



Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

PROPOSED DECISION

Waste Licence Application Register Number:	180-1
Applicant:	McGill Environmental Systems (Ireland) Limited
Location of Facility:	Coom, Carrignavar/Glenville, County Cork.

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 an indoor composting facility on a Greenfield site at Coom, Carrignavar/Glenville, County Cork.

McGill Environmental Systems (Ireland) Limited propose to accept non-hazardous biodegradable wastes (primarily sewage sludge, industrial sludges, household and commercial waste for composting) at this facility.

The quantity of waste to be accepted at the facility is limited to 20,800 tonnes per annum (equivalent to 400 tonnes per week).

Wastes must be received only in fully covered vehicles and can be only unloaded inside the appropriate reception building. All waste will be composted in composting bays with forced aeration from underfloor aeration channels. Air will be extracted from the composting building by means of extraction fans and will be released to the atmosphere via a biofilter system.

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 McGill Environmental Systems (Ireland) Limited will operate and manage this facility.

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DECISION AND REASONS FOR THE DECISION

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 third parties and the report of its inspectors.

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 McGill Environmental Systems (Ireland) Limited, Ballinvoher, Castletownroche, County Cork to carry on the waste activities listed below at Coom, Carrignavar, Glenville, County Cork, 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 6.	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule. Description: The composting of certain wastes, which according to Annex 1 of the EC Working Document “Biological Treatment of Biowaste, 2 nd Draft”, are not suitable for use as compost, and therefore destined for disposal or the production of composted material not meeting the requirements of Class 1 or Class 2 of <i>Schedule H: Compost Quality</i> , of this licence.
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. Description: The storage at the facility of composted materials which are not suitable for recovery and destined ultimately for disposal.

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 is the principal activity. This activity is limited to the composting of biodegradable waste.
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 the storage at the facility of compost and materials for composting.

INTERPRETATION

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Agency	Environmental Protection Agency.
Agreement	Agreement in writing.
Application	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.
Annually	All or part of a period of twelve consecutive months.
Bi-Annually	Twice a year.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.
Bund	A structure to provide containment for any loss of liquid from a storage tank and associated pipework.
Category 1, 2 & 3 animal by-product waste	As defined in 'European Parliament and Council Regulation No 1774/2002 laying down health rules concerning animal by-products not intended for human consumption' or other National Regulations.
Compost	Stable, sanitised and humus like material rich in organic matter and free from offensive odours resulting from composting, of separately collected biowaste which complies with the environmental quality classes outlined in <i>Schedule H: Compost Quality</i> of this licence.
Condition	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.
Containment boom	A boom which can contain spillages and prevent these from entering drains or watercourses.
Daily	Consecutive 24 hour periods.
Day	A period from 0000 hours to 2400 hours.
Daytime	0800 hrs to 2200 hrs.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing/drawing number means a drawing/drawing number contained in the application, unless otherwise specified in this licence.
Emission	As defined in Section 5 (1) of the Act.
Emission Limit Value	Those limits, including concentration limits and deposition levels established in <i>Schedule G: Process Management</i> of this licence.

Environmental Pollution	As defined in Section 5 (1) of the Act.
European Waste Catalogue (EWC)	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.
Facility	That area or areas defined under Condition 1.2.
Fugitive Dust	Non-point source dust emissions. For example, dust from vehicular movements on yards.
Green waste	Waste wood, plant matter and other vegetation.
Hazardous Waste	As defined in Section 4 (2) of the Act.
Household Waste	As defined in Section 5 (1) of the Act.
Incident	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none"> 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.
Impulsive Noise	As defined in British Standard BS 4142, 1990. "Method for rating industrial noise affecting mixed residential and industrial areas".
Instruction	Instruction in writing.
Licence	A Waste Licence issued in accordance with the Act.
Licensee	McGill Environmental Systems (Ireland) Limited.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Municipal Waste	Municipal waste as defined in Section 5 (1) of the Act.
Night-time	2200 hrs to 0800 hrs.
Noise Sensitive Location (NSL)	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.
Oil Separator	Device installed according to the draft European Standard prEN 858 (Installations for the separation of light liquids, eg. oil and petrol).
Putrescible waste	Waste which is readily biodegradable such as vegetable matter, green waste, etc.

Quarterly	A period of three calendar months, the first period of which commences on the date of grant of this licence.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment, with greater than 2% dry matter.
Specified Emissions	Those emissions listed in <i>Schedule F: Emission Limits</i> of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule D: Specified Engineering Works</i> of this licence.
Stabilised Biowaste	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 Quality</i> of this licence.
Submit	Unless the context of this licence indicates otherwise, submit to the Agency in writing for agreement.
Tonal Noise	As defined in International Standards Organisation “Acoustics - description and measurement of environmental noise”, Part 2, 1996.
Treatment	Treatment means the physical, thermal, chemical or biological processes, including sorting, that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery.
Treated Sludge	Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use.
Trigger Level	A parameter value which when achieved or exceeded requires certain actions to be taken.
Waste	As defined in Section 4(1) of the Act.
Wastewater	Contaminated water including process water and water that has been used for washing and/or flushing (including foul water).
Weekly	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.
EPA Working Day	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 in the Drawing entitled 'Site Location' and as indicated in black in Drawing No. MES001. Any reference in this licence to "facility" shall mean the area thus outlined.
- 1.3. Only the wastes as outlined in *Schedule A: Waste Acceptance* of this licence and as listed under Annex 1 of the EC Working Document 'Biological Treatment of Biowaste' (2nd draft) or subsequent amendments shall be accepted at the facility for the production of compost. Waste types outlined in *Schedule A: Waste Acceptance* of this licence and not listed under Annex 1 of the EC Working Document 'Biological Treatment of Biowaste' (2nd draft) should be disposed of, unless upon the instruction of the Agency. Hazardous wastes shall not be accepted at the facility.
- 1.4. Waste shall be accepted at the facility only from persons who either are holders of a waste permit or are exempted under the Waste Management (Collection Permit) Regulations 2001.
- 1.5. The quantity of wastes to be accepted for composting at the facility shall not exceed 20,800 tonnes per annum.
- 1.6. 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.
- 1.7. 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.
- 1.8. Waste Acceptance Hours and Hours of Operation
 - 1.8.1 Waste shall be only accepted at the facility between the hours of 8.00 a.m. and 5.00 p.m. Monday to Friday and between the hours of 8.00 a.m. and midday on Saturday.
 - 1.8.2 Waste shall be only handled during the hours of 8.00 a.m. to 6.00 p.m. Monday to Saturday and between the hours of 8.00 a.m. and 1.00 p.m. on Saturday.
 - 1.8.3 Waste shall not be accepted or handled at the facility on Sundays or on Bank Holidays.
- 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 by 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.

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

The licensee shall secure the facility and ensure that there are measures in place to detect and discourage illegal dumping at the facility.

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* of this licence, 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 Landscaping

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

3.5.1 The existing hedgerow/tree network along the boundary of the facility shall be retained and supplemented by the licensee.

3.5.2 The measures described in Attachment H.7 of the application shall be carried out, unless otherwise agreed with the Agency.

3.6 Facility Roads and Site Surfaces

3.6.1 Site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.

3.6.2 The licensee shall provide an impermeable concrete surface at 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. Concreted areas shall be constructed to British Standard 8110 or other standard agreed in advance by the Agency.

3.7 Weighbridge and Wheel Cleaner

3.7.1 The licensee shall maintain a weighbridge and a wheel cleaner at the facility.

3.7.2 The wheel cleaner shall be used by all vehicles leaving the facility as required, to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the waste water interceptor.

- 3.7.3 The weighbridge 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.
- 3.8 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.
- 3.9 Waste handling, ventilation and processing plant
- 3.9.1 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.
- 3.9.2 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 exceedence of this intake shall be treated as an incident.
- 3.9.3 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.
- 3.10 Waste Inspection and Quarantine Area
- A bunded waste quarantine area, and waste inspection area shall be provided within the composting building. The waste inspection area and the waste quarantine area shall be suitably and clearly segregated from each other.
- 3.11 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.
- 3.11.1 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.11.2 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.11.3 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.
- 3.11.4 All tanks and containers shall be labelled to clearly indicate their contents.
- 3.11.5 All tanks and containers shall be secured against unauthorised access.

- 3.12 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.
- 3.13 Odour Control
- 3.13.1 Prior to the commencement of the waste activities at the facility, the licensee shall provide the following at the facility:
- (i) A system for the maintenance of integrity and negative pressure shall be installed and maintained throughout the biowaste reception/composting building to ensure no significant escape of odours. A report which confirms the negative 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) A biofilter system for treatment of all air extracted from the building under the negative pressure system shall be installed.
 - (iii) 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.
- 3.14 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 3.15 Prior to commencement of waste activities the licensee shall provide and maintain a Wastewater Treatment plant at the facility for the treatment of waste water arising on-site. The specification of the treatment plant shall be agreed in advance by the Agency. Any percolation area shall satisfy the criteria set out in the Wastewater Treatment Manual, *Treatment Systems for Single Houses*, published by the Environmental Protection Agency.
- 3.16 The licensee shall provide and maintain a wind sock at the facility or an alternative as agreed by the Agency.

<p>Reason: <i>To provide for the protection of the environment.</i></p>
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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.

<p>Reason: <i>To provide for decommissioning of the facility and aftercare of the facility on which the facility is located.</i></p>

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/composting 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 area 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 waste processing shall occur inside an appropriate building, unless otherwise agreed with the Agency.
- 5.2.6 Only source separated and separately collected commercial and municipal biowaste may be accepted at the facility.
- 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 Unless otherwise agreed 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 facility shall be visually inspected prior to unloading or upon tipping 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 from differing sources (e.g. biowaste containing sewage sludge) from other wastes.
- These procedures shall be updated as follows:
- i. Prior to the acceptance of new waste types with the agreement of the Agency.
 - ii. As required to reflect changes in National or EU Legislation.
 - iii. Or as notified by the Agency.
- 5.3.4 Unless otherwise agreed by the Agency sewage sludge shall not be composted with other waste types.
- 5.3.5 All sewage and industrial sludges agreed for composting at the facility shall be characterised (on a client by client basis) for metals as detailed in Schedule 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.
- 5.3.6 The licensee shall accept sewage sludge only if it complies with Council Directive 86/278/EEC (on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture).
- 5.4. Written procedures for the acceptance and handling of animal by-product waste shall include the following requirements (unless otherwise agreed by the Agency):

- (i) Vehicles delivering animal by-product waste to the facility shall be leak-proof and adequately covered.
- (ii) Containers and vehicles used for transporting untreated animal by-product waste shall be cleaned and disinfected prior to leaving the facility. They shall be cleaned and disinfected in a designated area designed to prevent contamination of treated products.
- (iii) All composting residues including process wastewater shall be handled in a such a way as to prevent recontamination from untreated products.
- (iv) Composting bays/containers shall be designated and labelled so as to ensure that animal by-product waste is treated in the same designated vessels, in so far as is practicable.

These procedures shall be updated prior to the acceptance of new waste types (when necessary), as required to reflect changes in National or EU Legislation or as agreed by the Agency.

5.5. Process Management and validation.

- 5.5.1 All composting shall be executed in line with the treatment regimes outlined in *Schedule G: Process Management* of this licence, unless otherwise instructed by the Agency.
- 5.5.2 All Category 3 animal by-product waste accepted at the facility for treatment shall be treated in accordance with the requirements of the EU regulation 1774/2002, laying down health rules concerning animal by-products not intended for human consumption and associated National Legislation.
- 5.5.3 An indicator organism shall be used to validate the compost sanitation steps. This shall be carried out as outlined in *Schedule G: Process Management* of this licence.

5.6. Compost use

- 5.6.1 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.
- 5.6.2 Compost of Class 2 Standard shall be considered a product and shall be used in accordance with best agronomic practice. Unless otherwise agreed by the Agency 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 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.
- 5.6.4 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.
- 5.6.5 Subject to the prior agreement of the Agency, Stabilised Biowaste may be used in artificial soils or in land applications that are not used for food and fodder crop production.
- 5.6.6 All landspreading of compost containing Category 2 or 3 animal by-products as a constituent shall be carried out in accordance with the 'European Parliament and Council Regulation No 1774/2002 laying down health rules concerning animal by-products not intended for human consumption' or other National Regulations.

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 be only 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.
- 5.9. All sewage arising on-site, effluent from the canteen area and any excess runoff from the composting process or wheel cleaner shall be directed to the on-site wastewater treatment plant for treatment.
- 5.10. All composting telemetry monitoring systems shall include alarms to indicate if insufficient heating has occurred (as defined in *Schedule G: Process Management, of this licence*).

<p>Reason: <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 shall comply with the Quality Standards as outlined in *Schedule H: Compost Quality and Stabilised Biowaste Quality* of this licence, unless otherwise agreed with the Agency. Compost not complying with Class 1 or Class 2 of these Quality Standards shall, as with Stabilised Biowaste be considered a waste and shall be disposed/recovered to an authorised outlet, as agreed with the Agency and the details recorded as per Condition 10.2.
- 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.
- 6.4. Emission 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 sample 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. Surface Water

The licensee shall ensure effective control of surface water run-off from the facility during construction, operation and restoration. Any surface runoff or process waste water collected in storage tanks shall be pumped/directed back into the process, unless otherwise agreed by the Agency. In the case of Category 3 waste material, unsanitised process waste water shall not be added to the process after the compost sanitisation phase (e.g. 70°C for 1 hour).

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 the 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 at 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 waste to 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 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 quality monitoring

Compost quality shall be monitored at the frequencies set out in *Schedule H: Compost 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 and methods of analyses for the composting 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>Reason: <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>

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 in the event of a fire at the facility. The fire authority 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, 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.
- 9.7 The licensee shall provide and maintain a storage tank for the temporary storage of liquid runoff/ liquid waste.

Reason: <i>To provide for the protection of the environment.</i>

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;
 - e) 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 by 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 and animal by-product Waste Category designation (where appropriate);
 - 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;
 - j) any other information which might be required from time to time subject to prior agreement by 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 and animal by-product designation Waste Category (as appropriate);
- 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, daily odour and biofilter inspections;
- 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) records of waste inspections carried out in accordance with Condition 5.3.1; and
- h) 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 bay 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;
- c) whether Animal by-product Category 3 waste category was an ingredient in the contents of the bay contained and;
- d) whether sewage sludge was an ingredient in the contents of the composting bay.

10.7 Where compost 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 containing treated sludge).
- 10.8 Where compost product of Class 2 level containing sewage sludge 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 Southern Regional Fisheries Board as soon as practicable by telephone and in writing 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 the Development Applications Section of the Department of the Environment, Heritage and Local Government (formerly 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.
- 11.11 National Reporting
- 11.11.1 The licensee shall submit data as required for the National Waste Database. Such data shall be in accordance with any relevant guidance issued 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

- 12.1.1 The licensee shall pay to the Agency an annual contribution of €10,928.18 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 2005 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 2004, the licensee shall pay a pro rata amount from the date of this licence to 31st December 2004. This amount shall be paid to the Agency within one month of the date of grant of this licence.

12.1.2 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 in regard to items not covered by the said annual contribution.

12.2 Financial Provision for Closure, Restoration and Aftercare

12.2.1 Prior to commencement of waste activities the licensee shall arrange for an independent third party comprehensive and fully costed Environmental Liabilities Risk Assessment of the facility to be carried out. The Environmental Liabilities risk assessment shall have particular regard to any accidents, emergencies, or other incidents, which might occur at the facility and their effect on the environment and include a proposal for Financial Provision arising from the carrying on of the activities to which this licence relates including the decommissioning and closure of the facility. The risk assessment shall be submitted to the Agency for its agreement within six months of the date of grant of this licence.

12.2.2 The licensee shall within six months establish and maintain a fund, or provide a written guarantee for the costs determined under Condition 12.2.1. The type of fund established and means of its release/recovery shall be agreed by the Agency prior to its establishment.

12.2.3 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under Condition 12.2.1, forward to the Agency written proof of such indemnity.

12.2.4 The amount of financial provision, held under 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.

12.2.5 Unless otherwise agreed any revision to the fund shall be computed using the following formula:

$$\text{Cost} = (\text{ECOST} \times \text{WPI}) + \text{CiCC}$$

Where:

Cost = Revised decommissioning and aftercare cost.

ECOST = Existing decommissioning and aftercare cost.

WPI = Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision.

CiCC = Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

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

SCHEDULE A : Waste Acceptance

WASTE TYPE	MAXIMUM ANNUAL WASTE QUANTITY TO BE ACCEPTED ^{NOTE 1} ^{NOTE 2} ^{NOTE 3}
Category 3 Biodegradable Household Waste ^{Note 2} ^{Note 5}	3,900
Category 3 Biodegradable Commercial Waste ^{Note 2} ^{Note 5}	1,300
Sewage Sludges	5,200
Category 3 Industrial Sludges ^{Note 4} ^{Note 5}	10,400
TOTAL	20,800

Note 1: These tonnages refer only to the waste which is accepted for composting and not material such as straw or sawdust which is added to the incoming biowaste.

Note 2: All biodegradable household and commercial waste accepted at the facility shall be source separated and separately collected.

Note 3: The waste quantities referred to in this table may be amended with the agreement of the Agency provided the total quantity of waste specified is not exceeded.

Note 4: Acceptance of this waste type to be in accordance with Condition 1.3.

Note 5: Only Category 3 material as per the Animal By-Products Regulations 1774/2002. Category 1 or 2 material shall not be accepted.

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. This should include a separate section detailing all animal by-product wastes treated.
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.
Surface water monitoring	Annually	Ten days after end of the year being reported on.
Noise and Groundwater Monitoring	Annually	Ten days after end of the year being reported on.
Wastewater monitoring	Annually	Ten days after end of the year being reported on.
Compost quality monitoring	Quarterly	Ten days after end of the quarter being reported on.
Dust	Three times per year	Ten days after the completion of the monitoring (see Table E.3)
PM₁₀ and Bioaerosol monitoring	Annually	One month after the completion of the monitoring.
Odour assessment and condition and depth of biofilters	Daily	To be recorded by licensee
Biofilter air monitoring	Biannually	Ten days after end of the period being reported on.
Any other monitoring	As they occur	Within ten days of obtaining results.

SCHEDULE D : Specified Engineering Works

Specified Engineering Works
<p>Installation of surface water control infrastructure.</p> <p>Installation of air extraction and biofilters.</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;

DUST DEPOSITION & BIOAEROSOL As per Drawing MES003 Rev. April '03 of Application	NOISE As per Drawing MES003 Rev. April '03 of Application
AM1	N1 ^{Note 1}
AM2	N2 ^{Note 1}
AM3	N3 (Noise sensitive location at nearest residence)
One additional location at boundary east of factory building	
SURFACE WATER as per Attachment C6 of application	GROUNDWATER As per Drawing MES003 Rev. April '03 of Application
SW1	BH1
SW2	BH2
SW3	BH3
Air & Odour As per Drawing MES003 Rev. April '03 of Application	Wastewater
Biofilter 1	WWTP 1 at inlet to on-site treatment plant
Biofilter 2	WWTP 2 at outlet from on-site treatment plant

Note 1: N1 and N2 should be located at the point at the facility boundary nearest to N1 and N2 on Drawing MES009 Rev Apr '03.

E 2: Monitoring of Processes

E 2.1: Monitoring of Composting process

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

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

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

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 by the Agency.

E.4: *Noise Monitoring*

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) _{EQ} [30 minutes]	Annual	Standard ^{Note 1}
L(A) ₁₀ [30 minutes]	Annual	Standard ^{Note 1}
L(A) ₉₀ [30 minutes]	Annual	Standard ^{Note 1}
Frequency Analysis(1/3 Octave band analysis)	Annual	Standard ^{Note 1}

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

E.5: *Surface Water Monitoring*

Parameter ^{Note 1}	Monitoring Frequency	Analysis Method/Technique
Visual Inspection	Weekly	Not applicable
Ammoniacal Nitrogen	Annually	ISE / Colorimetry
BOD	Annually	Electrometry / Titrimetry with nitrification inhibitor
Electrical Conductivity	Annually	Electrometry
pH	Annually	Electrometry
Total Suspended Solids	Annually	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 ^{Note 1}	Monitoring Frequency	Analysis Method/Technique
Groundwater level	Annually	Not applicable
Ammoniacal Nitrogen (as NH ₄)	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 ^{Note 1}

Biofilters

Parameter	Monitoring Frequency	Analysis Method/Technique
Bed Media		
Odour assessment ^{Note 2}	Daily	Subjective Inspection
Condition and depth of biofilter ^{Note 3}	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
Inlet and Outlet Gas		
Ammonia	Bi-annually	Colourimetric Indicator Tubes
Hydrogen sulphide	Bi-annually	Colourimetric Indicator Tubes
Mercaptans	Bi-annually	Colourimetric Indicator Tubes

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.

E.8 Waste water Monitoring Frequency and Techniques

Parameter ^{Note 3}	Monitoring Frequency ^{Note 2}	Analysis Method/Technique
pH	Annually	Electrometry
Biological Oxygen Demand	Annually	Standard Methods ^{Note 1}
Suspended Solids	Annually	Standard Methods ^{Note 1}

Note 1: "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 20th Ed., American Public Health Association, 1015 Fifteenth Street, Washington DC 20005, USA.

Note 2: May be amended by agreement with the Sanitary Authority and the Agency.

Note 3: Additional parameters may be included by the sanitary authority and agreed by the Agency.

SCHEDULE F : Emission Limits

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

Level (mg/m ² /day) ^{Note 1}
350

Note 1: 30 day composite sample with the results expressed as mg/m²/day.

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

Day dB(A) L _{Aeq} (30 minutes)	Night dB(A) L _{Aeq} (30 minutes)
55	45

F.3 Air Emission Limits:

F.3.1 Emission Limits Values for Biofilters

Emission Point reference no: Biofilter 1, Biofilter 2

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

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:

Temperature	Treatment time
At least 60°C	1 week

Table G.2 Category 3 Material. All Category 3 Animal By-Product Waste shall be exposed to the following processing regime.

Temperature	Particle Size	Treatment Time
70 °C	12 mm ^{Note 1}	60 minutes

Note 1: 'Unless otherwise agreed by the Agency'

Table G.3 Process validation. The composting process shall be tested using the following indicator organism^{Note 1}.

Indicator Organism	Frequency
<i>Salmonella spp.</i>	Annually ^{Note 2}

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 Quality

Compost 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, NH₄-N, NO₃-N, pH and dry matter content should also be measured].

1. Maturity (Compost)

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 AT₄ is ≤10mg/O₂/g dry matter or Dynamic Respiration Index is ≤1,000mgO₂/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) ^{Note 1 & 2}

Maximum Trace Element Concentration Limits ^{Note 3}

Parameter (mg/kg, dry mass)	Compost Quality Standards ^{Note 4}		Stabilised Biowaste ^{Note 4}
	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
Polycyclic Aromatic Hydrocarbons (PAH's)	-	-	3
Impurities >2mm ^{Note 5}	<0.5%	<0.5%	<3%
Gravel and Stones >5mm ^{Note 5}	<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 (other than sewage 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)

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)

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

Signed on behalf of the said Agency

on the 8th day of January 2004

Patrick J. Nolan, Authorised Person