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for submission to the Board by  
the Programme Manager F Clinton  
Signed: *F. Clinton* Date: *24/3/10*



## OFFICE OF CLIMATE, LICENSING & RESOURCE USE

### INSPECTORS REPORT ON A LICENCE APPLICATION

TO:	DIRECTORS
FROM:	Dr Tom McLoughlin - Licensing Unit
DATE:	23rd March 2010
RE:	Application for a waste Licence from Miltown Composting Ltd., Milltownmore, Fethard, County Tipperary Licence Register W0270-01

Type of facility:	Organic Waste Composting (In-vessel) Facility
Class(es) of Activity (P = principal activity):	4 <sup>th</sup> Schedule: Class 2 P, 13
Quantity of waste managed per annum:	24,500 tpa
Classes of Waste:	The facility is a composting plant that accepts a broad range of compostable materials including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal waste water sludges and organic fines generated in the treatment of mixed municipal solid waste (MSW).
Location of facility:	Miltown Composting Ltd., Milltownmore, Fethard, County Tipperary
Licence application received:	26/5/2009
Third Party submissions:	One
EIS Required:	No
Article 14 Notices sent:	30 <sup>th</sup> July 2009
Article 14 compliance date:	17 <sup>th</sup> September 2009
Article 16 Notices sent:	20 <sup>th</sup> January 2010
Article 16 compliance date:	2 <sup>nd</sup> February 2010
Site Inspection:	14 <sup>th</sup> July 2009

## 1. Facility

The Milltown Composting Ltd. composting (in-vessel) facility at Milltownmore, Fethard, County Tipperary operates under a Local Authority permit. The facility also has an approval issued by the Department of Agriculture Fisheries and Food (DAFF) to operate as a composting plant accepting Animal By-Products. The facility began operation in 2004, and originally had the capacity to process up to 10,000 tonnes annually. The roll out of source segregated collection of household organic waste in the South East Region, along with impending introduction of source segregation for commercial activities requires a significant expansion in biological treatment capacity. On foot of this, Milltown Composting has identified a range of potential customers and has decided to increase capacity to 24,500 tonnes/year.

It should be noted that the Waste Management (Permit) Regulations 1998 were applicable for composting facilities up to 1000 M<sup>3</sup> of material at any time. The Waste Management (Facility Permit and Registration) Regulations 2007-2008 allows a facility to be permitted by the Local Authority accepting up to 10,000 tonnes per annum of biowaste. Amounts greater than 10,000tonnes require a licence.

The site encompasses approximately 5.9 hectares. It is occupied by the three main composting buildings-Three (3) sheds No's 1, 2 and 3, paved open yards; weighbridge, office; canteen/changing room; storage shed; an existing constructed wetland, biofilter and two (2) former cattle sheds (slatted houses).

Waste reception, blending and in-vessel composting is carried out in Shed No 1, which occupies an area of 1,700 M<sup>2</sup>. Maturation is carried out in Sheds 2 and 3, which occupy 2,840 M<sup>2</sup>. There are two empty former cattle sheds which may be used in the future either for maturation or finished product storage. The site office is a portacabin located at the north-west corner of Shed 1. A small canteen/changing room is located to the south west of Shed 1. There is an open fronted shed to the west of the canteen, which is used for the storage of green waste bulking materials. A container located at the northern side of the canteen is used to store lubricating/hydraulic oil and the power washer. The open yards to the east and west of Shed 1, south of Shed 2 and west of the cattle sheds are paved with concrete. The biofilter is located on the southern side of Shed 1. The process air from the in-vessel unit is collected and treated in biofilters. This minimises the risk of bioaerosols and odour generation.

I wish to point out that the nearest sensitive residences are located approximately 900metres from the facility and a farm is located 600m away.

This recommended decision (RD) allows waste acceptance and handling during the following hours:

- Between 8 a.m. and 6 p.m. Monday to Saturday.

The above hours of acceptance were applied for by the company and in my opinion are reasonable taking on board any potential nuisance that might be caused to the nearest receptor sites (dwelling houses) if the hours of acceptance were increased. The company also requested that the hours of operation should be from 06:00-18.00 Monday to Saturday and suggested that the hours of operation/waste acceptance specified in the licence can be changed subject to the agreement with the Agency. This has been granted under Condition 1 of the RD.

There will be 4-6 operators at the facility. The staff are provided with the appropriate training to ensure that the facility is managed in accordance with the Waste Licence conditions and in a manner that does not result in environmental pollution. The facility manager completed the Cre Certificate in Compost Facility Operation course and the FÁS Waste Management Course and the Assistant Manager completed the Cre Certificate in Compost Facility Operation course in 2008.

## **1. Operational Description**

In-vessel composting is carried out in Shed 1, which is divided into two main sections in order to meet the requirements of the DAFF in relation to the processing of animal by-products.

The western end of the building (where waste first enters the site) consists of eight (8) composting tunnels and a bunded area for waste acceptance. Six (6) of the tunnels are 11-12 meters long by 6 meters wide while the other two (2) are double width bays (ie. 11-12m long by 12m wide).

Incoming waste is blended in the waste acceptance area with appropriate bulking agents (mainly woodchip, compost overs or green waste). Source segregated domestic/commercial (Brown Bin) organic waste and various sludges may be mixed together and blended with woodchip, while MSW fines are kept separate from other wastes to prevent contamination with plastics.

Following blending the materials are placed to a height of approx. 1.8 – 3m high within the tunnel. The floor of each tunnel has a series of concrete channels that contain perforated 4inch pipes. Air is blown through these pipes from a stainless steel fan located outside the building. Each tunnel has its own fan. The air provided maintains adequate oxygen for optimum biological activity within the tunnel. Each tunnel also has its own temperature probe, the information from which is relayed to a control panel. The purpose of the fans is not only to provide oxygen to the tunnel but also to control temperature.

Once a temperature is in excess of 60°C for 48hrs on two consecutive occasions in the western end of the building, it is deemed to be treated in terms of the animal by-products regulations (ABPR). This is what is referred to as the thermophilic stage (bacteria which favor a high temperature range of 45° to 75°C). It is then passed over the large dividing wall that separates the western and eastern parts of the building.

Although sanitised in terms of the ABPR, the material is still biologically active and must be composed further in the eastern part of the building. This section contains eight (8) equally sized composting tunnels (6m wide by 11m long). The material is loaded into these tunnels for further composting. During loading the material is mixed, which helps stabilise and homogenise the product further.

In order to increase visibility within the building and treat odorous air, an air extraction fan removes air from the building and channels it into the woodchip biofilter located to the south of the building.

Following the high rate composting in Shed 1, the near finished product is transferred to Sheds 2 and 3, where it is formed into windrows. These are turned on a regular basis using either a specialised windrow turner, or a front loading shovel. The product is matured in order to stabilise the material as much as possible, usually this takes 6 weeks. At present aeration of maturing compost is achieved solely by mechanical turning of the windrows.

Plans are currently being devised to install an aeration system to further enhance the stabilisation of the finished product. This is the mesophilic stage of the composting process. (bacteria that are active in a moderate temperature range of 20° to 45°C).

When the maturation stage is completed the treated MSW compost (stabilised biowaste) is screened to remove contaminants, for example, glass, plastic and stone.

## **2. Use of Resources**

The facility has included details on raw material and energy consumption as follows:

- ⇒ Diesel fuel oil 156,000 litres;
- ⇒ Electricity usage: 520,000 units were used in 2008 for aeration, extraction and electrical appliances for the proper functioning of the building.
- ⇒ water usage, approx 102M<sup>3</sup>/annum will be taken from an existing well on the site and from roof run-off.

## **4. Emissions**

### **4.1 Air**

#### Odour

The applicant has stated that the incoming waste is odorous and the composting process also generates odours. The process air from the in-vessel unit is collected and treated in biofilters. This minimises the risk of bioaerosols and odour generation. The applicant has also stated that operational experience has shown that odours from Sheds 2 and 3 are not a cause of nuisance and an active air extraction system and treatment system is not provided in these buildings. The nearest sensitive locations are the private residences and public road approximately 900m to the north and the private residences to north east and south east of the site. There is also a farm within 600m of the facility. Subjective odour assessments at the biofilter outlet will be required on a daily basis as per condition 6.5 of the RD. Quarterly odour monitoring and analysis for odorous compounds is also required at the biofilters as per Table C.1.2 of the RD.

#### Dust

The applicant has stated that dust has not been a significant problem at the facility and there are no new operations proposed which could affect dust emissions. Potential sources of dust include vehicle manoeuvring on paved and unpaved areas and loading/unloading materials. Dust monitoring is carried out annually at three monitoring locations on the facility boundary. Dust monitoring will be required as per Schedule C of the RD.

#### Bioaerosols

The composting of biodegradable waste involves a microbiological process where microbes (for example, bacteria and fungi) proliferate and grow by using the nutrients in the compost for food. High total viable cell counts (TVCC) are reached during the process and the microbial cells can be aerosolised (i.e. become airborne), particularly, during mechanical agitation of the composting material. This gives rise to the term 'bioaerosol'.

I wish to point out that at this facility the early stages (4-6 weeks) of composting will be carried out indoors, also the air that will be extracted from the composting building will be biofiltered. Therefore, the risk to human health from bioaerosols is vanishingly low for persons outside the building.

The company will carry out annual monitoring of bioaerosols levels in particular, in relation to monitoring for *Aspergillus fumigatus* (AF) in accordance with Schedule C of the RD.

The HSA will be notified of the final decision in due course having regard to functions with regard to safety at work legislation, in particular in relation to bioaerosols that might have an impact on workers in the facility.

#### **4.2 Emissions to Sewer**

There is no connection to a foul sewer and sewage from the toilets and canteen is discharged to an on-site septic tank. It is proposed to install a secondary treatment system and percolation area to treat effluent from the septic tank.

Leachate from the compost area will be collected in an underground storage tank and recirculated back into the in-vessel units. Surplus leachate will be removed as required to a waste water treatment plant.

#### **4.3 Emissions to Surface Waters**

No leachate or runoff will be generated from the composting process and therefore there is no discharge to surface water. There are separate collection systems for the run-off from the yards and the roofs. Currently both collection systems are directed to constructed wetlands, which has an outflow to an open field drain. It is proposed to install an interceptor and then divert the flow away from the wetlands and to the field drain. The roof water, which is uncontaminated, will continue to discharge to the wetlands so that they can be maintained as a wetland habitat. Surface water quality will be analysed on a bi-annual basis as per Schedule C of the RD.

#### **4.4 Emissions to ground/groundwater**

No direct emission to groundwater is allowed (Condition 5.2).

The site will be covered in impermeable hardstanding (Condition 3.4).

The only emission to ground is the sanitary wastewater from the Canteen/Changing Room. At present this is discharged to a conventional septic tank and percolation area, which are located to the south west of Shed 1. It is proposed to upgrade this by providing a proprietary treatment plant, which will be positioned between the septic tank and the percolation area.

The treatment plant will be installed in accordance with guidance in the Agency's Wastewater Treatment Manual, Treatment System for Single Houses. It is considered that the indirect discharge of treated effluent will have an imperceptible effect on groundwater quality beneath the site. The RD includes ambient monitoring requirement for groundwater.

#### **4.5 Wastes Generated**

The applicant proposes to accept a total of 24,500 tonnes per annum from the South East region and surrounding counties of non-hazardous biodegradable waste for composting. The facility accepts a broad range of compostable materials including source segregated household kitchen waste; catering wastes; industrial and municipal waste water sludges and organic fines generated in the treatment of mixed municipal solid waste. The household kitchen and catering wastes contain materials classified as Category 3 material under the Animal By-products Regulations. No hazardous materials will be accepted on site.

#### **Arrangements for off-site disposal or recovery**

The facility is designed to consistently produce a Class 1 or Class 2 compost and stabilized biowaste. Class 1 and Class 2 compost is not categorised as a waste and can be used for agricultural, horticultural, and gardening purposes. The stabilised biowaste is currently used as landfill cover and for other suitable engineering/restoration applications as may be

approved by the Agency. The oversize recovered during the pre and post screening of the materials are stored on site and depending on the nature may either be used as bulking agents or sent off-site for disposal/recovery. Milltown Composting is investigating potential alternative recovery outlets for this material. The facility generates small volumes of wastes from the canteen and office. Milltown Composting operates a source segregation policy to maximise the recovery of potential recyclable and compostable materials from these waste streams. The stabilised biowaste must be stabilized as per Schedule E of the RD.

#### **4.6 Noise**

Noise monitoring is carried out annually and has established that emissions from the activity comply with the limits set in the Permit. The monitoring has not identified any impacts due to site activities. Schedule C set the requirements for noise monitoring. The noise emission limit values to be measured at any noise sensitive location are set in Schedule B.

#### **4.7 Nuisance**

##### Litter

Litter is not an issue on site as the waste is delivered on site in enclosed or covered refuse trucks.

##### Dust

Dust has not been a significant problem at the facility and there are no new operations proposed which could affect dust emissions. Potential sources of dust include vehicle manoeuvring on paved and unpaved areas and loading/unloading materials. Dust monitoring is carried out annually at three monitoring locations on the facility boundary.

##### Vermin

The company implements a vermin control programme.

##### Flies, birds, pests

As waste is unloaded and mixed in-doors which reduces the impact of birds and flies.

Potential nuisances from the facility are controlled by Condition 6 of the RD.

### **5. Restoration**

The decommissioning and restoration of the site is not expected to occur in the near future. Standard conditions regarding closure of the facility have been included in Condition 10 of the RD.

### **6. Cultural Heritage, Habitats & Protected Species**

I wish to point out that the DEHLG in a submission to the LA regarding the planning application raised concerns regarding the archaeological significance of this site and recommended that an archaeological monitoring condition be attached to any grant of planning permission on site. The company submitted an Archaeological damage Assessment report as part of further information that was submitted to the LA.

In my opinion this is a matter for the planning authorities.

## **7. Waste Management, Air Quality and Water Quality Management Plans**

The National Strategy on Biodegradable Waste sets out measures to progressively divert biodegradable municipal waste from landfill in accordance with the targets in EU Directive 1999/31/EC on the landfill of waste. Article 5 of the Directive specifically requires each Member State to prepare a National Strategy on Biodegradable Waste which will set out measures aimed at the separate collection, recovery and recycling of biodegradable waste. The Directive also sets out targets in relation to the progressive diversion of biodegradable municipal waste from landfill.

The Government policy also called for the development of waste recovery facilities employing environmentally beneficial technologies, as an alternative to landfill, including the development of composting and other feasible biological treatment facilities capable of treating up to 300,000 tonnes of biodegradable waste per annum to meet the required targets.

It is for this reason that the applicant is proposing to increase their operations to 24,500 tpa.

## **8. Best Available Techniques (BAT)**

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Decision comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the facility is located, designed, built, managed, maintained, operated and decommissioned.

## **9. Compliance with Directives/Regulations**

The facility does not come within the scope of the IPPC Directive, there are no discharges to water so the emissions are not an issue for the Water Framework Directive. The applicant has stated that it has DAFF approval to treat ABP material.

## **10. Fit & Proper Person Assessment**

The legal, technical and financial standing of the applicant qualifies them to be considered Fit and Proper Persons.

## **11. Proposed Decision**

It is my opinion that the technology proposed for this composting facility is appropriate and the risk to the general public from nuisances like odour will be extremely low due to the fact that the composting process is carried out under controlled conditions, in particular:

- ⇒ process is carried out indoors using in-vessel composting
- ⇒ provision of oxygen to ensure aerobic conditions
- ⇒ temperature control by aeration,
- ⇒ static Pile Forced Aeration composting
- ⇒ use of biofiltration.

In my opinion all the above provides the appropriate measures for the proper control of such composting facilities, in particular to control any potential odours which can be problematic to persons living in the vicinity of such facilities. Good management of this facility is also of paramount importance, it should be noted that Condition No 2 of the RD sets the requirements for good management of the facility.

## 12. Submissions

To date, one (1) submission was received from South Tipperary County Council. They informed the Agency as follows:

*A planning application (08/838) for permission for (A) change of use of existing Agricultural Stores 2 and 3 to commercial storage, (B) construction of a new intake extension and a new screening and outloading extension by Milltown Composting Systems Ltd, was refused permission on appeal to An Bord Pleanala. This relates to the use of Shed 2 and Shed 3 for commercial activity.*

*They also stated that.*

*'We have no objection to the principle of Waste Licensed Facility as described by the applicants in their application W0270-01'.*

### **Decision of an Bord Pleanala:**

- 1. The Board is not satisfied on the basis of the information submitted in connection with the application and the appeal that the existing buildings are authorised and the proposed change of use from existing agricultural use to composting would constitute an intensification of use on the site. Furthermore having regard to the lack of information regarding emissions from the proposed development the Board is not satisfied that the proposed development would not be prejudicial to public health and would not constitute an unacceptable risk of environmental pollution in the locality. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.*
- 2. Having regard to the substandard nature of the local road network serving the site, it is considered that the proposed change of use would result in an intensification of use of the site resulting in additional traffic hazard on the local road network. The proposed development would, therefore, endanger public safety by reason of traffic hazard.*

### **Decision of the LA:**

They refused planning on three main grounds:

- the public roadway serving the site & limited capacity for same to accommodate additional traffic.
- change of an existing building for which no record of a grant of planning permission exists. The constructed wetlands treating wastewater from the development does not have any record of a grant of planning permission.
- concern that the proposed development would not impact negatively on archaeological heritage. Therefore the proposed development would be contrary to the proper planning and sustainable development of the area.

### **OCLR ELP response**

It should be noted that Planning application 08/838 related to a proposal to change the use of Buildings 2 and 3 to allow the initial composting stage, as part of a plan to increase processing capacity. This would have involved the construction of tunnels inside the building. As planning permission was not granted, Milltown did not proceed with this proposal, but continued the existing use. Therefore the decision to refuse planning permission, which was made on 28th April 2009 before the licence application was lodged, will not impact on the licence application.



I confirm that I am satisfied that the conditions set out in the RD will adequately address all emissions from the facility and will ensure that the carrying on of the activities in accordance with the conditions will not cause environmental pollution.

Regarding, matters concerning additional traffic, change of existing building and archaeological heritage, I am of the opinion that these are matters for the planning authorities and are outside the Agency remit. I wish to point out that the wetlands will be retained as a wetland habitat, fed by the clean roof water.

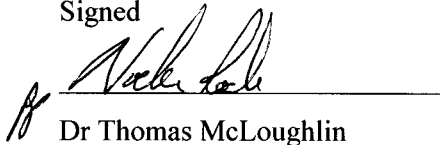
### **13. Charges**

The RD requires that the applicant shall pay an annual contribution of €7,612.00 (Condition 12).

### **14. Recommendation**

I have considered all the documentation submitted in relation to this application and recommend that the Agency grant a licence subject to the conditions set out in the attached RD and for the reasons as drafted.

Signed

A handwritten signature in black ink, appearing to read 'Thomas McLoughlin', is written over a horizontal line. To the left of the line, there is a small, stylized mark that looks like a flourish or a partial signature.

Dr Thomas McLoughlin

Senior Inspector

### **Procedural Note**

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2007.