condition 7.9.1 Nuisance Monitoring

They request that the daily inspections for litter, vermin, birds, flies, mud, dust and odours and the subjective daily odour assessments are fastidiously recorded and available for public inspection.

Technical Committee Evaluation

Condition 7.9.1 requires the licensee to undertake daily nuisance inspections and records of these are required to be maintained under Condition 9.3 f). Condition 2.4.1 requires a Communications Programme to be established which will allow members of the public to obtain information concerning the environmental performance of the facility. A review of nuisance controls is also required to be published in the Annual Environmental Report (as per Schedule G).

Recommendation

No change

Ground 3.35: Condition 8.4.3 Emergencies

They request that in the event that the manner in which the licensee provides an alternative water supply to those affected meets with the approval of those affected and that ongoing or frequent emergencies of that kind results in the licensee relocating and boring new wells for those affected.

Technical Committee Evaluation

See TC's response to Ground 2.19 of objection 2.

Recommendation

Amend Table E.7.1 (Schedule E.7) as per TC's response to Ground 2.19 of objection 2.

Ground 3.36: Schedule F Facility Yard and Storage Tanks Integrity Report

They request that the integrity of the facility's yard be tested every three to five years.

Technical Committee Evaluation

The TC note that the integrity of storage tanks, sumps and bunds is required to be tested every three years (Condition 3.10.5) and consider that it would be good practice to undertake a

similar assessment of the yard surface and drains on a regular basis. For the purposes of clarity, the TC also recommend that Schedule F Recording and Reporting to the Agency, be amend to reflect the new monitoring/reporting frequency for such integrity testing.

Recommendation

Insert a new sub-condition 3.5.5 as follows:

The integrity of all hardstanding areas and drains shall be assessed by a suitably qualified independent engineer at least every three years and reported to the Agency on each occasion or following the installation of any new drains/areas of hardstanding and prior to their use.

Amend the second last row of Schedule F to read as follows (see below):

Report	Reporting Frequency <small>Note1</small>	Report Submission Date
Facility Yard and Drains Integrity Report	Every three years	Within three months from the date of grant of licence and one month after the end of the three year period being reported on (or prior to the use of new structures).

Ground 3.37: Request for an Oral Hearing

Technical Committee Evaluation

The Agency decided at a Board meeting on 1/7/03 not to hold an oral hearing in relation to this licence application.

Ground 3.38- Submission on Objections No. 2 and 3 from Raymond McKenna, Greenhills Compost Ltd., Kilcogy, Co. Cavan

Mr. McKenna comments on the outstanding planning issues highlighted in the objections from Erne Valley Concerned Residents and Patrick and John Harten. He wishes to point out that the objections raised related mostly to temporary structures which were installed to enhance the appearance of the facility and reduce odour and noise emissions. These were the only alleviating actions the company could carry out due to restrictions imposed on planning whilst awaiting EPA guidelines. It is the company's intention to fully comply with all planning regulations, and they do not consider that the reduced timeframes for the provision of infrastructure (as requested in the other objections) would be realistic in this regard.

In relation to the issue of groundwater contamination, they have no knowledge or evidence of such contamination and they believe the well in question to be upstream and upslope of the facility.

Technical Committee Evaluation

The TC notes that the Agency is not the competent authority in relation to planning matters. The TC notes the comments made in relation to the possible contamination of a local private

groundwater well Conditions 7.6.1, 8.4.3 and Schedule E.1.1. of the PD as proposed to be amended under Grounds 2.19 of this report deal with potential groundwater contamination issues.

Part II: Response by 1st and 3rd parties to Professor Ralph Noble paper entitled ‘Index of measures for the reduction of odours from mushroom composting sites in Ireland’

Ground No 4.1- Submission No. 1 from Raymond McKenna, Greenhills Compost Ltd., Kilcogy, Co. Cavan

I refer to the document prepared by Professor Ralph Noble and would like inform the Agency that Greenhill Compost is fully supportive of its findings. We believe that there are no issues preventing full application of this document to our facility. Further-more, we have also investigated not only the use of urea alone but also its use in conjunction with other non-manure sources of N such as brewer’s grains, cocoa meal and cotton seed meal. Professor Noble has confirmed to us that these non-manure sources of N can be used to substitute poultry manure in mushroom compost to reduce odours, but these materials generally have an animal feed value so the economics of using them in mushroom compost depends on price. With this in mind Greenhill Compost has successfully carried out experiments on our blend by substituting different amounts of poultry manure directly with brewers grains, this has enabled us to reduced the total level of poultry manure need in our process. We now plan to apply Professor Noble’s document and use urea in conjunction with this non-manure nitrogen source to further reduce the amount of poultry manure needed. We are asking the Agency to take into account the usefulness of non-manure sources of nitrogen in our process in reducing our total requirement of poultry manure and hence contributing to the reduction of odour emissions.

Technical Committee Evaluation

The TC notes the applicant’s intentions to use other sources of nitrogen. However, as urea is the only nitrogen source that is mentioned in the index of measures proposed by Prof Noble the TC does not agree that other nitrogen sources should be used until these alternative sources are researched in a scientific manner and the results of such studies clearly show that alternative nitrogen sources can reduce odours at mushroom composting facilities.

This aspect will be covered under a new condition- 4.8 Urea Substitution Programme

Ground No 4.2 -Submission No. 2 from Mr Patrick Harten & Ms Maureen Harten

We have no confidence in this new process. There are no facts or figures to quantify the reduction, if any, or to indicate the success or otherwise of this new process. Why could it be that these figures if available would be too embarrassing to publish?

We feel that this entire exercise is a delaying mechanism that allows the composting industry to continue operating and have such a drastic negative effect on our lives.

We suspect that the investigations into this new process of mushroom compost manufacturing has been funded by the industry with one goal in mind, i.e. to eliminate the capital expenditure necessary to bring the composting plants to an acceptable visual appearance, to

eliminate all odour emissions, noise and water pollution. Nothing less than the full closure of the composting plant next door to us would ameliorate our quality of life.

We would urge the E.P.A. to reject the investigation of Professor Noble and to insist on whatever is necessary to eliminate the negative effects this Plant is having on our daily lives.

Technical Committee Evaluation

The chairperson of the Technical Committee visited a compost yard in the UK that was implementing all of the measures outlined by Prof Noble to reduce odours at mushroom composting facilities. It is the opinion of the chairperson of the TC that Noble's measures if implemented will result in the reduction of odours at this facility.

Ground No 4.3-Submission No. 3 from Erne Valley Concerned Residents.

Ground No 4.3 .1 "Poultry manure should be stored undercover, preferably off-site, and brought on-site as required"

Our members agree with this statement. If however the management practices currently employed by the applicant are continued elsewhere the residents adjacent to this activity will also suffer the appalling conditions we have had for years.

Technical Committee Evaluation

The TC agrees and this aspect will be covered under condition 3.7. However, the TC believes that if the material is kept dry it will result in the reduction of odours consequently there will be no need to store it off-site.

Ground No 4.3 .2-"Poultry Manure should be premixed with Gypsum"

Because of the addition of Gypsum per batch is a little over 5% of the total batch (ref: OdourNet UK Ltd., pages 14 and 15 of referenced report¹) why can Prof. Noble not recommend that the gypsum mixing stage is also carried out at the off-site location under strict quality control? Prof. Noble has not addressed the issue of the storage of the gypsum. This material should be stored in enclosed silos or tanks which prevent the escape of fugitive dust emissions during storage and indeed in the handling stage.

Technical Committee Evaluation

There will be a condition (3.7) in the license that gypsum must be stored in a dry state.

Ground No 4.3.3-"Poultry Manure or horse manure which is too wet (45% and 55% respectively) is likely to result in significant odour when handled and should be rejected"

Our members are in total agreement with this statement and would welcome moves in this regard. To our recollection however we have never seen a transport company leave the facility with a load of fresh poultry manure. Could it have been possible that all loads to this facility were of adequate dry matter content or, more realistically, does the applicant alter the wetting and mixing processes to facilitate the manure? We would be again concerned as to how the moisture content would be managed. We stress again that the Company obviously find **good practice** and **clean management** difficult. As a quality assurance measure we must insist that independent monitoring of each load brought into the site should be carried out and the results submitted to the Agency on a weekly basis. We hope that this would form

part of a monthly report and not a quarterly report as we understand is now the norm with the Agency.

Technical Committee Evaluation

The TC wishes to point out that a monitoring programme must be put in place (to be agreed with the Agency) to measure the moisture content of poultry litter been accepted and used at the facility –new condition

Recommendation:

7.10 Poultry Litter Monitoring:

7.10.1 A monitoring programme to be agreed by the Agency shall be put in place to measure the moisture content of poultry litter arriving at and being used at the facility.

This aspect will also be addressed under condition no 2 of Annex 1.

Ground No 4.3.4-“The liquid entering the storage pit should be screened to reduce the amount of solid matter”

Some questions must be asked here. Why should the solid matter level in the ‘goodie’ water be an issue? What level of screening does Prof. Noble prescribe? Erne Valley Concerned Residents feel that the goodie water system of this facility is a major contributor to the odour problem at the site as do OdourNet UK Ltd. (see also OdourNet¹ report page 17). The screening of the goodie water should be brought to a level of microns and not millimetres as is the case currently. The reason we require such stringent screening is that the gross solids are primarily being removed by the applicant to facilitate the spraying nozzles on the bale-wetting stage of phase 1. The suspended solids and colloidal solids within the water are not removed. Depending upon the levels of aeration in the percolate storage tanks, if any, coupled with the microflora present and the return/recycle rates of the liquor concerned any number of microbial processes can take place within these tanks. With inadequate aeration the water may turn anoxic leading to the foul odour which regularly predominates in the area. If over aeration occurs the development of an aerobic microflora will predominate. This again will require organic substrate to survive and if, as with all waste water treatment systems, the feed is not constant the sludge will die off creating an odorous environment.

We feel that a more concentrated screening will reduce the level of substrate, the level of aerobic and anaerobic biological activity and hence facilitate the reduction of malodours from the ‘goodie’ water system.

Technical Committee Evaluation

The TC are satisfied that the measures outlined in Annex 1 will be transposed in the FD which will deal with the ‘goodie’ water and the screening of solid material. Combined with the other measures outlined in Annex 1 odour emission from this facility will be reduced.

Ground No 4.3.5 “The volume of water in the storage pit should be regularly monitored, with the aim of reducing the volumes to the minimum that is required for maintaining a consistent throughput of compost”

In the event that the Agency do not deem that all ‘goodie’ water tanks should be enclosed and the vented air treated through biofiltration or a similarly acceptable odour treatment facility we feel that monitoring of the water storage pits should be done daily. A base line should be established governing the volumes required and high level alarm signals should be brought to pager systems or phones telling the operators of the increased levels. No disused tanks should have any water present and regular checks should verify this.

Technical Committee Evaluation

The TC believes that this aspect will be dealt with adequately in the licence-a new condition - refer to Annex 1-No. 6.5

Ground No 4.3.6 “Samples of ‘goodie’ water should be analysed for dissolved oxygen concentration monthly”

This statement brings into question the expertise of Prof. Noble regarding the treatment or handling of foul or dirty waters. What benefit would Prof. Noble be gaining from knowing a point referenced dissolved oxygen concentration once a month? Could the Agency foresee a case whereby the applicant would over-aerate at the sampling time to reflect a higher level of aeration? We think this would be the case. (In a later section we will question the levels of aeration required). If dissolved oxygen is to be monitored it should surely be monitored continually if not from an odour management point of view then from an energy management point of view for the applicant. Why should he waste so much money on pointless aeration when he has so much more to spend in other areas to alleviate the litany of environmental problems inherent at this site?

Technical Committee Evaluation

The TC wishes to point out that the licensee will have to monitor the goodie water continuously for DO-Schedule C:Process Control.

Ground No 4.3.7 “Some form of aeration/oxygenation should be installed in the ‘goodie’ water pit and any water storage tanks”

Again we must question the level of expertise of Prof. Noble regarding basic wastewater treatment. “Some form of aeration” is possibly the broadest, most unclear statement that has been made in this document. Prof Noble does not even state why this should be done. Aeration, as we have learned through the nauseating odour emissions from the facility concerned, is required to prevent the water storage tanks from becoming anoxic and foul smelling. There is a whole multi-billion euro industry operating the **science of aeration** in foul water handling and Prof. Noble sees fit to state “some form of aeration should be installed”. This is totally unacceptable. Extensive trial work should be carried out at the site to determine the required level of aeration at which the dissolved oxygen concentration within the tanks should be kept to keep the tanks aerobic without over aeration. No figure or level is currently suggested. This trial work should, in effect, save the applicant money. Whilst looking at the potential problems associated with aeration systems for the percolate storage it is must also be noted that the compost aerators are already at times, creating a serious noise problem for residents. We hope that due consideration would be given to the specifications of aeration that may be used in the future.

The level of noise coming from the on-site aerators at times is totally unacceptable. We have to insist on independent noise monitoring to be carried out at independently identified noise sensitive locations with the minimum recommendation from this analysis being the downsizing of these loud aerators and an insistence that they be installed in high rate acoustic enclosures guaranteeing a maximum audible distance agreeable to the nearest dwelling house. (That of Mr Paddy Harten approximately 60m from the site boundary)

Technical Committee Evaluation

–condition 4.5.5. and 5.5 will cover these aspects.

4.5.5 All goodie water storage tanks shall be aerated on a continuous basis following the installation of aerators in the tanks.

It should be noted that noise will be covered under a specific condition for noise emission. Noise emissions limits have also been set and must be monitored bi-annually.

Ground No 4.3.8- “The pit should be cleaned out at regular intervals (at least every 9 months, and possibly more frequently)”

It is our contention that if the Agency do not insist on a finer screening mechanism to be installed in the ‘goodie’ water system the cleaning out of the tanks every nine months is totally unacceptable. Why does Prof. Noble say 9 months and then say possibly more frequently? This is a science and Prof. Noble needs to appreciate that it is the residents quality of life he is dealing with. Is it 9 months or possibly more frequently? Possibly for who? Is he saying that if it is possible and not a burden on the applicant he might clean out the tanks more regularly? Is Prof. Noble trying his best to facilitate the composters of Ireland at the expense of environmental significance and science. We believe in this instance certainly that he is. Again we suggest that criteria and limits be set which determine the reasoning behind the cleaning out of the tanks and the need for doing so and then a suitable independent study should determine the frequency of tank cleaning.

Technical Committee Evaluation

The TC wishes to point out that the build up of all solid matter will be controlled as per Annex I.

Ground No 4.3.9- “Straw bales should be “dunked”

By the term dunking we assume that the bale is dipped in a tank of ‘goodie’ water. This statement does not explain a lot to us. How many bales would be dunked at a time? What mechanism would be used to lower the bales into the tank? Will the dunking tank be equipped to handle the water displaced i.e. will the displaced water be returned via a collection system to the ‘goodie’ water storage tanks? We agree that dunking creates less offensive emissions than spraying the bales, and would welcome it in principal, but we would need to be sure that solving the problem of escape emissions is not exacerbating the potentially lethal threat posed to the nearby watercourses as a result of poor housekeeping and inadequate containment infrastructure.

Technical Committee Evaluation

The TC agrees that dunking of bales in goodie/fresh water tank will alleviate the odour problems which were very pronounced when the goodie water was previously applied to the bales as a fine mist/spray. The ‘goodie’ water will be aerated and should not result in

significant odour problem which is clearly the situation at the UK facility where they are using the dunking method. Refer to Condition 4.2

Ground No 4.3.10- “Dunked bales should be broken up and placed on an aerated area within 3 days of dunking”

This would only be acceptable to us if the aerated area was indoors as we would expect the entire process to be. At the start of the document Prof. Noble states... "poultry manure or horse manure which is too wet (45% and 55% respectively) is likely to result in significant odour when handles and should be rejected" Our understanding of the dunking issue is that the bales are going to be dunked in dirty poorly filtered 'goodie' water which contains chicken manure residue and gross solids, and left for 3 days prior to being subjected to any form of aeration. Is Prof. Noble stating that whatever creates the foul odour in the chicken or horse manure is not present in the 'goodie water'? This wetted straw laying out exposed and contaminated will not alleviate the problems currently inherent in the outdoor operation but will just change slightly the description of the problem.

A statement without thought such as the above brings into question a lot of the issues contained in this submission.

Technical Committee Evaluation

The TC wishes to point out that this aspect will be covered as per Annex 1.

Ground No 4.3.11-“Poultry Manure should not be applied as a single application during pre-wetting. No more than 75% of the total poultry manure application should be applied in any 3 day period. This refers to the total quantity of poultry manure after the 15% substitution with urea”

Prof. Noble has failed to give any scientific reasoning on this point. What is he gearing his points towards? Is this a step to aid odour abatement? Will that ultimately mean that the manure will have to be transported from the recommended off-site storage facility to the pre-wetting stage in 2/3 different loads? If so, this will lead to an increase in the traffic to and from the site and also an increase in pollution potential through more movement of the material. We think that Prof. Noble is actually contradicting his previous statement regarding off-site storage and yet again find that he seems to be pandering to the compost producers.

Technical Committee Evaluation

The TC notes that poultry litter will be stored in an enclosed structure so there will be no requirement to have it imported from an off-site storage facility. Poultry litter will also be pre-mixed with gypsum in an enclosed building which will reduce odour emission-Annex 1.

Ground No 4.3.12-In the Aeration section the following statement is made “Pre-wetting and Phase 1 composting should be conducted on aerated floors (low or high pressure systems), capable of maintaining a minimum oxygen concentration of 5% v/v in the air in the entire compost”

Our members accept this statement and would not wish to become expert in the control conditions for growing compost. However the environmental issues related to this procedure have been very well documented previously. We want the Agency to abide by their initial, proposed decision and bring the operation in its entirety into an enclosed setup with fundamental parts of the process under negative pressure and exhaust air treated through a

form of treatment compliant with BATNEEC considerations for the industry. (section 3.11 Waste Licence Proposed Decision) We would expect that the BATNEEC for our European partners would also apply here as all producers of compost are competing in a common marketplace and no significant differences are apparent for any party.

Technical Committee Evaluation

The chairperson of the TC is of the opinion that Noble's measures which are being used in the UK would be regarded as BATNEEC for the mushroom compost sector. Also, it should be pointed out that in the case where the said measures are not successful in sufficiently reducing odours the licensee will be required to enclose the composting process and to install odour control technologies at the facility over a specific timeframe-refer to condition 3.11.

Ground No 4.3.13- Prewetting

The contents of the pre-wetting section revolve around the composter running a strict qualitative process. The nature of the industry would demand this. However this company through the years of this struggle have been repeatedly uncontrolled in their operation and have allowed numerous incidents to occur ranging from water pollution, to continual odour problems, to noise problems. All of these problems suggest that the Agency must apply at the very least the recommendations of the previously proposed licence decision and, within this, embody the suggestions we made previously.

Technical Committee Evaluation

The TC notes the concerns raised but argues that such concerns will be addressed in the licence.

Ground No 4.3.14-Urea

Before we address the actual process itself we feel it is important to state that this is a highly polluting chemical. For it to be mis-handled and managed with the level of incompetence displayed to date by the applicant with simple 'goodie' water would be a huge mistake. How, with the current level of environmental management at the site can we expect the applicant to manage this chemical? What infrastructure and bunding arrangements has Prof. Noble suggested for handling of this chemical? We do not believe that Prof. Noble can be so general regarding the sites he is making recommendations for. We believe that, if he saw this site, he would feel the same lack of confidence that we have regarding the chemical management capabilities of the applicant. This should be very strongly considered by the Agency in any conditions imposed on the site.

What Prof. Noble is suggesting in the section "Addition of urea to substitute poultry manure" is the use of a readily available N substitute to chicken manure. Whether this is of significance to the process of composting is somewhat irrelevant to our group as it stands. We note a statement Prof. Noble makes at the end of the section: "all N in the urea is readily available for ammonia forming bacteria, whereas not all the N in poultry manure is readily available".

The ready availability of the N in the urea for the composting process is a plus for the process but the N in urea is also readily available as a pollutant to the nearby streams. It is felt that spillages of urea would accelerate the eutrophication process which we feel has been initiated by mismanagement on this site over a prolonged period of time. It would be negligent of the EPA to allow such bad managers handle such potentially destructive chemicals in such an environmentally sensitive area.

In conjunction with the above and despite the limited nature of the consultation process we have been asked by North Longford Anglers to relay their alarm at a further threat to their environment and livelihood with the following.....

From North Longford Anglers

Mr M. Cusworth, Ledwith Lodge, Kilmore, Dring, Co. Longford.

"We note with alarm the proposed introduction of large quantities of urea to the production process, and presumably its storage on site. An important tributary of the River Erne flows through the factory site. Within a few hundred yards of the factory The Erne flows into the Lough Gowna System.

We draw to your attention the conviction recorded against this company in December 1999 under Section 171 of The Fisheries Act. This case highlights the pollution potential of the operation. We were already concerned by the operation of the plant in this location but we fear that the introduction of urea to the process may significantly increase the probability of serious pollution.

The Phosphorous Regulations (1998) classify Lough Gowna as highly eutrophic and require water quality to be improved to mesotrophic states by 2007. There has been an ongoing decline in the water quality of Lough Gowna, which is a famous and popular angling and tourism resource.

We request that the high degree of protection required by Lough Gowna be given proper consideration when the licensed operation of this plant is reconsidered.

Yours faithfully...M. Cusworth"

We feel that The Northern Regional Fisheries Board should have been informed of this proposal and consulted as to its implications. Perhaps they are simply left to pick up the pieces after the disaster has occurred.

Technical Committee Evaluation

Approximately 900 tonnes of urea will be used at this facility annually (a 15% urea substitution programme for poultry litter) or about 17 tonnes weekly. This amounts to approximately 340 bags @ 50 kg/bags/of urea weekly. It should be pointed out that urea has been used as a nitrogen source in Irish Agriculture for a number of years and is mostly used in the granular form which is bagged in durable plastic bags. It is understood that it comes in either 50 kg or a 375 kg bag delivered on pallets and are usually shrink wrapped on the outside of the pallet to avoid spillage. It is also understood that there have been no known reported environmental accidents with its use. The TC agrees that this chemical fertiliser which has a high nitrogen content is not unlike other similar nitrogenous fertilisers would have the propensity to cause pollution to waterways if it were mishandled. For this reason the TC proposes that the following condition be inserted under 3.7:

Amend 3.7 to read as follows-Storage areas for poultry litter, gypsum and urea (granular/prilled form)

Insert 3.7.2-The licensee shall provide a secure area for the dry storage of urea (granular/prilled form) to be agreed with the Agency within 1 month from the date of use of this product.

Ground No 4.3. 15-As regards Phase 1

We re-iterate that the Agency must abide by its previous decision to enclose the process in its entirety if we must face the unfortunate eventuality that the plant is to be allowed remain functioning.

Technical Committee Evaluation

The TC again notes the concern raised and suggests that this concern will be covered adequately in the licence in particular under condition 3.11

Ground No 4.3.16-General Site Cleanliness

We agree with the sentiment expressed in this section and concur that all area must be kept clean and that run-off liquid must not be allowed to form in static areas but be removed with effective drainage systems into the storage tanks. It is imperative that a qualified structural engineer is contracted to design the run-offs and that all the yard concrete is impermeable to liquids and made good from its existing state of disrepair. The enclosing of the system should also help in this regard by minimising the surface area exposed to polluting matter.

Technical Committee Evaluation

The TC agrees that the management of the site is imperative and this aspect is covered in the licence.

Ground No 4.3.17-Measures for Odour Monitoring

In suggesting measures for the measuring of odours generated by the plant Prof. Noble has suggested one of the most inexpensive and inconsistent methods of analysis for gas detection. The gas detection tube methods can be manipulated. Simply stand upwind of the area from which the air is being sampled and a great result is achieved. We would suggest the need for fixed monitoring stations. We would also stress the need for an independent monitoring to be carried out regularly along the lines of the assessment carried out by OdourNet UK Ltd.

The statement “to avoid significant odour nuisance at the site boundary, the odour concentration of the air close to the composting stacks or in the vicinity of the goodie water pit must not have a combined sulphide ($H_2S + DMS$) concentration of greater than 2ppm”. This is a very general statement and uses figures which would require proving. Who knows where the site boundary is in relation to the composting stacks or the goodie water for the general composting industry in Ireland. Some sites may be vast in size, whilst others may have dwellings in the immediate vicinity. Generalised statements of this nature are not constructive and are misleading when not specified to a particular site. It is also felt that the 2ppm figure is high.

In his document Prof. Noble has ignored the findings of OdourNet UK Ltd and chosen a completely different analysis technique. We believe that the technique utilising OU/m^3 is a more accurate and scientific measurement and also more readily quantifiable. We urge the Agency to adopt this methodology in any licensing decision.

The “remedial actions to be taken in the event of an episode of emission greater than 2ppm total sulphides” are classic fire fighting measures which will not be employed as the occurrence would not be readily verifiable. We are interested in ensuring that, whatever system is installed at this site, it works consistently without cause for any fire fighting. We see an enclosed system as the ultimate way forward.

Technical Committee Evaluation

The TC points out that monitoring of hydrogen sulphide and dimethyl sulphide must be carried out daily. Independent monitoring can also be carried out by the Agency if required. We wish to point out that trigger levels for H₂S and DMS will have to be agreed with the Agency within 3 months of grant of the licence- refer to condition 5.6. The measures outlined in annex 1 will reduce odours at this facility. Under schedule E2 daily odour monitoring must also be carried out.

Ground No 4.3.18-Record keeping

As regards the issue of record keeping, we wish the EPA to hold firm on the requirement from the Proposed Decision Section 3.16 to install full telemetry systems as a minimum for the areas stated. The reports from this continual monitoring should be made available to the Agency as part of the Monthly Report. The fixed Hydrogen sulphide and di-methyl-sulphide concentrations should also be brought into the telemetry set-up.

Technical Committee Evaluation

The TC agree the requirement for a telemetry system as required by condition 3.16 should remain. H₂S and DMS will be monitored daily and the monitoring system (e.g., gas detector tubes) is not suitable for connection to the telemetry system. The TC consider that Schedule C should be amended to reflect the requirements for daily H₂S/DMS monitoring and Schedule F should be amended to require regular reporting of such monitoring.

Recommendation

Amend schedule C as below:

Process Control

Monitoring (where relevant):

Control	Frequency	Monitoring Equipment/Method
Process Water: Dissolved Oxygen Water Usage ^{Note 1} Water Level in Tanks	Continuous Continuous Continuous	DO Probe with Recorder Flow meter/Pump rate over time To be Agreed ^{Note 3}
Phase I / II: Oxygen Content Temperature Hydrogen Sulphide Dimethyl sulphide	Continuous ^{Note 2} Continuous ^{Note 2} Daily	Oxygen Probe with recorder Temperature Probe with recorder Gas detector tubes with appropriate sampling pumps

Note 1: The quantity of non-process water used on-site is to be monitored (e.g. clean rainwater, mains or abstracted surface/ground water).

Note 2: Pending the completion of the infrastructure required under Condition 3.11, the monitoring frequency for Clamps of intermediate compost deposited in open yard areas shall be daily.

Note 3: To be included in the telemetry system required under Condition 3.16.

Recommendation

Amend Schedule F to include the following:

Report-H₂S/DMS and odour monitoring
 Reporting frequency-monthly
 Report submission date-within 5 days after the end of each month

Report	Reporting Frequency <small>Note1</small>	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Annual Environment Report (AER)	Annually	One month after the end of each calendar year.
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	Six months from the date of grant of licence and one month after the end of the three year period being reported on (or prior to the use of new structures).
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the period being reported on.
Monitoring of Groundwater Quality/Levels	Bi-annually	Ten days after end of the six-month period being reported on.
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Dust Deposition Monitoring	Three times a year	Ten days after the period being reported on
Airborne Micro-organisms Monitoring	Annually	One month after end of the year being reported on.
Noise Monitoring	Bi-annually	Ten days after end of the quarter being reported on.
Odour: Hydrogen Sulphide Dimethyl sulphide	Monthly	Within 5 days after the end of each month
Environmental Liabilities Risk Assessment Report	Once Off	Within six months of the date of grant of the licence.
Facility Yard and Storage Tanks Integrity Report	Once Off	Within one month of the date of completion of the assessment.
Any other monitoring	As they occur	Within ten days of obtaining results.

Ground No 4.3.19-Serious concerns of the Erne Valley Residents related to the context of this paper and the licensing process:

We have now been waiting for **five years** for the licensing process to take effect. We have noted from the sidelines the political manoeuvring and backtracking which has resulted in further delays in the process. At no point have we been informed or consulted. We have heard of meetings (confidential and otherwise) between representatives of the industry, politicians and yourselves yet our group has been neither informed nor consulted. We have met each deadline presented to us for comment noting each pre-printed delaying message from yourselves, yet we find ourselves here hurrying a response to a document given to us only two weeks ago for the first time. We have little confidence in the report itself, as the above indicates, and we feel that its positive and ever cheap message may have more to do with the requirements of those who funded it than the real needs of the environment.

In all the time since the licensing process began we have had no effective forum for complaint, despite, at times, atrocious conditions. We foresee further lengthy delays ahead as the industry continues to evade responsibility for its actions. Suffering residents are not the people threatening the industry. Previous greed, ignorance and profiteering ensured that these plants were never set up properly at any stage. The “factory” under consideration here is little more than a ramshackle mess of temporary buildings and piles of disgusting rotting materials. These add visual pollution to an endless list of offences.

Our requirements are both reasonable and simple.

We wish the previous licence requirements for odour control, noise, dust and water pollution to be enforced without further delay as a minimum standard. We refer you also to our response to your previously proposed decision dated June 2003. The measures taken must include effective action to reduce the plight of residents within close proximity to the site.

Monitoring must be independent, thorough and transparent with results available to local people for inspection.

We wish the process to draw to a close rapidly with a satisfactory outcome. The residents will vehemently oppose any “new technology” which brings new problems whilst failing to properly address the old ones. Many simple measures which would have required only minor expenditure and good management have been ignored for years as the licence has been awaited. We view Prof. Noble’s paper as an attempt to evade the costs of taking proper action and further waste time in the determination of proper controls. We now require a fair and safe licence to be imposed at an early date.

Technical Committee Evaluation

The TC notes the concerns of the residents and their lack of confidence in the Noble measures.

Part 111-Visit of the Chairperson of the Technical Committee to a UK mushroom facility that is using Noble’s recommendations and his Index of Measures

The chairperson of the Technical Committee visited a compost yard in the UK that was implementing all of the procedures outlined by Prof Noble to reduce odours at such facilities. Pond Chase Nurseries, Hockley, Essex, UK, a mushroom compost facility that is implementing Noble’s measures for a number of years was visited. The Hockley facility is producing Phase 1-3 compost. They produce an estimated 100-150 tons of mushroom compost per week. This represents approximately one fifth (1/5) of the compost that is produced at the Greenhills site. This site is situated near the town and there are numerous houses surrounding the yard. The facility manager advised that they get an occasional complaint (1-2 per year), particularly, if they miss-manage the chicken litter. The regulatory authority in Hockley was contacted to establish the environmental performance of the facility with particular reference to odour complaints at this facility. It was confirmed that they received one complaint relating to odour which may have originated from this facility during 2003. Regarding scale, Prof Noble informed the Agency that it was possible to make compost on any scale that would be very odourous, if the proper measures were not used.

It is the view of the chairperson of the Technical Committee that there is sufficient evidence that odours are being reduced at the UK mushroom composting facility that is using Noble’s

Index of measures and that these measures if implemented at the Greenhills will result in the reduction of odours.

Technical Committee's Evaluation:

The Technical Committee notes that Prof. Noble's report does not specifically refer to the conditions outlined in the Proposed Decision, rather refers to certain measures that addresses the reduction of odours from the mushroom composting process, in particular, avoidance of anaerobic composting, use of alternative nitrogen sources, treatment, storage and use of 'goodie' water, management of poultry litter and the monitoring of oxygen in the compost. Prof. Noble's report was sent to Odournet UK for comment. They reverted and stated that 'Although the comments by Professor Noble certainly contained relevance to determining the way forward, they fall short of either invalidating the original report or providing a viable alternative for the mushroom growing substrate industry in the short term'.

Having reviewed the objections and submission on objections and also Professor Noble's recommendations, the technical committee considers that the amendments to the PD as outlined in this report should be included in the final licence for this facility. Principal among the requirements is that the licensee will have to provide the infrastructure and abatement technology specified unless it can prove to the Agency that such requirements are not necessary. In addition, the technical committee also considers it necessary to amend the PD as recommended in Annex I below.

Some members of the technical committee have grave reservations about the ability of some of Noble's recommendations to adequately control and minimise emissions arising from the mushroom composting sector. For example, some of the TC members consider it will be very difficult to implement adequate odour management at the facility by implementing Noble's recommendations only.

The Technical Committee notes that according to the Noble measures that 'goodie' water can only be used during the 'dunking' process, hence there is a need for the licensee to ensure that any surplus 'goodie water is managed in a precise fashion to ensure that it does not contaminate surface or groundwater. In order to circumvent any contamination we recommend that the following condition be inserted under 3.12.1:

Recommendation

(e) all goodie water not used in the process cannot be discharged or transported off-site without the prior agreement of the Agency

The TC note that a recent audit carried out by the Agency at another licensed facility indicated that gypsum waste containing a high concentration of lead was being used by mushroom composters in Ireland. In view of this finding, the TC suggest that a new condition under condition 4.1.7-:

Recommendation

The source of the gypsum must be agreed in advance with the Agency

Finally, the Technical Committee wishes to point out that when transposing the measures outlined in Annex 1, great care will be required to ensure new conditions fit in well to the revised PD and that no Conditions contradict each other.

Overall Recommendation

1. It is recommended that the Board of the Agency agree to the insertion of the attached conditions (Annex 1) together with the changes recommended in the specific grounds above.
2. The inspector will be given latitude when transposing the measures in Annex 1 in the FD to ensure clarity-see attached 'draft' FD.

Signed:

Dr Tom McLoughlin Technical Committee Chairperson

Annex 1

Conditions for Mushroom Composting Procedures

1. Poultry litter –
 - 1.1 with a moisture content of < 35% shall only be accepted at the facility.
 - a. must be pre-mixed with gypsum in an enclosed building or structure and kept dry prior to its addition to straw.
 - b. accepted at the facility must be stored in the enclosed building or structure.
 - c. A monitoring programme to be agreed with the Agency must be put in place to measure the moisture content of poultry litter accepted and used at the facility
- 2 All storage tanks shall be fitted with submerged aeration/oxygenation facilities within one month of the date of grant of this licence.
- 3 Surface water and 'goodie' water collected on-site shall be continuously aerated/oxygenated following the installation of the aeration/oxygenated facilities.
- 4 Goodie water may only be applied to the composting process following its aeration / oxygenation. No goodie water should be added to the process other than for the dunking of bales
- 5 Surface water from the site may only be used in the process following its aeration / oxygenation.
- 6 Goodie Water Storage tank
 - 6.1 All liquid entering the storage tank shall be screened.
 - 6.2 The screens shall be cleaned on a daily basis and the screened material returned to the composting process.
 - 6.3 All solid matter, including sludge, shall be removed from the storage tank every 4 months or at such other intervals required by the Agency.
 - 6.4 Fresh water shall not be used to increase the volume of goodie water in the storage tank.
 - 6.5 The volume of water in the storage tank shall be monitored on a continuous basis and shall be maintained at a minimum level that is required for maintaining a consistent throughput of compost.
- 7 The licensee shall provide adequate aerated floor facilities, within nine months of the date of grant of this licence.
- 8 The pre-wetting of compost material and Phase I compost must be conducted on aerated floors (low or high pressure systems), within 9 months of the date of grant of this licence. The aerated floors shall be capable of maintaining a minimum oxygen concentration of 5% v/v in the entire compost. Where monitoring indicates that the oxygen level in the composting material is less than 5% v/v the licensee shall increase aeration and/or apply additional turns to the composting material.
 - 8.1 The minimum oxygen level of 5% maybe reviewed by the Agency in light of actual measurements and the environmental performance of the facility.
 - 8.2 Oxygen levels in the lower half of the compost stack shall be measured and recorded during Phase I and pre-wetting on a daily basis.
- 9 Within one month of the date of grant of this licence straw bales shall only be wetted by being 'dunked' in the recycled (aerated / oxygenated) goodie water. Fresh water should be added to the dunking tank if required, but not to goodie water storage tanks.

- 10 Recycled (aerated / oxygenated) goodie water shall not be applied in a fine spray to the straw bales or pre-wet material.
- 11 All bales shall be broken open and the material placed on aerated area within three (3) days of dunking.
- 12 The moisture content of the materials at the end of pre-wetting and the Phase 1 process shall be measured on a daily basis.
- 13 Where the monitoring results show the moisture content to be in excess of 75% at the end of either the pre-wet or phase 1 stages, the licensee shall reduce the quantity of water added at Phase 1 and adjust the subsequent pre-wet stage accordingly.
- 14 The licensee shall introduce a programme for the part substitution of poultry litter by urea . The Urea shall only be added to the pre-wet stacks and mixed into the stacks, at the commencement of the composting process.
- 15 The Urea substitution programme shall achieve as a minimum:
 - 15.1 a 5% reduction in the amount of poultry litter added within 1 month of the date of grant of this licence and
 - 15.2 a substitution rate of at least 15% within 6 months of date of grant of this license.
- 16 The licensee shall report to the Agency within 9 months on the success in achieving the required level of urea substitution.
- 17 Poultry litter shall not be applied as a single application during pre-wetting. No more than 75% of the total poultry litter application (remaining following the substitution of fifteen percent by Urea), shall be applied in any three (3) day period. For each batch of compost material, records must be kept of the amounts of all poultry litter and urea used at this facility during each stage of the composting process.
- 18 All dirty yard areas shall be cleaned at least twice daily & records maintained of such.
- 19 The drainage system at the facility shall ensure that surface water run off liquid is drained by an effective drainage system to the 'goodie' water storage tank and surface water does not accumulate on the yard.
- 20 A programme of monitoring emissions from the facility (to be agreed with the Agency) shall be put in place within two months of the date of grant of this licence. The programme shall include
 - 20.1 Hydrogen sulphide (H₂S) and dimethyl sulphide (DMS) measurements must be taken during turning of pre-wet stacks and Phase I windrows, and in the vicinity of the goodie water tank.
 - 20.2 Measurements shall be taken in the plume close to the compost unless otherwise agreed with the Agency.
 - 20.3 Measurements should also be taken at different times of the day above static piles of compost.
- 21 The licensee shall maintain on-site a record of all the following:
 - 21.1 dissolved oxygen concentration measurements taken in the goodie water storage tank and in the pre-wet and Phase I composts; and
 - 21.2 measurements of hydrogen sulphide and dimethyl sulphide at the sampling locations.

- 21.3 The records shall be made available for inspections at all times by Agency personnel and a summary of all measurements shall be included in the AER.
- 22 In the event that monitoring in accordance with condition 21 above indicates low levels of oxygen concentration or high levels of H₂S/DMSs the licensee shall take the following remedial measures:-
- a. increase aeration/oxygenation of the goodie water
 - b. avoid anaerobic compost conditions by reducing compost moisture, and / or poultry litter additions
 - c. increase the aeration of the compost by increased airflow and / or more frequent turning of the compost and
 - d. any other actions that may be deemed necessary by the Agency.
- 23 Samples of goodie water must be analysed for dissolved oxygen concentration on a continuous monitoring system.
- 24 Monitoring shall be carried out using a computer control system or gas detector tubes or electronic hand-held meters. 24.1 Gas detector tubes (hydrogen sulphide and dimethyl sulphide, capable of measuring 1 ppm) with appropriate sampling pumps (Draeger type accuro 2000 or Mod. 21/31 or Gas-tec/Anachem Model GV-100) must be used for detecting and measuring odorous emissions.