

Attachment F

Control & Monitoring

Attachments in this Section include:

- F.1 Treatment, Abatement & Control Systems
- F.2 Air
- F.3 Surface Water
- F.4 Sewer Discharge
- F.5 Groundwater
- F.6 Noise
- F.7 Meteorological Data
- F.8 Leachate

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F.1 Treatment, Abatement & Control Systems

OTCL are committed to ensuring that all emissions arising as a result of on-site activities are controlled. A variety of techniques, management procedures along with best available technology (BAT) has been installed by OTCL at the facility to ensure the emissions do not give rise to nuisance at the facility.

F.2 Air

All processing of waste occurs within the waste processing buildings (composting shed or waste transfer building) to reduce the possibility of dust or odour being generated on-site. The surrounds of the waste buildings, facility entrance area are paved in concrete hardstand. It is proposed to extend the concrete hardstand area on a phased basis as part of this proposed development. A mobile powerwasher is available on-site and can be used to spray down concrete hardstand in dry weather conditions to dampen down dust. A mobile rotary probe unit, primarily used for odour control, can also act as a dust suppression unit. Dust is inspected during site nuisance inspections as outlined in the environmental management system for the facility.

The composting process occurs within the waste composting building which has an inbuilt bio filter. This bio filter is controlled by the GICOM control software system which also controls the air flow and instrumentation within the composting tunnels. Biofiltration is a pollution control using living material to capture and biologically degrade process pollutants and eliminate malodours. When applied to air filtration and purification, biofilters use microorganisms to remove air pollution. The air flows through a packed bed and the pollutant transfers into a thin biofilm on the surface of the packing material. Microorganisms including bacteria and fungi are immobilised in the biofilm and degrade the pollutant. Trickle filters and bioscrubbers rely on a new bio-filter at the facility as part of this proposed development which will have the capacity to control releases to air from the proposed tonnage increase at the facility which is currently operational. The biofilter is maintained at the facility to ensure it is working at optimum level.

Ambient air monitoring is carried out at the facility on a bi-annual basis by an external monitoring company. This monitoring is carried out to determine the concentrations of a range of parameters that the surrounding environment is exposed to as a result of the composting activities on-site. Ambient air monitoring is carried out at three locations at the facility. The parameters tested for include PM₁₀, *Aspergillus fumigatus*, total bacteria and odour. In addition to this total dust fall is monitored at three locations at the facility on a bi-annual basis between the months of May and September.

Monitoring is carried out in accordance with methods set out in prEN12341; UK Composting Association Protocol; NIOSH Methods 2542, 6013, 2002, 6016 and VDI 2119.

Dust deposition is tested using the Bergerhoff Dust Deposition Gauges. The Bergerhoff Dust deposition Gauge consists of a glass collecting vessel and a stand with a protecting cage. The vessel is placed in the metal basket which is positioned at a height of between 1.5 and 2 meters above ground level according to the German Standard Method VDI 2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute).

Prior to sampling, the collecting vessels will be carefully cleaned with laboratory detergent and then deionised water and allowed to dry. Sampling will involve placing the labelled containers in the protecting cages. Following exposure for a specific number of days (30 days \pm 2 days), the sampling bottles will be securely capped and returned to the laboratory for analysis.

Analysis All samples returned to the laboratory will be stored at 2-8°C. Subsequent analysis of all samples will be carried out gravimetrically for dust and strictly follow the standard VDI 2119. The results will be expressed in mg/m²/day.

Any exceedance to the emission limit values as set out in Waste Facility Permit is recorded as an incident. A summary of dust emissions are submitted as part of the AER. Copies of all monitoring reports are kept on-site.

O'Toole Composting have installed a bio-filter as described above, to eliminate or minimise the potential for odours to occur at the facility. RPS Consultants carried out an assessment of the potential odour impact from the proposed extension to operations at the facility using advanced dispersion model techniques. The Odour Impact Assessment Report concluded there would be no adverse odour impact from the facility. A copy of this report is included as part of the EIS.

Odour is monitored during the bi-annual ambient air monitoring. All odour monitoring is carried out in accordance with the EPA Guidance Document AG5 and NIOSH Methods. It is proposed to continue this odour monitoring once the Waste Licence is granted for the facility.

It is considered that the current control measures that are in place at the facility and the sampling parameters and frequency are sufficient to ensure that adverse air conditions do not occur as a result of the activity. All current practices and sampling will be continued or carried out with as required under conditions of the waste Licence.

F.3 Surface Water

At present there is no permit requirements to monitor surface water at the facility. However surface water is monitored for best practice at the facility. It is proposed to continue monitoring of surface water. All parameters as set out in the Waste Licence for the facility will be monitored. Proposed parameters include:

- BOD
- COD
- Suspended Solids
- Ammonia
- pH
- Temperature

All surface water sampling will be carried out by an approved laboratory and in accordance with the specifications as outlined in Standard Methods for the Examination of Water & Wastewater, 20th Edition, as published by American Public Health Association.

Surface water discharge will also be visually inspected on a weekly basis by the facility manager or appointed deputy.

All surface monitoring reports will be maintained at the facility. Any exceedance of emission limit values as set out in the Schedule of the Waste Licence, will be notified to the Agency as an incident. A summary of the surface water discharge will be reported as part of the AER for the facility.

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F.4 Sewer Discharge

There will be no discharge to sewer from this development. Therefore OTCL do not propose to carry out any ground water sampling at this facility.

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F.5 Groundwater

There will be no direct or indirect discharge to ground or groundwater from this facility. Therefore OTCL do not propose to carry out any ground water sampling at this facility.

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F.6 Noise

At present noise monitoring is conducted on an annual basis at O'Toole Composting in order to meet the requirements of the Waste Facility Permit and to ensure that the facility is compliant with Sections 106, 107, and 108 of Part VI of the Environmental Protection Agency (EPA) Act 1992. Noise monitoring is carried out by an external contractor in accordance with the:

- Environmental Noise Survey Guidance Document, Environmental Protection Agency, 2003.
- International Standard for Assessment of Environmental Noise ISO 1996 "Acoustics – Description and Measurement of Environmental Noise"
 - ISO 1996 Part 1 1982: Basic quantities and procedures
 - ISO 1996 Part 2 1987: Acquisition of data pertinent to land use
 - ISO 1996 Part 3 1987: Application to noise limits defining the basic terminology including the rating level parameter and describes best practices for assessing environmental noise.

Surveys are carried out using a Bruel and Kjaer Sound Level Meter Type 2268 investigator. Monitoring is carried out at seven locations at the facility, which includes offsite noise sensitive locations. Values for LA_{10} , LA_{90} and LA_{eq} are recorded for each location. These measurements are recorded for a duration of 30 minutes for day time surveys and 15 minutes for night time surveys.

In assessing noise, LA_{eq} is the 'equivalent continuous level', or the average sound level over a period of time. The formal definition is "when a noise varies over time, the LA_{eq} is the equivalent continuous sound which would contain the same sound energy as the time varying sound". The LA_{10} value is that which is expressed for 10 percent of the time during the sampling period. This is used to provide an indication of the amount of intermittent and impulsive noises recorded during a survey. The LA_{90} value is that which is exceeded for 90 percent for the time during the sampling period. This is used to provide an indication of the background noise levels. By analysing the relative spread between these three values, it is possible to examine the level of intermittent and impulsive noise on the background levels.

It is proposed to continue annual noise monitoring at the facility or as required by the facility Waste Licence.

F.7 Meteorological Data

Meteorological Data will be obtained from Oak Park Weather Station in Co. Carlow for this facility as required.

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F.8 Leachate

Leachate will not be discharged from this facility. Any leachate produced during the composting process is diverted to an underground sump that retains the liquid. This liquid leachate is fed back through the scrubbers and re-used in the composting process. Any excess leachate is tankered offsite to an approved waste water treatment facility.

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TABLE F.2 to F.8 : EMISSIONS MONITORING AND SAMPLING POINTS

Emission Point Reference No(s) : D1; D2; D3; PM1; PM2

Parameter	Monitoring frequency	Accessibility of Sampling Points
Dust	Bi-annual (twice between May and September)	Fully accessible
PM ₁₀	Bi-annual (twice between May and September)	Fully accessible
Aspergillus fumigatus	Bi-annual	Fully accessible
Odour	Bi-annual	Fully accessible

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TABLE F.2 to F.8 : EMISSIONS MONITORING AND SAMPLING POINTS

Emission Point Reference No(s) : _____ SW1 SW2

Parameter	Monitoring frequency	Accessibility of Sampling Points
BOD	Annual	Fully accessible
COD	Annual	Fully accessible
Ammonia	Annual	Fully accessible
pH	Annual	Fully accessible
Total Suspended Solids	Annual	Fully accessible

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TABLE F.2 to F.8 : EMISSIONS MONITORING AND SAMPLING POINTS

Emission Point Reference No(s) : _____ NI; N1A; N2; N3; N4; N5; N6

Parameter	Monitoring frequency	Accessibility of Sampling Points
Noise	Annual	Fully Accessible

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