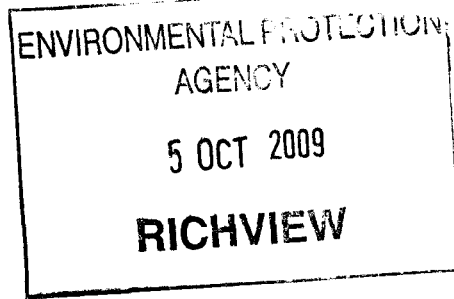




Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Submission No 2
Environmental Health Service,
Health Service Executive,
West,
Ashbourne Hall,
Ashbourne Business Park,
Dock Road,
Limerick.



Tel: 00353 (0)61 461505 / 04 / 02
Fax: 00353 (0)61 461503
Website: <http://www.hse.ie>

30.09.09

Attn: Mr. Patrick Morris – Programme Officer
Office of Climate, Licensing Resource Use
EPA Headquarters,
PO Box 3000,
Johnstown Castle Estate,
Co. Wexford.

re: **Waste Licence Application for in-vessel composting facility
Waste Management (Licensing) Regulations 2004**

Location: **Durnish, Foynes, Co. Limerick**

Applicant: **Greenport Environmental Ltd.
The Red Church
Henry St.,
Limerick**

Register No: **W0271-01**

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Dear Sir,

I wish to confirm that this office is in receipt of the above Waste Licence application and accompanying Environmental Impact Statement (EIS) and has the following comment to make from a public health perspective:

Scope:

The Applicants propose to convert and extend the existing timber-frame construction facility to accommodate a fully-enclosed anaerobic digestion and in-vessel composting facility with a capacity to receive 50,000 tonnes of organic waste per annum.

The existing building is 4,554.5m² in area and the proposed extension is 6079.65m². The proposed storage area for end-product is 2,640.6m². The site area is 17.24 acres and is situated within the Shannon-Foynes Port Company area.

Proposed processes:

In the planning application it is indicated that the main source of supply will be organic fines from the *Mr. Binman* waste processing centre in Grange, Kilmallock, Co. Limerick, to the order of 20,000 tonnes per annum as well as 20,000 tonnes of source-segregated organic material per annum. Because of the differing grades of input materials, the end-products will be Class 1 Compost – which can be used for gardening purposes – and Class 3 Compost, a lower grade which would be used for landfill cover and land remediation.

The process can be summarised thusly:

In-take materials arrive in covered trucks at the plant, enter the interior of the plant and eject loads into the loading pit where they are de-compacted and homogenised. They are then transferred by a loading shovel into sealed anaerobic digestion tunnels, where they are sprayed with recycled water by a sprinkling system and aerated by a pressurized air system. The spraying will inoculate the material with bacteria and encourage bacterial activity. The bacterial action will use up the available oxygen, creating anaerobic activity leading to the mesophilic stage.

The gas produced from this process (primarily CH₄ & CO₂) is gathered via the atmospheric control system, treated in scrubbers and cooling loop, and transferred to the headspace above the water tanks. From here it is mixed with air and used to fuel the generators.

The digested material, meanwhile, is mixed with a fraction of fresh composting material and transferred to the aerobic digestion tunnels for conversion to compost. Each of these tunnels is equipped with turbulence fans and a water sprinkling system to provide the necessary aerobic and moisture conditions necessary for composting. At the end of the composting period, it is graded and two-dimensional and three-dimensional solids (such as plastics) are removed to leave the final product.

The two grades of input material will not be mixed and two separate streams of processing can be accommodated at the plant.

It is estimated that the composting process will take two to three weeks.

The following areas were considered to be of most concern from a public health perspective:

Air pollution

With normal outdoor composting facilities, air pollution in the form of gaseous releases, particle dispersion and foul odours constitute the main risks to public health within the vicinity of such sites. The organism most associated with composting-related air pollution is *Aspergillus fumigatus*, a fungus which can cause fungal lung diseases. With in-vessel composting facilities, the enclosed nature of the process means the potential for such pollution is reduced to emission points and allows for better monitoring of exhaust releases at source.

Potential sources of air pollution:

The main potential source of odours from the plant will be the biofilter units. According to the EIS, these have been designed to scrub malodorous process gas generated by the composting process before transferring to the storage tanks in the headspace above the water storage tanks.

Another source of pollution will be the delivery and removal trucks. It is proposed that trucks will be covered at the waste recycling facility in Grange and that deliveries will be accepted on a demand-only basis. This will negate the possibility of a build-up of foul-smelling un-processed material at the plant entrance. The moist nature of the incoming material means that fugitive dust from lorries should not be an issue.

While there are a number of different points throughout the process which have the potential to produce foul odour, all are within the confines of the building and as such are subject to the internal atmospheric control system within the building. However, in the Process Design Report included in the application, it is stated that the internal areas outside of the composting tunnels (such as the loading floor) will be vented through axial fans in the roof. This situation must be clarified. If these areas *are* to be vented through axial fans, it would imply that there is no treatment of fugitive emissions and this situation would not be acceptable from a public health perspective.

The concern from a public health perspective arises if/when the mechanical system were to fail. The Applicants state that this would be addressed by the oxidisation of all exhaust fumes before release to the environment.

The EIS states that the following monitoring shall be undertaken by the Applicants and records kept on-site as well as supplied to the relevant authority:

- bioaerosol sampling to include *A. fumigatus*
- olfactometric surveys in accordance with the Olfactory Standard EN13725:2003
- dust readings

With regard to air sampling, it is important that downwind microbiological air sampling for bioaerosols be undertaken when the plant is operational to determine the negative effect, if any on the existing environment.

A baseline study of dust levels in the port area shows that there already significant dust particle deposition from the nearby coal and clinker storage facilities. The most relevant guidelines from the Composting Association of Ireland (CRE) and the UK Composting Association indicate a minimum separation of 250m should be allocated between in-vessel composting facilities and the nearest residential receptor. Because of its location within the commercial Foynes Port area, the nearest residential sensitive receptor is located 450m south of the site boundary.

Surface Water and Foul Water

It is stated that all surface water within the plant will be drained and collected for recycling. The bacteriological content is utilised for the inoculation of the next batch of material to be digested. In the event of the breakdown or malfunction of this system, excess leachate shall be removed by tanker to a local authority wastewater treatment plant. There will, therefore, be no effluent discharge from the plant.

The surface water from the impermeable surfaces surrounding the plant is drained to a Klargester Petrol/Oil interceptor before discharge to the surface water outfall to the River Shannon.

Final Product

The EIS states that the products produced would be Class 1 and Class 3 compost. Class 1 compost can be sold or used as a gardening product with Class 3 compost being used for land remediation, landfill capping layers etc.

Pest control

The Applicants have submitted a pest control plan formulated by Curtin Pest Control Ltd. to control the interior and exterior of the site as part of the previous application. This plan was found to be acceptable to this office and is to be applied to the new proposal.

Conclusion:

This office has no objection from an environmental health perspective to the granting of a waste licence for the proposed facility, subject to the following conditions:

1. **The waste facilities should comply with the provisions of the segregation of packaging and the storage of waste guidelines as issued by the Department of Health & Children in April 2004.**
2. **The Applicants shall be requested to detail the contingency plan which will operate should the plant suffer a power loss and/or a mechanical breakdown. The contingency plan should identify the following:**
 - a. **The procedure for re-directing waste which is about to or has already entered the plant but cannot enter the composting process until operation resumes.**
 - b. **The venting procedures for the plant in the event of a breakdown in the mechanically-controlled air pressure system.**
3. **Should the application be successful, the Applicants shall operate the plant in accordance with the requirements of the Air Pollution Act 1987, the Air Quality Regulations 2002 and with the provisions laid down by the Environmental Protection Agency in the Waste Licence.**
4. **Microbiological sampling of the atmosphere for bioaerosols shall be carried out downwind of the plant when operational and results of same forwarded to the relevant authority. All records of atmospheric monitoring shall be kept on-site and details of same forwarded to Limerick County Council on a regular basis.**
5. **All accidental releases of un-treated gases to the atmosphere shall be notified to the relevant authority immediately.**
6. **The plant shall be constructed and operated in accordance with the Health, Safety & Welfare at Work Act 2005 with specific reference to the supply of personal protective equipment for staff and to the ventilation of the work areas.**

7. The plant shall be operated in accordance with the the Environmental Protection Agency Act 1992 (Noise) Regulations, 1994.
8. The plant shall be operated in accordance with best practice guidelines as provided by the Composting Association of Ireland and the UK Composting Association.
9. A pest control plan shall be devised and implemented, and all pest control records shall be kept on-site and made available for inspection.
10. All delivery trucks shall be inspected:
 - A. upon arrival to ensure that they are fully covered and not in an unsanitary condition
 - AND
 - B. upon exit to ensure that they have been properly cleaned and all waste debris has been removed from the wheels and undercarriage so as not to cause odour or litter nuisance en-route to or from the plant.
11. The Applicants shall ensure that supply of materials to the plant is demand-led in order that a build-up of foul raw material should not occur.

Should you wish to discuss this matter, please do not hesitate to call this office on the above numbers.

Yours sincerely,

Signed:


Thomas Boland
Environmental Health Officer
Greenport Environmental Ltd. W0271-01 30.09.09

Agreed:


Annette Fitzgerald
Principal Environmental Health Officer