



Headquarters,  
P.O. Box 3000,  
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County Wexford, Ireland

## PROPOSED DECISION

<b>Waste Licence Register Number:</b>	159-1
<b>Applicant:</b>	Organic Kompost Limited
<b>Location of Facility:</b>	Cloonerkaun, Cloonfad, Barony of Castlereagh, Co. Roscommon.

# INTRODUCTION

*This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.*

This licence is for the operation of a composting and anaerobic digestion facility at Cloonerkaun, near Cloonfad, Co Roscommon.

Organic Kompost Limited will be licensed to accept organic wastes (primarily organic household waste, manures/slurries, spent mushroom compost, and various organic sludges) at this facility.

The quantity of waste to be accepted at the facility is limited to 50,000 tonnes in the first Phase of operation and increasing to a maximum of 125,000 tonnes in the second Phase. The licensee is not permitted to commence Phase II activities sooner than two years from the commencement of waste activities, unless otherwise agreed with the Agency.

Wastes must only be received in fully covered vehicles and can only be unloaded inside the appropriate reception building. All waste will be either composted in enclosed containers (Phase I) or treated within the anaerobic digestion vessel (Phase II). There will be biofiltration of air from the various odorous air streams to reduce odours arising. Biogas from the anaerobic digestion process will be utilised to produce heat for the sanitisation of incoming material.

The licensee must manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results, and a wide range of reports on the operation and management of the facility to the Agency.

The licence sets out in detail the conditions under which Organic Kompost Limited will operate and manage this facility.

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## Reasons for the Decision

The Environmental Protection Agency (the Agency) is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence any emissions from the activity will comply with and not contravene any of the requirements of Section 40(4) of the Waste Management Act, 1996.

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, all submissions received from other parties and the report of its inspector.

### *Part I: Activities Licensed*

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Agency proposes, under Section 40(1) of the said Act to grant this Waste Licence to Organic Kompost Limited, Carrowbehy, Castlerea, Co. Roscommon, to carry on the waste activities listed below at Cloonerkaun, Barony of Castlerea, Co. Roscommon, subject to twelve conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

*Licensed waste disposal activities, in accordance with the Third Schedule of the Waste Management Act, 1996*

**Class 13:** **Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.**

This activity is limited to storage of waste materials prior to disposal off site.

*Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996*

**Class 2:** **Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).**

This activity is limited to composting and anaerobic digestion of organic waste and the utilisation of biogas.

**Class 13:** **Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.**

This activity is limited to storage of organic waste prior to biological treatment on-site.

# INTERPRETATION

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agency</b>	Environmental Protection Agency
<b>Agreement</b>	Agreement in writing.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>Application</b>	The application by the licensee for this waste licence, including any other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
<b>Annually</b>	All or part of a period of twelve consecutive months.
<b>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>Bi-Annually</b>	Twice a year
<b>Biodegradable waste</b>	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.
<b>Bund</b>	A structure to provide containment for any loss of liquid from a storage tank and associated pipework. The Agency's Landfill Design Manual (draft) sets forth design criteria.
<b>Compost</b>	Stable, sanitised and humus like material rich in organic matter and free from offensive odours resulting from composting, which complies with the environmental quality classes outlined in <i>Schedule H: Compost/Digestate Quality</i> of this licence.
<b>Condition</b>	A condition of this licence. In any case where this licence refers to a numbered condition, the reference shall be taken to mean the condition and any sub-condition therein which the context of the reference requires that reference is made to
<b>Containment boom</b>	A boom which can contain spillages and prevent these from entering drains or watercourses.
<b>Daily</b>	Consecutive 24 hour periods
<b>Day</b>	A period from 0000 hours to 2400 hours.
<b>Daytime</b>	0800 hrs to 2200 hrs.
<b>Digestate</b>	The material resulting from anaerobic digestion of biowaste that complies with the environmental quality classes outlined in <i>Schedule H: Compost/Digestate Quality</i> of this licence.

<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence
<b>Drawing</b>	Any reference to a drawing/drawing number means a drawing/drawing number contained in the application, unless otherwise specified in this licence.
<b>Emission</b>	As defined in Section 5 (1) of the Act.
<b>Emission Limit Value</b>	Those limits, including concentration limits and deposition levels established in <i>Schedule G: Process Management</i> of this licence.
<b>Environmental Pollution</b>	As defined in Section 5 (1) of the Act.
<b>European Waste Catalogue (EWC)</b>	The EWC is a harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
<b>Facility</b>	That area or areas defined under Condition 1.2
<b>Foul water emissions</b>	Foul water emissions shall include washwater, contaminated stormwater and domestic sewage emissions from the facility.
<b>Fugitive Dust</b>	Non-point source dust emissions. For example, dust from vehicular movements on yards.
<b>Green waste</b>	Waste wood, plant matter and other vegetation.
<b>Hazardous Waste</b>	As defined in Section 4 (2) of the Act.
<b>Household Waste</b>	As defined in Section 5 (1) of the Act.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 11.1
<b>Impulsive Noise</b>	As defined in British Standard BS 4142, 1990. "Method for rating industrial noise affecting mixed residential and industrial areas".
<b>Instruction</b>	Instruction in writing
<b>Licence</b>	A Waste Licence issued in accordance with the Act.
<b>Licensee</b>	Organic Kompost Limited, Carrowbehy, Castlereagh, Co. Roscommon.
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 20% dry matter
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
<b>Monthly</b>	At least 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	Municipal waste as defined in Section 5 (1) of the Act.
<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Noise Sensitive Location (NSL)</b>	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.

<b>Oil Separator</b>	Device installed according to the draft European Standard prEN 858 (Installations for the separation of light liquids, eg. oil and petrol).
<b>Putrescible waste</b>	Waste which is readily biodegradable such as vegetable matter, green waste, etc.
<b>Paunch</b>	Digestive tract contents or belly-grass.
<b>Quarterly</b>	A period of three calendar months, the first period of which commences on the date of grant of this licence
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments
<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment, with between 2% and 25% dry matter.
<b>Specified Emissions</b>	Those emissions listed in <i>Schedule F: Emission Limits</i> of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in <i>Schedule D: Specified Engineering Works</i> : of this licence.
<b>Stabilised Biowaste</b>	Waste resulting from the mechanical/biological treatment of unsorted waste or residual municipal waste including treated biowaste which does not comply with the environmental quality classes outlined in <i>Schedule H: Compost/Digestate Quality</i> of this licence.
<b>Submit</b>	Unless the context of this licence indicates otherwise, submit to the Agency in writing for agreement
<b>Tonal Noise</b>	As defined in International Standards Organisation “Acoustics - description and measurement of environmental noise”, Part 2, 1996.
<b>Trigger Level</b>	A parameter value which when achieved or exceeded requires certain actions to be taken.
<b>Waste</b>	As defined in Section 4(1) of the Act.
<b>Weekly</b>	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with no more than one measurement in any one week.
<b>EPA Working Day</b>	9.00 a.m. to 5.30 p.m. Monday to Friday.

## ***Part II: CONDITIONS***

### **CONDITION 1 SCOPE OF THE LICENCE**

- 1.1. Waste activities at the facility shall be restricted to those listed in *Part I: Activities Licensed* and any restrictions set down therein.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on Drawing No. 0501022/02/702 of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red.
- 1.3. Only the wastes as outlined in *Schedule A: Waste Acceptance* shall be accepted at the facility. Hazardous wastes and wastes EWC 02 03 02 & EWC 02 06 02 (waste from preserving agents), and EWC 02 03 03 (waste from solvent extraction) shall not be accepted at the facility.
- 1.4. Waste Types and quantities
  - 1.4.1 The quantity of wastes to be accepted for composting at the facility shall not exceed 50,000 tonnes per annum in Phase I.
  - 1.4.2 Subsequent to the commissioning of Phase II of the project, (as covered under *Schedule D: Specified Engineering Works*) the quantity of wastes to be accepted for composting/anaerobic digestion at the facility shall not exceed 125,000 tonnes per annum. The licensee shall not commence Phase II activities sooner than two years from the date of commencement of waste activities, unless otherwise agreed with the Agency.
- 1.5. Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any Condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.
- 1.6. This licence is for the purposes of waste licensing under the Waste Management Act 1996 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements under any other enactments or regulations.
- 1.7. Waste Acceptance Hours and Hours of Operation
  - 1.7.1 Waste shall only be accepted at the facility between the hours of 8.00 a.m. to 7.00 p.m. Monday to Saturday inclusive.
  - 1.7.2 Waste shall only be handled during the hours of 8.00 a.m. to 8.00 p.m. Monday to Saturday inclusive.
  - 1.7.3 Waste shall not be accepted at the facility on Sundays or on Bank Holidays.
- 1.8. The following shall constitute an incident for the purposes of this licence:
  - a) an emergency;
  - b) any emission which does not comply with the requirements of this licence;
  - c) any exceedance of the daily duty capacity of the waste handling equipment;
  - d) any trigger level specified in this licence which is attained or exceeded; and
  - e) any indication that environmental pollution has, or may have, taken place.



- 1.9. Where the Agency considers that a non-compliance with the Conditions of this licence has occurred, it may serve a notice on the licensee specifying:
- a) that only those wastes as specified, if any, in the notice are to be accepted at the facility after the date set down in the notice;
  - b) that the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice; and,
  - c) that the licensee shall carry out any other requirement specified in the notice.

When the notice has been complied with, the licensee shall provide written confirmation that the requirements of the notice have been carried out. No waste, other than that which is stipulated in the notice, shall be accepted at the facility until written confirmation is received from the Agency that the notice is withdrawn.

**Reason:** *To clarify the scope of this licence.*

## **CONDITION 2 MANAGEMENT OF THE FACILITY**

### **2.1 Facility Management**

- 2.1.1 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 its operation.
- 2.1.2 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS waste management training programme (or equivalent agreed with the Agency) and associated on site assessment appraisal within twelve months of date of grant of the licence.
- 2.1.3 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence.

### **2.2 Management Structure**

- 2.2.1 Prior to the commencement of waste activities at this facility, the licensee shall submit written details of the management structure for the operation of the facility to the Agency for its agreement. Any proposed replacement in the management structure shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information
  - a) the names of all persons who are to provide the management and supervision of the waste activities authorised by the licence, in particular the name of the facility manager and any nominated deputies;
  - b) details of the responsibilities for each individual named under a) above;
  - c) details of the relevant education, training and experience held by each of the persons nominated under a) above;
  - d) contingency arrangement for the absences of the named persons from the facility, and;
  - e) appropriate personnel for dealing with emergency situations both within and outside normal working hours.

2.3 Environmental Management System (EMS)

2.3.1 The licensee shall establish and maintain an EMS. Within three months of the commencement of waste activities at this facility, the licensee shall submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for its agreement.

2.3.2 The EMS shall include as a minimum the following elements:

2.3.2.1 Schedule of Environmental Objectives and Targets

The objectives should be specific and the targets measurable. The Schedule shall address a five-year period as a minimum. The Schedule shall include a time-scale for achieving the objectives and targets and shall comply with any other written guidance issued by the Agency.

2.3.2.2 Environmental Management Plan (EMP)

The EMP shall include, as a minimum, the following:

- (i) methods by which the objectives and targets will be achieved in the coming year and the designation of responsibility for targets;
- (ii) any other items required by written guidance issued by the Agency.

2.3.2.3 Corrective Action Procedures

The Corrective Action Procedures shall detail the corrective actions to be taken should specified requirements to this licence not be fulfilled.

2.3.2.4 Awareness and Training Programme

The Awareness and Training Programme shall identify training needs, for personnel who work in or have responsibility for the licensed facility.

2.4 Communications

2.4.1 Prior to the commencement of waste activities at this facility, the licensee shall submit for agreement to the Agency a Communications Programme to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times. A community liaison committee shall also be established which will enable communication between representatives of the local residents and the licensee.

**Reason:** *To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.*

## CONDITION 3 FACILITY INFRASTRUCTURE

3.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as instructed by the Agency. No waste shall be accepted at the facility without the prior written agreement of the Agency.

### 3.2 Facility Notice Board

The licensee shall provide and maintain a notice board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the identification board shall be 1200 mm by 750 mm.

3.2.1 The board shall clearly show:

- a) the name and telephone number of the facility;
- b) the normal hours of opening;
- c) the name, address and telephone number of the licence holder;
- d) an emergency out of hours contact telephone number;
- e) the name, address and telephone number of the operator of the facility;
- f) the licence reference number;
- g) where and when environmental monitoring information relating to the facility can be obtained.

### 3.3 Facility Security

3.3.1 Security fencing and gates shall be installed and maintained around the circumference of the facility.

3.3.2 The licensee shall remedy any defect in the gates and/or fencing as follows:

- a) a temporary repair shall be made by the end of the working day; and,
- b) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days or as otherwise agreed with the Agency.

3.3.3 Gates shall be locked shut when the facility is unsupervised.

### 3.4 Specified Engineering Works

3.4.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works*, to the Agency for its agreement two months prior to any such works being carried out. No such works shall be carried out without the prior agreement of the Agency.

3.4.2 All specified engineering works shall be supervised by a competent person(s) agreed in advance by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken.

3.4.3 Following the completion of all specified engineering works, the licensee shall submit a construction quality assurance validation report to the Agency. The validation report shall include the following information

- a) a description of the works;
- b) as-built drawings of the works;

- c) records of any problems and the remedial works carried out;
- d) any other information requested in writing by the Agency.

### 3.5 Surface water control and site construction

- 3.5.1 Prior to the commencement of construction on-site, the licensee shall provide details to the Agency of controls to be provided during construction which shall include the following;
  - (i) Storm water settling ponds which shall be capable of dealing with all surface water run-off at the facility during the construction phase.
  - (ii) Provision of silt fences in all drainage channels during construction works to prevent erosion of soil and sediment into local streams.
  - (iii) Lining of the stormwater settling ponds with geotextile and/or HDPE.
  - (iv) The incorporation of a penstock in the outlet from the stormwater settling ponds in order to prevent surface water discharges in the event that monitoring should indicate contamination of the surface water.
- 3.5.2 The stormwater settling ponds and surface water management infrastructure shall be constructed and operational prior to the commencement of other construction works.

### 3.6 Landscaping

The following Landscaping measures shall be carried out at the facility, unless otherwise agreed in writing with the Agency.

- 3.6.1 The existing hedgerow/tree network along the boundary of the facility shall be retained by the licensee.
- 3.6.2 Landscaping shall be carried out as outlined in Figure HL1 Point 8 (pg. 3) of Article 13 response (2/1/2002), and using the species mix recommended therein.
- 3.6.3 At least 20% of the tree stock planted shall be greater than 1m in height at the time of planting.
- 3.6.4 Preparation and planting shall be carried out prior to the commencement of waste activities on site.
- 3.6.5 Ongoing management of the landscaping vegetation shall be carried out on a regular basis to ensure these measures remain adequate for the purposes of screening.

### 3.7 Facility Roads and Hardstanding

- 3.7.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.
- 3.7.2 The facility entrance area, access roads, parking areas, vehicle fuelling area, all areas where vehicle movement takes place and all waste handling and storage areas shall be impermeable hardstand. The floor of the buildings and all hardstanding areas at the facility shall be concreted and constructed to British Standard 8110 or other standard agreed in advance with the Agency.

- 3.8 A wheel wash shall be installed and used at the facility prior to the commencement of waste activities on site.

- 3.9 The licensee shall provide and maintain an office on the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation. The licensee shall provide and maintain a working telephone and facsimile machine in this office.
- 3.10 Waste handling, ventilation and processing plant
- 3.10.1 Items of plant deemed critical to the efficient and adequate processing of waste at the facility (including waste loading vehicle, shredders *etc.*) shall be provided on the following basis:
- 100% duty capacity;
  - 50% standby capacity available on a routine basis;
  - Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.
- The duty and standby capacities shall be based on the licensed waste intake, as per *Schedule A: Waste Acceptance* of this licence.
- 3.10.2 The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this intake shall be treated as an incident.
- 3.10.3 The licensee shall provide a report detailing duty and standby capacity of all plant deemed critical to the efficient and adequate processing of waste at the facility prior to the commencement of waste activities on site.
- 3.11 Waste Inspection and Quarantine Area
- 3.11.1 A bunded waste quarantine area, and a separate waste inspection area shall be provided within the biowaste reception building. The waste inspection area and the waste quarantine area shall be suitably and clearly segregated from each other.
- 3.12 A weighbridge shall be provided, and shall be maintained in such condition as to accurately measure the weight of all vehicles using it. The accuracy of the weighbridge shall be tested and demonstrated by the licensee and shall be reported to the Agency within six months from the date of commencement of waste activities. Thereafter, the weighbridge shall be tested to the manufacturer's specifications and reported to the Agency. A written record of such tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 3.13 All tank and drum storage areas shall be rendered impervious to the materials stored therein. In addition, tank and drum storage areas shall, as a minimum be bunded, either locally or remotely, to a volume not less than the greater of the following
- a) 110% of the capacity of the largest tank or drum within the bunded area; or
  - b) 25% of the total volume of substance which could be stored within the bunded area.
- 3.13.1 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.13.2 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.13.3 The integrity and water tightness of any fuel storage bunds or the stormwater storage tank and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency prior to the commencement of waste activities. Testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. The licensee shall also submit to the Agency for its agreement in each case a written report on the storage of fuels on site. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 3.13.4 All tanks and containers shall be labelled to clearly indicate their contents.
- 3.13.5 All tanks and containers shall be secured against unauthorised access.

- 3.14 The storm and foul sewer systems shall be established and maintained as set out in Figure 0501022/02/711 subject to any alterations agreed with the Agency. In addition, the licensee shall install a clearly labelled arrangement for stopping emissions to the underground storm water storage tank (e.g. a drainage stopcock).
- 3.15 The surface water and contaminated storm water discharging to the underground storm water tank shall pass through a grit trap and a Class II by-pass separator prior to discharge to the tank. This separator shall be of an appropriate size, as outlined in prEN 858.
- 3.16 The drainage system, bunds and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal. A written record shall be kept of the inspections, desludging, cleaning, disposal of associated waste products, maintenance and performance of the interceptors, bunds and drains.
- 3.17 Water Storage/Firewater storage
- Prior to the commencement of waste activities on site the licensee shall provide holding tanks/ponds/bunded yard at the facility for the purposes of storing (i) water for use in the event of a fire at the facility and (ii) firewater which has been used for fire-fighting at the facility. The capacity of such structures shall meet the requirements of the Chief Fire Officer of Roscommon County Council and the requirements of Condition 9.4.
- 3.18 Odour Control
- 3.18.1 Prior to the date of commencement of the waste activities at the facility, the licensee shall install and provide the odour abatement system as outlined in the Waste Licence Application. In addition, the following additional measures shall be included:
- (i) A system for the maintenance of integrity and negative pressure shall be installed and maintained throughout the biowaste reception building(s) to ensure no significant escape of odours. A report which confirms the negative and integrity pressure within the waste transfer building shall be submitted to the Agency for its agreement prior to the date of commencement of the waste activities at the facility.
  - (ii) Provision of 100% duty capacity and 50% stand by capacity, back ups and spares must be provided for the air handling, ventilation and abatement plant.
  - (iii) Prior to the installation of the CHP plant, the licensee shall submit proposals to the Agency for the ducting of composting process gases into the CHP plant system for the purposes of odour reduction.
- 3.19 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.

**Reason:** *To provide for the protection of the environment.*

## CONDITION 4 RESTORATION AND AFTERCARE

- 4.1. A proposal for a Decommissioning and Aftercare Plan for the facility shall be submitted to the Agency within twelve months of the commencement of waste activities at this facility. The licensee shall update these schemes when required by the Agency.

**Reason:** *To provide for decommissioning of the facility and aftercare of the facility on which the facility is located.*

## CONDITION 5 FACILITY OPERATIONS

- 5.1. Prior to the commencement of waste activities the licensee shall submit for agreement a procedure for biofilter commissioning and operation on a phased basis in order to ensure adequate odour control at the facility.
- 5.2. Operational controls
  - 5.2.1 All waste accepted into the biowaste reception building (apart from bulking agents/green waste) shall be transferred to a composting container within 60 hours of receipt unless otherwise agreed in advance with the Agency.
  - 5.2.2 All entry and exit doors to the biowaste and sludge reception buildings shall be on automatic open/close switches in order to minimise the time spent open.
  - 5.2.3 The floor of the biowaste reception buildings shall be cleaned of waste on a daily basis.
  - 5.2.4 No waste shall be stored overnight at the facility in other than designated storage areas in the biowaste reception buildings.
  - 5.2.5 All material shredding shall be carried out inside the Waste Reception Buildings.
  - 5.2.6 All compost screening shall be carried out in the maturation sheds. All other waste processing shall occur inside an appropriate building, unless otherwise agreed with the Agency.
- 5.3. Prior to the commencement of waste activities, the licensee shall submit to the Agency for its agreement, written procedures for the acceptance of waste. These procedures shall address the following:
  - 5.3.1 One in twenty loads shall be tipped into the waste inspection area and examined and recorded.
  - 5.3.2 Each load of waste arriving at the transfer station shall be visually inspected prior to unloading in accordance with “Level 3: On-site Verification” outlined in the Agency’s Draft Manual on Waste Acceptance. Any wastes deemed to be in contravention of this licence and/or unsuitable for acceptance at this facility shall be removed for disposal/recovery at an appropriate alternative facility.
  - 5.3.3 Methods/procedures (e.g. use of dedicated and/or marked containers) to be used to segregate biowaste containing Sewage Sludge from other wastes.
  - 5.3.4 All sewage and effluent plant sludges accepted shall be analysed (on a client by client basis) for metals (as detailed in H.2) prior to acceptance at the facility. Subsequent to this initial characterisation, sewage sludges shall be analysed on a quarterly basis and other effluent sludges shall be analysed on an annual basis (all on a client by client basis). Sludges from any new client shall not be accepted without the agreement of the Agency.
  - 5.3.5 These procedures shall be updated as follows:
    - i) prior to the acceptance of new waste types (e.g. waste for anaerobic digestion) with the agreement of the Agency.
    - ii) as required to reflect changes in National or EU Legislation.
- 5.4. Process Management and validation.

- 5.4.1 All composting and anaerobic digestion processes shall be executed in line with the treatment regimes outlined in *Schedule G: Process Management*.
- 5.4.2 An indicator organism shall be used to validate the compost and digestion sanitation steps. This shall be carried out as outlined in *Schedule G: Process Management*.
- 5.5. Compost use
  - 5.5.1 Compost of Class 1 Standard shall be considered a product. All landspreading of compost of Class 1 Standard shall be in accordance with best agronomic practice.
  - 5.5.2 Compost of Class 2 Standard shall be considered a product. All landspreading of compost of Class 2 Standard shall be in accordance with best agronomic practice. Notwithstanding this, it shall be used in a quantity not exceeding 30 tonnes dry matter per hectare (on a three year average).
  - 5.5.3 All landspreading of compost containing sewage sludge as a constituent shall be carried out in accordance with the Waste Management (Use of sewage sludge in agriculture) Regulations 1998-2001.
  - 5.5.4 The recovery or disposal of compost not reaching the standards designated Class 1 or Class 2, shall be recorded as required under Condition 10.2.
- 5.6. Digestate use
  - 5.6.1 All landspreading of digestate of Class 1 Standard shall be in accordance with best agronomic practice.
  - 5.6.2 All landspreading of digestate of Class 2 Standard shall be in accordance with best agronomic practice. Notwithstanding this, it shall be used in a quantity not exceeding 30 tonnes dry matter per hectare (on a three year average).
  - 5.6.3 All landspreading of digestate containing sewage sludge as a constituent shall be carried out in accordance with the Waste Management (Use of sewage sludge in agriculture) Regulations 1998-2001.
  - 5.6.4 The recovery or disposal of digestate shall be recorded as required under Condition 10.2.
- 5.7. Maintenance
  - 5.7.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.
  - 5.7.2 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
  - 5.7.3 The wheel-wash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash and disposed of appropriately.
  - 5.7.4 The licensee shall maintain waste handling and processing plant in accordance with the manufacturers instructions.
- 5.8. All wastes removed off site for recovery or disposal shall only be conveyed by an authorised contractor, and shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.

<p><b>Reason:</b> <i>To provide for the acceptance and management of wastes authorised under this waste licence.</i></p>
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## CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule F: Emissions* of this licence. There shall be no other emissions of environmental significance.
- 6.2. In order to be considered a product, compost/digestate shall comply with the Quality Standards as outlined in *Schedule H Compost/Digestate Quality*, unless otherwise agreed with the Agency. Compost/digestate not complying with Class 1 or Class 2 of these Quality Standards shall be considered a waste and shall be disposed/recovered to an authorised outlet, as agreed with the Agency.
- 6.3. The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of :-  

Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
- 6.4. Emission limits for CHP plant emissions to atmosphere in this licence shall be interpreted in the following way:-
  - 6.4.1. Non-Continuous Monitoring
    - (i) For any parameter where, due to sampling/analytical limitations, a 30 minute samples is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
    - (ii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
    - (iii) For flow, no hourly or daily mean value shall exceed the emission limit value.
- 6.5. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 6.6. There shall be no clearly audible tonal or impulsive component in the noise emissions from the activity at noise sensitive locations.
- 6.7. Activities on-site shall not give rise to noise levels off site, at the noise sensitive location, as specified in *Schedule E: Monitoring* of this licence, which exceed the sound pressure limits specified in *Schedule F Emission Limits*.
- 6.8. Surface Water
  - 6.8.1. The licensee shall ensure effective control of surface water run off from the facility during construction, operation and restoration.
  - 6.8.2. Only clean roof water, and clean drain water from the toe drain at the eastern perimeter of the facility, shall be discharged to local surface water courses
  - 6.8.3. All other surface water and contaminated storm water (including on-site domestic effluent) shall be discharged to the underground storm water storage tank. This water shall either be used in processes occurring on site or discharged to a waste water treatment plan, as agreed with the Agency.
  - 6.8.4. The underground storm water storage tank shall include a high level alarm connected to the control room of the main Administration building. This alarm shall be set such that a minimum of 10% spare capacity is maintained at all times in the holding tank.

**Reason:** To control emissions from the facility and provide for the protection of the environment

## CONDITION 7 NUISANCE CONTROL

- 7.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin and odours. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 7.2. No wastes shall be stored outside a building, unless agreed in advance with the Agency.
- 7.3. All litter on the facility and its environs shall be removed and appropriately disposed of on a daily basis.
- 7.4. The road network / public highway in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.
- 7.5. In dry weather, facility roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.
- 7.6. The licensee shall ensure that all vehicles delivering and removing waste from the facility are fully covered, clean and adequately secured to prevent spillage and shall not give rise to offensive odours, cause soiling of approach roads or other nuisance.
- 7.7. The vermin control measures as set out in Point 2 (pg. 1) of the Article 13 response (2/1/2002), shall be carried out to prevent, control and eradicate infestations of insects, pests and vermin, unless otherwise agreed with the Agency.
- 7.8. The licensee shall ensure that all operations on site shall be carried out in a manner such that air emissions and/or odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the facility boundary.

**Reason:** To provide for the control of nuisance.

## CONDITION 8 MONITORING

- 8.1. The licensee shall carry out such monitoring and at such locations and frequencies as set out in *Schedule E: Monitoring* of this licence and as specified in the Conditions of this licence. All environmental monitoring shall commence within 2 months of date of commencement of waste activities, unless otherwise agreed with the Agency.
- 8.2. Compost/Digestate quality monitoring
  - 8.2.1. Compost/Digestate quality shall be monitored at the frequencies set out in *Schedule H: Compost/Digestate Quality* of this licence, unless otherwise agreed with the Agency.
- 8.3. Prior to commencement of waste activities, the licensee shall submit to the Agency for its agreement details of the sampling protocol, methods of analyses and sample numbers of the composting and/or anaerobic digestion operations.
- 8.4. The licensee shall provide and maintain all sampling and monitoring points so that they may be used for the representative sampling and monitoring of emissions from the facility.
- 8.5. The licensee shall provide safe and permanent access to all on-site and off-site sampling and monitoring points as required by the Agency.

- 8.6. Monitoring and analytical equipment shall be operated and maintained in accordance with the manufacturers instructions (if any) so that all monitoring results accurately reflect any emission or discharge or environmental parameter.
- 8.7. The licensee shall amend the frequency, locations, methods and scope of monitoring, sampling, analyses and investigations only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
- 8.8. Prior to the commencement of waste activities the following information shall be submitted to the Agency for its agreement: the names, qualifications and a summary of the relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring. Any proposed changes to the above shall be submitted to the Agency for its agreement.
- 8.9. All on-site monitoring points shall be tagged in situ with their agreed sampling point codes.

<p><b>Reason:</b> <i>To ensure compliance with the requirements of other conditions of this licence by provision of a satisfactory system of measurement and monitoring of emissions.</i></p>
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## CONDITION 9 CONTINGENCY ARRANGEMENTS

- 9.1. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility. A written record of the use and disposal of these items shall be maintained by the licensee.
- 9.2. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
- 9.3. A fire at the facility shall be treated as an emergency. Immediate action shall be taken to extinguish it and the appropriate authorities notified.
- 9.4. Prior to commencement of waste activities, the licensee shall submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include an assessment of the proposed storage facilities which will be provided as required by Condition 3.17 of this licence in the event of a fire at the facility. The Chief Fire Officer of Roscommon Co. Co. shall be consulted by the licensee during this assessment.
- 9.5. In the event of a complete breakdown of equipment or any other occurrence which results in the closure of the biowaste reception building (including the anaerobic digestion building), any putrescible waste arriving at or already collected at the facility, where necessary shall be transferred directly to appropriate landfill sites or any other appropriate facility until such time as the building(s) is returned to a fully operational status. Such a breakdown event will be treated as an emergency and rectified as soon as possible.
- 9.6. Unless otherwise notified in writing by the Agency, in the case of repeat incidents, in the event that any monitoring, sampling or observations indicate that an incident has, or may have, taken place, the licensee shall immediately:
  - a) identify the date, time and place of the incident;
  - b) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission;
  - c) isolate the source of the emission;
  - d) evaluate the environmental pollution, if any, caused by the incident;

- e) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
- f) provide a proposal to the Agency for its agreement within one month to:
  - (i) identify and put in place measures to avoid reoccurrence of the incident, and;
  - (ii) identify and put in place any other appropriate remedial action.

**Reason:** *To provide for the protection of the environment.*

## **CONDITION 10 RECORDS**

10.1 The licensee shall keep the following documents at the facility;

- a) the current waste licence relating to the facility;
- b) any previous waste licence in respect of the facility;
- c) the current EMS for the facility;
- d) the previous year's AER for the facility;

all written procedures produced by the licensee which relate to the licensed activities.

10.2 The licensee shall maintain a written record, or a record in a format to be agreed with the Agency, for each load of waste arriving at and departing from the facility. The licensee shall record the following:

- a) the name of the carrier;
- b) the vehicle registration number;
- c) the name of the producer(s)/collector(s) of the waste as appropriate;
- d) a description of the waste including the associated EWC codes;
- e) the quantity of the waste accepted at the facility, recorded in tonnes;
- f) the name of the person checking the load;
- g) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed;
- h) the quantity of waste leaving the facility, recorded in tonnes;
- i) the destination of the load, including consignee's waste permit/licence details;

any other information which might be required from time to time subject to prior agreement with the Agency.

10.3 **Written Records**

The following written records shall be maintained by the licensee:

- a) the types and quantities of waste recovered at the facility each year. These records shall include the relevant EWC Codes;
- b) all training undertaken by facility staff;
- c) results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
- d) records of equipment calibration;
- e) details of all nuisance inspections; and

- f) the names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
  - g) any other records required by this licence.
- 10.4 A written record shall be kept of each consignment of foul water removed from the facility. The record shall include the following:
- a) the name of the carrier;
  - b) the date and time of removal of foul water from the facility;
  - c) the volume of foul water, in cubic metres, removed from the facility on each occasion;
  - d) the name and address of the Waste Water Treatment Plant to which the foul water was transported;
  - e) any incidents or spillages of foul water during its removal or transportation.
- 10.5 The licensee shall maintain a written record of all complaints relating to the operation of the activity. Each such record shall give details of the following:
- a) date and time of the complaint;
  - b) the name of the complainant;
  - c) details of the nature of the complaint;
  - d) actions taken on foot of the complaint and the results of such actions; and,
  - e) the response made to each complainant.
- 10.6 The licensee shall assign and clearly label a unique reference code to each composting container at the facility. In addition, the following shall be recorded:
- a) the time at which composting of the container contents commenced;
  - b) the time at which composting of the container contents ceased; and
  - c) whether sewage sludge was an ingredient in the contents of the composting container.
- 10.7 Where compost/digestate product contains sewage sludge the licensee shall retain the following records on site:
- a) A copy of the notifications to the Local Authority as required under Article 8 (1) and Article 8 (3) of SI 148 of 1998 (Waste Management (Use of sewage sludge in agriculture) Regulations, 1998).
  - b) This shall include *inter alia*; sludge analysis, records of sludge quantities, sludge properties, treatment type and location/name of the recipient of the sludge (sludge meaning compost/digestate containing treated sludge).
- 10.8 Where compost/digestate product of Class 2 level is produced the licensee shall retain the following records on site, unless otherwise agreed with the Agency:
- a) location and field plot ID's accepting the waste
  - b) maps detailing field plot locations and areas (in hectares)
  - c) weight (in dry matter) of product dispatched
  - d) cumulative quantity of product used per field plot

*REASON: To provide for the keeping of proper records of the operation of the facility*

## CONDITION 11 REPORTS AND NOTIFICATIONS

- 11.1 The licensee shall make written records of the following incidents:
- a) any emission which results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
  - b) any emission which does not comply with the requirements of this licence;
  - c) any trigger level specified in this licence or in the EMS which is attained or exceeded;
  - d) any test failures of waste samples taken;
  - e) any malfunction of any environmental control system;
  - f) any indication that contamination has, or may have, taken place;
  - g) the cessation of waste activities at the facility for a period in excess of 28 days, and their recommencement;
  - h) any occurrence with the potential for environmental pollution; and,
  - i) any emergency.
- The written record shall include all aspects described in Condition 9.6
- 11.2 Unless otherwise instructed in writing by the Agency, the licensee shall:
- a) notify the Agency by telephone, and by facsimile if available, as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident; and
  - b) submit the written record required by this condition to the Agency as soon as practicable and in any case within *five working days* after the occurrence of any incident.
- 11.3 Should any further actions be taken after the date of written notification, as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.
- 11.4 Unless otherwise agreed by the Agency, all documentation submitted to the Agency shall:
- (a) be sent to the Agency's headquarters;
  - (b) comprise one original and four copies;
  - (c) be formatted in accordance with any written instruction or guidance issued by the Agency;
  - (d) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
  - (e) be submitted in accordance to the relevant reporting frequencies specified by this licence;
  - (f) be certified as accurate and representative by the licensee; and
  - (g) in the case of results of any environmental monitoring, be accompanied by a written interpretation setting out their significance.
- 11.5 Copies of all environmental monitoring data obtained by the licensee which relates to the facility shall be forwarded to the Agency at the frequencies set out in *Schedule C: Recording and Reporting to the Agency* of this licence.
- 11.6 In the event of any incident which relates to discharges to surface water, the licensee shall notify the Western Regional Fisheries Board as soon as practicable by telephone and in writing (by facsimile if available) and in any case not later than 10:00am on the following working day after such an incident.

- 11.7 Archaeology
- 11.7.1 Prior to commencement of any excavation works in undeveloped land on-site, the licensee shall consult with Dúchas regarding archaeological supervision of said works.
- 11.8 Unless otherwise agreed with the Agency, all documentation required to be maintained under this licence, shall be retained by the licensee.
- 11.9 Unless otherwise agreed in advance with the Agency, the licensee must give at least fourteen days notice to the Agency of the following events:
- a) the cessation of waste activities at the facility for a period in excess of twenty-eight days;
  - b) the re-commencement of waste activities at the facility following a period of cessation referred to at a) above.
- 11.10 The licensee shall provide additional copies of any documentation referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.

**Reason :** *To provide for the notification of incidents, to update information on the activity and to provide for the keeping of records.*

## **CONDITION 12 CHARGES AND FINANCIAL PROVISIONS**

### 12.1 Agency Charges

12.1.3 The licensee shall pay to the Agency an annual contribution of €14,608 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2003 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Consumer Price Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2002, the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> December 2002. This amount shall be paid to the Agency within one month of the date of grant of this licence.

12.1.3 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs.

### 12.2 Financial Provision for Closure, Restoration and Aftercare

12.2.1 The licensee shall arrange for the completion of a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility which will address liabilities arising from the carrying on of the activities to which this licence relates. A report on this assessment shall be submitted to the Agency for agreement within six months of the date of commencement of waste activities at this facility.

12.2.2 Within nine months of the date of commencement of waste activities at this facility the licensee shall make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which this licence relates. Such provision shall be maintained by the licensee unless otherwise agreed by the Agency.

12.2.3 The amount of financial provision, held under Condition 12.2.2 shall be reviewed and revised as necessary, but at least annually. Any proposal for such a revision shall be submitted to the Agency for its agreement.

12.2.4 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under Condition 12.2.2, forward to the Agency written proof of such indemnity.

**Reason:** *To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*



## SCHEDULE A :Waste Acceptance

WASTE TYPE	MAXIMUM WASTE QUANTITY TO BE ACCEPTED DURING RELEVANT PHASES	
	Phase I	Phase II
<b>Composting</b>		
Household Organic Waste/Dry food processing waste	23,000	36,000
Green Waste	4,000	8,000
Dewatered Sewage Sludge	5,000	10,000
Spent Mushroom Compost	10,000	30,000
Chicken Litter	3,000	6,000
Paunch	5,000	10,000
<b>Anaerobic Digestion</b>		
Food Waste	0	1,500
Effluent plant sludges (including Sewage sludge)	0	8,500
Animal slurries	0	15,000
<b>TOTAL</b>	<b>50,000</b>	<b>125,000</b>

## SCHEDULE B :Content of the Annual Environmental Report

Annual Environmental Report Content
Reporting Period.
Waste activities carried out at the facility and quantity/composition of waste received, disposed of and recovered (including market and non-market outlets) during the reporting period and each previous year.
Summary report on emissions and of results and interpretations of environmental monitoring, including a plan of all monitoring locations.
Resource and energy consumption summary.
Report on development works undertaken during the reporting period, and a timescale for any proposed for the coming year.
Environmental Management Programme
Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.
Tank, drum, pipeline and bund testing and inspection report.
Reported Incidents and Complaints summaries.
Reports on financial provision made under this licence, management & staffing structure, and a programme for public information.
Volume of foul water transported off-site.
Any other items specified by the Agency.

## SCHEDULE C :Recording and Reporting to the Agency

Report	Reporting Frequency	Report Submission Date
Environmental Management System	Annually	Eighteen months from the date of grant of licence and updates annually thereafter as part of the AER.
Annual Environment Report (AER)	Annually	Thirteen months from the date of grant of licence and one month after the end of each year thereafter.
Record of incidents	As they occur	Within five days of the incident.
Specified Engineering Works reports	As they arise	Two months prior to the works commencing.
Bund, tank and container integrity assessment	Every three years	Six months from the date of grant of licence & one month after end of the three year period being reported on.
Air Monitoring (CHP Plant & biofilters)	Quarterly	One month after the completion of the monitoring.
Surface water monitoring	Quarterly	Ten days after end of the quarter being reported on.
Noise and Groundwater Monitoring	Annually	Ten days after end of the quarter being reported on.
Compost quality monitoring	Quarterly	Ten days after end of the quarter being reported on.
Dust/Bioaerosol monitoring	Annually	One month after the completion of the monitoring.
Any other monitoring	As they occur	Within ten days of obtaining results.

## SCHEDULE D :Specified Engineering Works

Specified Engineering Works
<p>Installation of additional composting/anaerobic digestion capacity (Including Phase II of the facility).</p> <p>Installation of surface water control works prior to the construction of the facility.</p> <p>Installation of banded fuel storage areas.</p> <p>Any other works notified by the Agency.</p>

## SCHEDULE E :Monitoring

**E.1: Monitoring Locations** Monitoring to be carried out at the locations specified;

<b>DUST DEPOSITION &amp; BIOAEROSOL</b> <sup>Note 1</sup> As per Drawing 0501022/02/703 of application	<b>NOISE</b> As per Drawing 0501022/02/703 of application
D1	N1
D2	N2
D3	N3 (Noise sensitive location)
D4 (to be located within 500m N of the facility)	
<b>SURFACE WATER</b> As per Drawing 0501022/02/703 of application	<b>GROUNDWATER</b> As per Drawing 0501022/02/703 of application
SW1 (At the roof water emission point)	BH1
SW2	BH2
SW3	BH3
<i>Air &amp; Odour</i> As per Drawing 0501022/02/704 of application	
<i>Phase I</i>	<i>Phase II</i>
AE-1 (Biofilter from biowaste reception building)	AE-9 (CHP plant) AE-10 (Biofilter from biowaste reception building)
AE-2 & AE-3 (Biofilters from Phase I composting containers)	AE-11 & AE-12 (Biofilters from Phase II composting containers)
AE-4, AE-5, AE-6, AE-7, AE-8 (Biofilters from Phase I Maturation sheds)	AE-13, AE-14, AE-15, AE-16, AE-17 (Biofilters from Phase II Maturation sheds)

**Note 1:** Bioaerosol monitoring to be carried out at one upwind and two downwind locations chosen from D1, D2, D3 or D4.

### E 2: Monitoring of Processes

#### E 2.1: Monitoring of Composting process

Parameter	Monitoring Frequency	Monitoring equipment/method
<ul style="list-style-type: none"> <li>Composting vessels</li> </ul> <i>Temperature vs. time</i>	Continuous	Temperature probe/recorder
<ul style="list-style-type: none"> <li>Compost maturation (curing) piles</li> </ul> <i>Temperature</i>	Daily	Temperature probe
<i>Moisture</i>	Daily	Subjective by operator.
<ul style="list-style-type: none"> <li>Compost storage piles</li> </ul> <i>Temperature</i>	Weekly (where piles > 4m high)	Temperature probe

## E2.2: Monitoring of Anaerobic Digester <sup>Note 1</sup>

Parameter	Monitoring Frequency	Monitoring equipment/method
<b>Sanitation vessel</b>		
• <i>Temperature vs. time</i>	Continuous	Temperature probe/recorder
• <i>pH</i>	Continuous	pH probe/recorder
<b>Digestion vessel</b>		
• <i>pH</i>		
Influent	Continuous	pH probe/recorder
Digester	Continuous	pH probe/recorder
Outlet	Weekly	pH probe/recorder
• <i>Temperature vs. time</i>	Continuous	Temperature probe/recorder
• <i>Flow (Influent to digester)</i>	Continuous	Flow meter
• <i>Volatile Fatty Acids</i>		
Total	Daily	Standard method
Individual	<i>Note 2</i>	Standard method
• <i>Volume of Biogas production</i>	Continuous	Standard method
• <i>% Methane</i>	Continuous	Standard method

**Note 1:** Monitoring of the sanitation vessel and digestion vessel shall apply from commencement of anaerobic digestion activities.

**Note 2:** Individual Volatile Fatty Acids to be monitored when total Volatile Fatty Acids exceed design levels.

## E.3 Dust and Bioaerosol Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
PM <sub>10</sub> (µg/m <sup>3</sup> )	Annually	See <sup>Note 4</sup>
<i>Aspergillus fumigatus</i>	Annually	Grab sample <sup>Note 3</sup>
Mesophilic bacteria	Annually	Grab sample <sup>Note 3</sup>
Dust deposition (mg/m <sup>2</sup> /day)	Three times a year <sup>Note 2</sup>	Standard Method <sup>Note 1</sup>

**Note 1:** Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

**Note 2:** Twice during the period May to September, or as otherwise specified in writing by the Agency.

**Note 3:** Enumeration of colonies to be carried out as described in 'Standardised Protocol for the Sampling and Enumeration of Airborne Micro-organisms at composting Facilities' the UK Composting Association 1999.

**Note 4:** As described in prEN12341 "Air Quality - field test procedure to demonstrate reference equivalence of sampling methods for PM10 fraction of particulate matter" or an alternative agreed in writing with the Agency.

## E.4: Noise Monitoring

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) <sub>EQ</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>10</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>90</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
Frequency Analysis(1/3 Octave band analysis)	Annual	Standard <sup>Note 1</sup>

**Note 1:** "International Standards Organisation. ISO 1996. Acoustics - description & Measurement of Environmental noise. Parts 1, 2 & 3."

### E.5: Surface Water Monitoring

Parameter <sup>Note 1</sup>	Monitoring Frequency	Analysis Method/Technique
Visual Inspection	Weekly	Not applicable
Ammoniacal Nitrogen	Quarterly	ISE / Colorimetry
BOD	Quarterly	Electrometry / Titrimetry with nitrification inhibitor
Chloride	Quarterly	Colorimetry / Ion Chromatography
Electrical Conductivity	Quarterly	Electrometry
pH	Quarterly	Electrometry
Total Suspended Solids	Quarterly	Gravimetry
Coliforms (total, faecal)	Annually	Membrane filtration or MPN using referenced procedures

*Note 1:* All analyses shall be carried out by a competent laboratory using standard and internationally acceptable techniques. The testing laboratory and the testing technique shall be agreed with the Agency in advance.

### E.6: Groundwater Monitoring

Parameter <sup>Note 1</sup>	Monitoring Frequency	Analysis Method/Technique
Groundwater level	Annually	Not applicable
Ammoniacal Nitrogen (as NH <sub>4</sub> )	Annually	ISE / Colorimetry
Chloride	Annually	Colorimetry / Ion Chromatography
Electrical Conductivity	Annually	Electrometry
pH	Annually	Electrometry
Coliforms (total, faecal)	Annually	Membrane filtration or MPN using referenced procedures

*Note 1:* All analyses shall be carried out by a competent laboratory using standard and internationally acceptable techniques. The testing laboratory and the testing technique shall be agreed with the Agency in advance.

### E.7: Air & Odour Monitoring<sup>Note 1</sup>

#### Biofilters

Parameter	Monitoring Frequency	Analysis Method/Technique
<b>Phase I: AE-1, AE-2 &amp; AE-3 - Phase II: AE-10, AE-11 &amp; AE-12</b>		
<b>Bed Media</b>		
Odour assessment <sup>Note 2</sup>	Daily	Subjective Inspection
Condition and depth of biofilter <sup>Note 3</sup>	Daily	Visual Inspection
Moisture content	Bi-annually	Standard laboratory method
pH	Bi-annually	pH probe
Ammonia	Bi-annually	Standard laboratory method
Total viable counts	Bi-annually	Standard laboratory method
<b>Inlet and Outlet Gas</b>		
Ammonia	Bi-annually	Colourimetric Indicator Tubes
Hydrogen sulphide	Bi-annually	Colourimetric Indicator Tubes
Mercaptans	Bi-annually	Colourimetric Indicator Tubes

**Phase I: AE-4, AE-5, AE-6, AE-7 & AE-8 - Phase II: AE-13, AE-14, AE-15, AE-16 and AE-17**

<b>Bed Media</b>		
Odour assessment <sup>Note 2</sup>	Weekly	Subjective Inspection
Condition and depth of biofilter <sup>Note 3</sup>	Weekly	Visual Inspection
Moisture content	Annually	Standard laboratory method <sup>Note 1</sup>
pH	Annually	pH probe
Ammonia	Annually	Standard laboratory method <sup>Note 1</sup>
Total viable counts	Annually	Standard laboratory method <sup>Note 1</sup>

**Note 1:** All analyses shall be carried out by a competent laboratory using standard and internationally acceptable techniques. The testing laboratory and the testing technique shall be agreed with the Agency in advance.

**Note 2:** This subjective assessment should be carried out by a staff member immediately upon arriving on-site

**Note 3:** The biofilter shall be examined to ensure that no channelling is evident, and that moisture content is adequate. Watering, turning, restructuring and the addition of supplementary bed materials, or total bed replacement shall be carried out, as required, subject to bed performance.

**Combined Heat & Power (CHP) Plant (AE-9)**

<b>Parameter</b>	<b>Monitoring Frequency</b>	<b>Analysis Method/Technique</b>
Volumetric Flow rate	Annually <sup>Note 1</sup>	Standard laboratory method
Nitrogen oxides as (NO <sub>2</sub> )	Annually <sup>Note 1</sup>	Standard laboratory method
CO	Annually <sup>Note 1</sup>	Standard laboratory method
Particulates	Annually <sup>Note 1</sup>	Standard laboratory method
Sulphur Dioxide as (SO <sub>2</sub> )	Annually <sup>Note 1</sup>	Standard laboratory method
Hydrogen Sulphide (H <sub>2</sub> S)	Annually <sup>Note 1</sup>	Standard laboratory method
Hydrogen Chloride	Annually <sup>Note 1</sup>	Standard laboratory method
Hydrogen Fluoride	Annually <sup>Note 1</sup>	Standard laboratory method

**Note 1:** Once a month for the first three months of operation and annually thereafter.

**E.8 Meteorological Monitoring**

Data to be obtained from an on-site weather station prior to commencement of Waste Activities.

<b>Parameter</b>	<b>Monitoring Frequency</b>	<b>Analysis Method/Technique</b>
Precipitation Volume	Monthly	Standard
Wind Force and Direction	Daily	Standard (with data logger)

**SCHEDULE F :Emission Limits**

**F.1 Dust Deposition Limits:** (Measured at the monitoring points indicated in Schedule E1)

<b>Level (mg/m<sup>2</sup> /day) <sup>Note 1</sup></b>
350

**Note 1:** 30 day composite sample with the results expressed as mg/m<sup>2</sup>/day.

**F.2 Noise Emission Limits:** (Measured at noise sensitive location indicated in Schedule E1)

<b>Day dB(A) L<sub>Aeq</sub>(30 minutes)</b>	<b>Night dB(A) L<sub>Aeq</sub>(30 minutes)</b>
55	45

### F.3 Air Emission Limits:

#### F.3.1 Emission Limits Values for Biofilters

**Emission Point reference no:** Phase I: AE-1, AE-2 and AE-3

Phase II: AE-10, AE-11 and AE-12

**Minimum discharge heights:** AE-1 & AE-10 shall project 1.5 m above crest of adjacent building.  
All other biofilter stacks: 4m above ground level.

Parameter	Emission Limit Value
Ammonia	50 mg/m <sup>3</sup>
Hydrogen sulphide	5 mg/m <sup>3</sup>
Mercaptans	5 mg/m <sup>3</sup>

#### F.3.2 Emission Limits Values for CHP Plant

**Emission Point reference no:** AE-9 (Emission from CHP Plant)

**Volume to be emitted:** 1500 Nm<sup>3</sup>/hr <sup>Note 2</sup>

**Minimum discharge height:** 6m

Parameter	Emission Limit Value <sup>Note 1</sup>
Nitrogen oxides as (NO <sub>2</sub> )	500 mg/m <sup>3</sup>
CO	650 mg/m <sup>3</sup>
Particulates	50 mg/m <sup>3</sup>
Sulphur Dioxide as (SO <sub>2</sub> )	500 mg/m <sup>3</sup>
Hydrogen Sulphide (H <sub>2</sub> S)	5 mg/m <sup>3</sup>
Hydrogen Chloride	30 mg/m <sup>3</sup> (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m <sup>3</sup> (at mass flows > 0.05 kg/h)

**Note 1:** Dry gas referenced to 5% oxygen by volume.

**Note 2:** Volumetric emissions may be increased *pro rata* with a decrease in concentration of emission.

## SCHEDULE G : Process Management

**Table G.1 Composting.** During the composting process the entire quantity of biowaste being composted shall be exposed to the following temperature <sup>Note 1</sup>:

Temperature	Treatment time
At least 60°C	1 week

**Table G.2 Anaerobic digestion.** During the Anaerobic digestion process the entire quantity of biowaste to be digested shall be exposed to the following temperature <sup>Note 1</sup>:

Temperature	Treatment time
At least 70°C	At least 1 hour

**Table G.3 Process validation.** Both the composting and digestion process shall be tested using the following indicator organism <sup>Note 1</sup>.

Indicator Organism	Frequency
<i>Salmonella spp.</i>	Annually <sup>Note 2</sup>

**Note 1:** Unless otherwise agreed with the Agency.

**Note 2:** This test shall be repeated if major changes to either the composition of the incoming biowaste or the treatment process are made.

## SCHEDULE H :Compost/Digestate Quality

Compost/digestate shall be deemed unsatisfactory if more than 25% of samples fail the criteria below. No sample shall exceed 1.2 times the quality limit values set.

[The following criteria (where they apply to compost) are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH<sub>4</sub>-N, NO<sub>3</sub>-N, pH and dry matter content should also be measured]

### 1. Maturity (Compost only)

The state of the curing pile must be conducive to aerobic biological activity.

Compost shall be deemed to be mature if it meets two of the following groups of requirements:

1. Respiration activity after four days AT<sub>4</sub> is ≤10mg/O<sub>2</sub>/g dry matter **or** Dynamic Respiration Index is ≤1,000mgO<sub>2</sub>/kg VS/h.
2. Germination of cress (*Lepidium sativum*) seeds and of radish (*Raphanus sativus*) seeds in compost must be greater than 90 percent of the germination rate of the control sample, and the growth rate of plants grown in a mixture of compost and soil must not differ more than 50 percent in comparison with the control sample.
3. Compost must be cured for at least 21 days; and Compost will not reheat upon standing to greater than 20°C above ambient temperature.
4. If no other determination of maturity is made, the compost must be cured for a six month period. In addition, offensive odours from the compost shall be minimal for the compost to be deemed mature.
5. Or other maturity tests as may be agreed with the Agency

### 2. Trace Elements (Compost and Digestate) <sup>Note 1 & 2</sup>

#### Maximum Trace Element Concentration Limits <sup>Note 3</sup>

Parameter (mg/kg, dry mass)	Compost Quality Standards <sup>Note 4</sup> Digestate Quality Standards <sup>Note 4</sup>		Stabilised Biowaste
	Class 1	Class 2	
Cadmium (Cd)	0.7	1.5	5
Chromium (Cr)	100	150	600
Copper (Cu)	100	150	600



Mercury (Hg)	0.5	1	5
Nickel (Ni)	50	75	150
Lead (Pb)	100	150	500
Zinc (Zn)	200	400	1500
PolyChlorinated Biphenyls (PCB's)	-	-	0.4
Polynuclear Aromatic Hydrocarbons (PAH's)	-	-	3
Impurities >2mm <sup>Note 5</sup>	<0.5%	<0.5%	<3%
Gravel and Stones >5mm <sup>Note 5</sup>	<5%	<5%	-

**Note 1:** These limits apply to the compost just after the composting phase and prior to mixing with any other materials.

**Note 2:** Incoming sludges shall be monitored quarterly (on a client by client basis) for the parameters outlined in this table.

**Note 3:** The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

**Note 4:** Normalised to 30% organic matter content

**Note 5:** Compost must not contain any sharp foreign matter measuring over a 2 mm dimension that may cause damage or injury to humans, animals and plants during or resulting from its intended use

### 3. Pathogens (Compost and Digestate)

Pathogenic organism content must not exceed the following limits:

<i>Salmonella sp.</i>	Absent in 50g	n=5
<i>Faecal Coliforms</i>	≤ 1000 Most Probable Number (MPN) in 1g	n=5

Where: n = Number of samples to be tested;

### 4. Monitoring (Compost and Digestate)

The licensee shall monitor the compost/digestate product at least monthly. The licensee shall submit to the Agency for its agreement, prior to commencement of the composting and/or anaerobic digestion operations, details of the sampling protocol, methods of analyses and sample numbers.

Given by the Agency on the 28<sup>th</sup> day of June 2002

Signed on behalf of the said Agency

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on the 28<sup>th</sup> day of June 2002

Patrick J. Nolan **Authorised Person**