Sub. No. 1.

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Health Service Executive

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HSE SUBMISSION REPORT.

Environmental Health Service Consultation Report.

(As a Statutory Consultee (Planning and Development Acts 2001,
& Regs made thereunder)

Report to: Ms. Dorota Richards
Programme Officer
Environmental Licensing Programme
Office of Climate Licensing &Resource Use
Environmental Protection Agency,
Headquarters P.O Box 3000
Johnstown Castle Estate
Co. Wexford.

Type of Consultation: Review of IPPC licence WO270-01.

Planning Authority. Not Applicable.

Reference number: WO270-02.

Our Reference number: EHIS 0705.

Applicant: Milltown Composting Systems Ltd. Milltownmore, Fethard, Co. Tipperary.

Proposed Development: Application to the Environmental Protection Agency for a review of IPPC licence WO270-01.

General Introduction.
This report only comments on Environmental Health (EH) Impacts of the proposed development as outlined in this Environmental Report (ER) and the adequacy of the ER from an EH perspective. We have made observations on the following specific EH areas.
A) Noise & Vibration. B) Air Quality. C) Water Quality. D) Pest Control.

2) Assessment of Principle & Description of the Project.

Milltown Composting Systems Ltd. has an in- vessel composting facility located at Milltown More, Fethard, Co. Tipperary and currently operates under a waste licence (Ref: WO270-02) which was issued by the Environmental Protection Agency (EPA) on the 9th of September 2010. In addition, the facility also has approval from the Department of Agriculture Food and Marine (DAFM) to operate as a composting plant accepting Category 2 and Category 3 animal by –products. The facility originally began operations in 2004 under a Waste Permit (Ref: WP01902) issued by South Tipperary Co. Council. The predominant materials accepted were organic fines material from the treatment of mixed municipal solid waste, with smaller amounts of non-hazardous industrial and wastewater sludge's, and off specification animal feed. Since the commencement of source segregated collection of household organic waste and the increased source segregation of commercial activities in the Southern Region volumes of organic bio-waste and organic fines materials requiring biological processing have increased significantly in the Southern Waste Management Region. The facility at Milltown More, Fethard currently employs 6 fulltime staff and 3 part-time staff and the current operational hours at the facility are 06:00 to 18:00 hours Monday to Saturday.

The composting process is an in vessel system that accepts a broad range of compostable materials including source segregated household kitchen waste, catering wastes, non-hazardous industrial and municipal waste water sludge's and organic fines generated in the treatment of mixed municipal solid waste. The treatment process depends on the nature of the source material and may involve blending with bulking agents, composting in separate process bays, maturation in windrows and post treatment to remove any impurities. Due to the modular layout of the facility, the tunnels/bays can be operated independently which provides flexibility in treating the different organic waste streams. The finished product depending on quality can be used for horticultural and agricultural purposes, or as a landfill cover.

All waste feedstock material is received in the reception shed which occupies an area of approximately 1700 square metres. The materials are then transferred from the reception area to the vessels using telescopic loaders. The material placed in each vessel is assigned an individual batch number to allow for performance monitoring during the treatment stages. Temperature probes are placed within the waste mass before sheeting is placed over the top of the vessel. Computerised temperature monitoring in each vessel takes place to ensure that the optimum composting conditions are maintained. The moisture level s assessed either visually or using a hand held moisture meter. A two barrier system is operated in the municipal solid waste /kitchen/catering waste processing area. The objective is to ensure a maximum size of 400 mm and achieve a sustained temperature of 60° C over two separate 48 hour periods. Large items are manually removed and re-used back in the process as bulking agents for future compost batches. Maintaining a temperature at 60° C for two separate time periods is achieved by composting the same batch in two different bay vessels. In the first vessel or barrier 1, the process usually takes one week. When completed the batch material is removed to a second vessel-barrier 2 where it is mixed thoroughly and composted again until the temperature requirements are

met. To avoid cross contamination between raw and treated batches different loaders and buckets are used to move the materials into and out of the vessels.
When the compostable material has completed the thermophilic stage it is removed from the Vessel/Barrier 2 and transferred to sheds where it is formed into windrows for maturation. This stage is referred to as the mesophilic stage, and the material is regularly monitored for temperature, oxygen and moisture content and regularly turned as required using specialised equipment to ensure optimum conditions are achieved. The mesophilic stage can take up to six weeks to complete after which period the compost may depending on the source material be screened to remove oversized contaminants which are stored pending consignment to off-site disposal/treatment facilities.

In the composting/process building, an air extraction system is in place which removes odorous air from the building and channels it to a woodchip bio- filter. The bio- filter comprises of a large concrete box in which a thick layer of coarse shredded wood chip is placed, a manifold together with a series of air ducts are located on the bottom of the filter to ensure an even distribution of air. Regular monitoring of the bio-filter is undertaken and includes moisture content, pH, airflow and temperature. The moisture content is the single most important parameter for efficient microbial activity and moisture content of between 40% and 60% must be maintained to ensure optimum efficiency of the bio-filter. Since the bio-filtration is a microbiological process a sudden mechanical breakdown or failure of a complete bio-filter is unlikely to happen. Approximately every 5 years part of the wood chip components of the bio filter is replaced by fresh material in order to maintain the odour removal efficiency of the filter.

Milltown Composting Systems Ltd is applying to the Environmental Protection Agency for a review of their existing Waste License (WO270-01). The facility proposes to increase its capacity from their current limit of 24,500 tonnes per annum to a maximum of 50,000 tonnes per annum and to include an Integrated Constructed Wetland (ICW) to treat non-process surface water from the roof and yard water (and the re-location of the existing surface water monitoring point (SW1) to a new location at the outlet from Pond 8 of the (ICW). The review of the licence will result in the facility falling under the Environmental Protection Agency (Industrial Emissions) Licensing Regulations. The daily throughput at the facility will increase from 75 tonnes to 160 tonnes per day.

3) Assessment of the Waste Licence Review Application.
I have since had an opportunity to look at the Environmental Impact Statement submitted as part of the licence review application. I visited the site at Milltown Composting Systems Ltd. Milltownmore Fethard, Co. Tipperary on Friday 9th February 2018 and spoke to Mr. Derry Murphy (Manager). Mr. Murphy escorted me around the site and explained the composting process for the various compostable waste streams and systems in place for monitoring discharges from the facility. From my observations during the time of my visit, the site is well managed and maintained to a very high standard. There is an ongoing programme for maintaining and upgrading plant and equipment in order to meet the standards set for controlling/minimising emissions to air and water. A strict regime of monitoring for emissions to air and water is in place in accordance with the licence conditions.

A) Noise & Vibration.

The main source of noise impact associated with the existing operations and the proposed review are delivery vehicles on the existing road system, vehicle movements within the site and noise from plant/equipment operations on site. Increased traffic movements from heavy goods vehicles have the potential to increase noise levels at noise sensitive locations near the facility. Milltown Composting Ltd undertook to carry out a traffic assessment of current and predicted traffic flows at the facility assuming the worst case scenario of the site based on the increased waste capacity being granted. The maximum increase in traffic associated with the proposed development is predicted to increase by 4 light vehicle movements and 5 HGV movements per day. Based upon the UK's Department of Transport Document "Calculation of Road Traffic Noise" using the traffic flow information supplied it is predicted that the noise climate at the closest noise sensitive premises would increase by approximately 1.2 dB related to the increase in traffic movements which is considered very minor/slight. This increase would only be experienced during daytime operations as the site is closed at night.

The existing licence conditions require that a programme of environmental noise monitoring is conducted on an annual basis by an independent qualified environmental consultant. Emission limits of LAeq (30minutes) daytime noise emission limit of 55dB (A), and a LAeq (30 minutes) night time noise emission limit of 45dB (A) are required to satisfy the licence conditions. The most recent noise survey was undertaken on 12th of December 2017 at the facility at two different locations. The results indicate that noise measurements taken at the noise sensitive locations are within the daytime limit of 55dB (A) as stipulated by the licence conditions. It should be noted that fans operate at the facility during evening and night time periods, and according to the information provided in previous noise monitoring reports undertaken, no noise from the facility is audible at noise sensitive locations during the evening and night time periods.

Vibration

The nature of the existing facility development does not cause observable ground borne vibrations and will continue to be the case for the proposed increase in capacity at the facility. Vibration impacts are therefore not required to be addressed.

B) Air Quality.

Dust

Routine dust deposition monitoring is undertaken annually and dust deposition measurements were undertaken on the 10th of July 2017 by an independent consultant. Three locations were chosen to assess the level of dust from the facility and the results from all locations are within the licence limit value of 350 mg/m²/day.

Odour

In compliance with the requirements of their waste licence, Milltown Compost Ltd are required to undertake ambient odour monitoring on a bi-annual basis by an independent accredited environmental consultant. The odour monitoring is carried out at two separate locations, namely on site at the bio filter unit and downwind of the location near to residential receptors. The most recent odour monitoring event took place on the15th of June 2017. The ambient odour concentrations determined that there was no distinct odour associated with the compost facility at the downwind location, a compost odour was noted at the bio filter unit monitoring point. The recorded levels represent the odour conditions in the vicinity of the facility on the day of sampling and under specific meteorological conditions on that particular day. Ambient odour is a combination of both natural and anthropogenic odour emissions.

The main perceived nuisance associated with the proposed increase in capacity at the facility may be odour. The aspiration system for the facility was designed to provide aspiration to the extended enclosed reception area and the new process bay located inside the reception building by extending the ductwork into the new structure. The new reception building has now been added to the existing air extraction system and exhausted through the existing bio filter. The air atmosphere inside the new reception building has been increased and is now exhausted at 2.5 air changes per hour. The increase in air volume will require treatment in the bio filter with a residence time of 40 seconds. The increased air volume requiring treatment has resulted in a requirement to increase the treatment media (wood chip) volume within the existing bio filter which was achieved by placing 150mm of additional media on top of the existing filter and extending the height of the perimeter walls by 150mm to contain the additional media. As part of their waste licence requirements Milltown Compost are required to carry out monitoring of the inlet and outlet airstream of their bio filter and the bio filter media itself. A sampling programme was undertaken on the 5th of September 2017 by consultants and the parameters included Ammonia, Mercaptans, Hydrogen Sulphide, Amines and pH. The test results indicated that the bio filter emission levels at the Milltown Compost Facility are within the limits set by the sites waste licence.

C) Water Quality

Groundwater

Milltown Composting perform annual groundwater monitoring in three groundwater monitoring wells (GW1, GW2, GW3) to comply with the conditions of their waste licence. The following parameters are monitored, pH, Nitrate, Total Ammonia, Total Nitrogen, Conductivity, Chloride, Organic Compounds. The groundwater monitoring programme completed for 2017 indicated that the concentrations of all parameters outlined above are less or within the limits set by the waste licence. There is no connection to the foul sewer mains system from the site and all waste water from the toilet facilities/sinks is currently discharged to an on site waste water treatment system

and percolation area. No waste water from the compost process is discharged to the waste water treatment system.

Storm Water/Surface Water

Historically there was some ammonia impacts in the surface water samples collected at the discharge location at the facility. Monitoring results indicated that the Ammonia concentrations exceeded the environmental quality standard and control measures were required to reduce the potential impacts on surface water emissions. Improvements at the facility have resulted in a significant decrease in the concentrations of Ammonia at the discharge point (SW1) from the facility. However, a further reduction in the concentration of Ammonia in surface water is required, and as part of the licence review it is proposed that non-process surface water from the facilities shed roofs and yard areas will be diverted to the existing Integrated Constructed Wetlands (ICW) onsite to further polish the surface water prior to discharge from site. The ICW would allow for further natural attenuation of surface water discharged from the site whereby the biomass within the ICW would take up any excess ammonia in surface waters flowing through the system. This will result in reducing the potential for impacts to soils or groundwater receptors.

Wetlands both natural and constructed have the ability to cleanse water through physical, chemical and biological processes. The main treatment processes include:

- Uptake and transformation of nutrients/contaminants by micro-organisms and plants.
- Breakdown and transformation of contaminants and pollutants by micro-organisms and plants.
- Filtration and chemical precipitation through contact with substrate and plant litter.
- Settling of suspended particular matter.
- Chemical transformation of pollutants.
- Absorption and ion exchange on the surface of plants, sediment, and litter (of particular relevance to the capture and storage of phosphorous).

As part of the licence conditions the facility is required to undertake bi-annual surface water quality monitoring and it is anticipated that the diversion of surface water from the shed roofs and yards to the Integrated Constructed Wetlands will further improve the quality of surface water before its final discharge point.

D) Pest Control

The facility employs a reputable pest control contractor and visits the facility approximately every 6 weeks to monitor and service pest control measures on site. Pest control records are available for inspection. During the summer periods flies can pose problems due to the nature of the compost material. In order to overcome this, compost material is turned more frequently during the summer months and the temperature within

the compost process kills of the insect eggs. In addition, the pest control contractor visits more frequently and residual insecticide in powder form is deposited on surfaces to control/eliminate the fly population.

Conclusion

I have since had an opportunity to look at the at the licence conditions set by the Environmental Protection Agency. The licence conditions are stringent and set emission limits to air, water, and noise emissions from site. In addition, a strict monitoring regime is in place as required by the licence and all discharges from the facility both to air and water are monitored and records must be maintained and be available for inspection to the Agency. The reason for setting emission limits is to provide protection of the environment by way of control and limitation of emissions, and where appropriate treatment of emissions with current abatement technology to minimise emissions that may be otherwise harmful to the environment. In circumstances where emission limits are exceeded, this triggers any incident which must be reported to the Agency for investigation.

I visited the facility on the 9th of February 2018 to assist in this Department's comments on the determination of the proposed licence review. The licence review was discussed in detail with Mr. Derry Murphy the Facility Manager at Milltown Composting Ltd. The composting process was explained to me in detail and I was shown around the facility. The facility appeared to be well managed and a monitoring regime together with emission records was in place. In my opinion having examined all available information, the licence conditions more than adequately address any concerns from the Environmental Health Department perspective (i.e. Emissions to Air, Emissions to Ground and Surface Water.) I therefore have no additional or adverse comments to make in respect of the proposed waste licence review.

Signed: _____

Date: 9 - 2 - 2018

All correspondence or any queries with regard to this report including acknowledgement of this report should be forwarded to Principal Environmental Health Officer Environmental Health Department, Community Care Buildings, Western Rd. Clonmel, Co, Tipperary.