

LICENCE REG NO. W0032-02 HAS BEEN REVISED.

Please note that license Reg No. W0032-02 has been reviewed and replaced by the revised license Reg No. W0032-03



Headquarters
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Ireland

WASTE LICENCE

Licence Register Number: 32-2

Licensee: Waterford County Council

Location of Facility: Dungarvan Waste Disposal Site,
Ballynamuck Middle, Dungarvan,
County Waterford.

INTRODUCTION

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

A review of the existing licence is sought at Dungarvan Landfill & Civic Waste Facility for the following reasons:

- To focus the principal waste activities on-site to 4th Schedule activities at the front end of the facility by authorising the composting facility (initially at 1000T) and Civic Waste Facility [CWF], and ensure their proper operation as required by Section 40(4) of the WMAs;
- To authorise the transfer station, but require the licensee to upgrade the facility to BAT before waste can be stored there;
- To specify and re-confirm the required restoration works at the closed landfill as per Licence Reg No. 32-1, including the installation of landfill gas management infrastructure and capping;
- To re-schedule waste tonnages caused by the cessation of municipal waste disposal to landfill, and enable the disposal/recovery tonnages envisaged by the applicant at the composting unit. Overall this will cause a reduction of waste handling at the facility from c.20,000T/annum to c. 12,000T/annum.

As landfilling of waste no longer takes place at the facility the licence requires the restoration and remediation of the closed landfill, with ongoing leachate and landfill gas management.

The licence allows composting of biodegradable waste and green waste in enclosed vessels. The quantity to be composted is limited to a trial scheme of 1,000 tonnes of biowaste per year, with the provision to increase tonnages upon agreement with the Agency. This licence authorises the use of wood chipping infrastructure at the facility.

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 Waterford County Council will operate and manage this facility.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts 1996 to 2003, (the Acts), unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
Application	The application by the licensee for this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques. As required by Section 40(4)(c) of the WMAs.
Bi-annually	All or part of a period of six consecutive months.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand.
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
Bioaerosol	An aerosol of biological particles.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
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 F: Standard for Compost Quality</i> , of this licence.
COD	Chemical Oxygen Demand.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs.
dB(A)	Decibels (A weighted).

DO	Dissolved Oxygen.
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 or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EMP	Environmental Management Programme.
Emission Limits	Those limits, including concentration limits and deposition rates established in <i>Schedule B: Emission Limits</i> , of this licence.
Environmental Damage	Has the meaning given it in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purposes of the recovery or disposal of waste.
Emergency	Those occurrences defined in Condition 9.
Forced aeration	The supply of air to a compost pile, by pumping (positive pressure) or by sucking air through the composting material (negative pressure).
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas Chromatography/Mass Spectroscopy.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Heavy Metals	This term is to be interpreted as set out in “Parameters of Water Quality, Interpretation and Standards” published by the Agency in 2001. ISBN 1-84095-015-3.
HFO	Heavy Fuel Oil.
Hours of Operation	The hours during which the facility is authorised to be operational.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste.
ICP	Inductively Coupled Plasma Spectroscopy.
Incident	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 exceedence 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.

Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 and 2003 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.
IPPC	Integrated Pollution Prevention & Control.
Industrial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2003.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
In-vessel composting	Different composting methods in which material for composting is contained in a building, reactor or vessel.
K	Kelvin.
kPa	Kilo Pascals.
Landfill Directive	Council Directive 1999/31/EC.
Leq	Equivalent continuous sound level.
Licence	A Waste Licence issued in accordance with the Acts.
Licensee	Waterford County Council.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
List I	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
Local Authority	Waterford County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.
Mass Flow Limit	An Emission Limit Value which is expressed as the maximum mass of a substance which can be emitted per unit time.
Mass Flow Threshold	A mass flow rate, above which, a concentration limit applies.

Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
Municipal waste	As defined in Section 5(1) of the Acts.
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 I.S. EN 585-2:2003 (separator systems for light liquids).
PER	Pollution Emission Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	Southern Regional Fisheries Board.
Sanitary Authority	Waterford County Council.
Sanitary Effluent	Waste water from facility toilet, washroom and canteen facilities.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
SOP	Standard Operating Procedure.
Standard Method	A National, European or internationally recognised procedure (eg, I.S. EN, ISO, CEN, BS or equivalent), as an in-house documented procedure based on the above references, a procedure as detailed in the current edition of “Standard Methods for the Examination of Water and Wastewater”, (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed by the Agency.
Storm Water	Rain water run-off from roof and non-process areas.
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 Stabilised Biowaste	Those emissions listed in <i>Schedule B: Emission Limits</i> of this licence. 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 F: Standards for Compost Quality</i> , of this licence.
The Agency	Environmental Protection Agency.
TOC	Total Organic Carbon.
Trade Effluent	Trade Effluent has the meaning given in the Water Pollution Acts 1977 and 1990.
Trigger Level	A parameter value, the achievement or exceedance of which requires certain

actions to be taken by the licensee.

Windrow

An elongated pile of composting material.

Weekly

During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement in any one week.

WWTP

Waste Water Treatment Plant.

Decision & Reasons for the Decisions

Reasons for the Decision

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 will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2003.

In reaching this decision the Environmental Protection Agency has considered the application and supporting documentation received from the applicant and the report of its inspector. No objection having been received to the Proposed Decision, the licence is granted in accordance with the terms of the Proposed Decision and the reasons therefor.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2003, the Environmental Protection Agency (the Agency), under Section 46(2) of the said Acts hereby grants this Waste Licence to Waterford County Council to carry on the waste activities listed below at Dungarvan Waste Disposal Site, Ballynamuck Middle, Dungarvan, County Waterford subject to 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 Acts 1996 to 2003

Class 4.	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
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.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2003

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
Class 3.	Recycling or reclamation of metals and metal compounds.
Class 4.	Recycling or reclamation of other inorganic materials.
Class 9.	Use of any waste principally as a fuel or other means to generate energy.
Class 11.	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
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.

Part II Schedule of Activities Refused

The Environmental Protection Agency (the Agency) proposes not to refuse any of the waste disposal and waste recovery activities applied for.

Part III Conditions

Condition 1. Scope

- 1.1 Waste activities at this facility shall be restricted to those listed and described in Part I Activities Licensed and shall be as set out in the licence application or as modified under Condition 1.6 of this licence and subject to the conditions of this licence.
- 1.2 Activities at this facility shall be limited as set out in *Schedule A: Limitations*, of this licence.
- 1.3 Before commencing operations the licensee must satisfy the Agency that it has obtained consent from the Department of Agriculture and Food to treat animal by-products in composting/biogas facilities.
- 1.4 The facility shall be controlled, operated, and maintained and emissions shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence, become part of this licence.
- 1.5 For the purposes of this licence, the facility authorised by this licence, is the area of land outlined in red on Drawing No. DLRA - 01 of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red. The licensed activities shall be the carried on only within the area outlined.
- 1.6 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in
- (a) a material change or increase in:
- The nature or quantity of any emission,
 - The abatement/treatment or recovery systems,
 - The range of processes to be carried out,
 - The fuels, raw materials, intermediates, products or wastes generated, or
- (b) any changes in:
- Site management infrastructure or control with adverse environmental significance,
- shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.7 Waste Acceptance Hours and Hours of Operation
- 1.7.1 Waste may only be accepted at the landfill and the Civic Waste Facility between the hours of 09:00 to 17:00 Monday to Friday inclusive (Bank Holidays excluded) and 09:00 to 13:00 on Saturday.
- 1.7.2 The facility may only be operated during the hours of 08:30 to 18:00 Monday to Friday inclusive and 08:30 and 14:00 on Saturday.
- 1.8 This licence is being granted in substitution for the waste licence granted to the licensee on 29 November 2002 and bearing Waste Licence Register No: 32-1. The previous waste licence (Register No: 32-1) is superseded by this licence.

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 or as otherwise required by the Agency.

2.1.2 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. In addition, the facility manager and his/her deputy shall successfully complete FAS waste management training programme or equivalent agreed with the Agency.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall establish and maintain an Environmental Management System (EMS). The EMS shall be updated on an annual basis.

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

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall prepare a Schedule of Environmental Objectives and Targets. The Schedule shall as a minimum provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, and the prevention, reduction and minimisation of waste, and shall include waste reduction targets. The Schedule shall include time frames for the achievement of set targets and shall address a five year period as a minimum. The Schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall, not later than six months from the date of grant of this licence, submit to the Agency for agreement an EMP, including a time schedule, for achieving the Environmental Objectives and Targets. Once agreed the EMP shall be established and maintained by the licensee. It shall include:

- (a) designation of responsibility for targets;
- (b) the means by which they may be achieved;
- (c) the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

- (i) The licensee shall establish and maintain an environmental management documentation system which shall be to the satisfaction of the Agency.
- (ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined

2.2.2.6 Awareness and Training

The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall establish and maintain a Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

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. Infrastructure and Operation

- 3.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as required by the conditions of this licence. Waste shall not be deposited, stored or recovered at the Transfer Station prior to the infrastructure requirements of Condition 3.14 being met to the satisfaction of the Agency.
- 3.2 Facility Notice Board
 - 3.2.1 The licensee shall provide and maintain an Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.

- 3.2.2 The board shall clearly show:-
- a) the name and telephone number of the facility;
 - b) the normal hours of opening;
 - c) the name of the licence holder;
 - d) an emergency out of hours contact telephone number;
 - e) the licence reference number; and
 - f) where environmental information relating to the facility can be obtained.
- 3.3 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 3.4 Sampling equipment shall be operated and maintained such that sufficient sample is collected to meet both internal monitoring requirements and those of the Agency. A separate composite sample or homogeneous sub-sample (of sufficient volume as advised) should be retained as required for EPA use.
- 3.5 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 3.6 Tank and Drum Storage Areas
- 3.6.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.6.2 All 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:-
- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
 - (ii) 25% of the total volume of substance which could be stored within the bunded area.
- 3.6.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.6.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.6.5 The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee at least once every three years. This testing shall be carried out in accordance with any guidance published by the Agency.
- 3.7 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.
- 3.8 The licensee shall install and maintain silt traps and oil separator at the facility to ensure that all storm water discharges from the facility pass through a silt trap and oil separator prior to discharge. The separator shall be a Class I full retention separator and the silt traps and separator shall be in accordance with I.S. EN 585-2:2003 (separator systems for light liquids).

- 3.9 All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separator, shall be fitted with high liquid level alarms (or oil detectors as appropriate) within six months from the date of grant of this licence.
- 3.10 All wellheads, whose locations are shown on Map DLBH-04 of the licence application, shall be adequately protected to prevent contamination or physical damage.
- 3.11 The licensee shall, within three months of the date of grant of this licence, install or maintain in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the facility.
- 3.12 Specified Engineering Works
- 3.12.1 The licensee shall submit proposals for any Specified Engineering Works, as defined in *Schedule E: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
- 3.12.2 All specified engineering works shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.12.3 Following the completion of any specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall, as appropriate, include the following information:-
- (a) A description of the works;
 - (b) As-built drawings of the works;
 - (c) Records and results of all tests carried out (including failures);
 - (d) Drawings and sections showing the location of all samples and tests carried out;
 - (e) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
 - (f) Records of any problems and the remedial works carried out to resolve those problems; and
 - (g) Any other information requested in writing by the Agency.
- 3.13 Civic Waste Facility
- 3.13.1 The licensee shall establish and maintain the Civic Waste Facility infrastructure referred to in Drawing No. DLRA - 01.
- 3.13.2 The licensee shall provide and maintain appropriate receptacles at the Civic Waste Facility for the storage of various waste types.
- 3.13.3 The Civic Waste Facility shall be used only by private vehicles. The Civic Waste Facility shall not be used as a transfer station for disposal of waste by commercial waste disposal contractors or local authority waste collection vehicles.
- 3.13.4 All waste deposited in the Civic Waste Facility shall be either:-
- (a) into a skip;

- (b) into the hopper of the compactor for disposal;
 - (c) into a receptacle for recovery; or
 - (d) in the case where inspection is required, into a designated inspection area.
- 3.13.5 The licensee shall assign and clearly label each container/bay at the Civic Waste Facility to indicate their contents.
- 3.13.6 At the end of the working day the floor of the Civic Waste Facility, the hopper and the compactor shall be cleared of waste.
- 3.13.7 All waste accepted at the Civic Waste Facility for disposal shall be removed within 24 hours of its arrival on-site.
- 3.14 Transfer Station Building
 - 3.14.1 Appropriate infrastructure for the Transfer Station Building and the storage and transfer of waste shall be established and maintained at the facility prior to the handling of any waste. This infrastructure shall at a minimum comprise the following:
 - (a) A drainage infrastructure that can contain all possible contaminated run-off from the storage area;
 - (b) A dedicated area for quarantine of unacceptable wastes.
 - 3.14.2 The existing plastic drain pipes at the Transfer Station and Civic Waste Facility which drain to the leachate pond shall be disconnected and sealed.
 - 3.14.3 All biodegradable waste shall be removed from the Transfer Station Building, within 48 hours of its arrival.
 - 3.14.4 Following the completion of the Transfer Station Building, the licensee shall submit a construction quality assurance validation report to the Agency for its agreement.
- 3.15 Waste Inspection and Quarantine Areas
 - 3.15.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
 - 3.15.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.
 - 3.15.3 Drainage from the quarantine area shall be directed to the leachate management system.
- 3.16 The licensee shall provide and maintain a weighbridge at the facility.
- 3.17 Compost facility
 - 3.17.1 Appropriate infrastructure for the composting of waste shall be established and maintained at the facility prior to any waste being composted. This infrastructure shall at a minimum comprise the following:

- (a) The licensee shall maintain the enclosed biodegradable waste composting units and shall install biofilters and associated infrastructure at the facility, at a location to be agreed by the Agency within three months from the date of grant of this licence.
- (b) All wastewater from composting operations shall be collected and re-used in the composting process where possible. Any wastewater from the composting operations that is not re-used shall be either discharged to the leachate drainage system or tankered off-site for treatment at a location to be agreed in advance with the Agency.
- (c) To provide for aerobic composting (indoor or outdoor), the licensee shall provide the composting material with: a 5% minimum concentration of oxygen within the pore spaces, appropriate moisture levels, pH 6.0-9.0, appropriate C:N ratio.
- (d) Emissions from the biofilters shall not exceed those ELVs set out in *Schedule B: Emission Limits*, of this licence.

3.18 Landfill Gas Management

- 3.18.1 Infrastructure for the active collection and flaring of landfill gas shall be installed and commissioned at the facility from the date of grant of this licence. The flare shall be of an enclosed type design.
- 3.18.2 Until the operation of the landfill gas flare, passive landfill gas management at the facility shall be carried out. Landfill gas management and infrastructure shall meet the recommendations given in the Agency Manual on "Landfill Operational Practices". All vents installed to facilitate passive gas venting shall be fitted with an effective activated carbon filter.
- 3.18.3 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

3.19 Leachate Management and Trade Effluent Infrastructure

- 3.19.1 The existing unlined leachate pond and associated leachate sump shall be decommissioned within one month of the date of grant of this licence.
- 3.19.2 Leachate management infrastructure at the landfill facility shall be installed and commissioned at the facility from the date of grant of this licence. The infrastructure shall provide for the abstraction of leachate from the waste, the collection of leachate in a leachate collection drain around the entire perimeter of the landfill, the collection of trade effluent from the composting area, CWF and Waste Transfer Station, leachate treatment at a suitable treatment works and the monitoring of the effectiveness of the leachate collection drain. The leachate collection drain shall be maintained in accordance with the details shown on Drawing No. Dun EIS-004 Rev.O dated March 1999 unless otherwise agreed in advance with or specified by the Agency.
- 3.19.3 The licensee shall provide and maintain a lined leachate storage lagoon at the facility to facilitate the storage of leachate abstracted/collected from the waste and closed landfill.
- 3.19.4 The lining system for the leachate storage lagoon shall comprise the following (or equivalent): a composite liner consisting of at minimum a basal soil/clay layer of at least 1m in thickness with a permeability of less

than 1×10^{-9} ms⁻¹ overlain by a 2mm thick high density polyethylene (HDPE) layer. The side walls shall be designed and constructed to achieve an equivalent protection.

3.20 Groundwater Management

Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall protect the groundwater resources from contamination by the waste activities (including restoration of the facility) and the storage of leachate and contaminated surface water at the facility.

REASON: To provide for appropriate operation of the facility to ensure protection of the environment.

Condition 4. Interpretation

- 4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.1.1 Continuous Monitoring:
- (i) No 24 hour mean value shall exceed the emission limit value.
 - (ii) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.
 - (iii) No 30 minute mean value shall exceed twice the emission limit value.
- 4.1.2 For 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 flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.
 - (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- 4.2 The concentration and volume flow 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:-
- 4.2.1 In the case of landfill gas flare:
- Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and,
- 4.2.2 In the case of landfill gas combustion plant:
- Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.

- 4.3 Emission limit values for emissions to sewer/waters in this licence shall be interpreted in the following way:-
- 4.3.1 Continuous monitoring:
- (i) No flow value shall exceed the specified limit.
 - (ii) No pH value shall deviate from the specified range.
 - (iii) No temperature value shall exceed the limit value.
- 4.3.2 Composite Sampling:
- (i) No pH value shall deviate from the specified range.
 - (ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.
- 4.3.3 Discrete Sampling
- For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.4 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.
- 4.5 Noise
- 4.5.1 Noise from the facility shall not give rise to sound pressure levels (Leq,T) measured at the boundary of the facility which exceed the limit value(s).

Reason: To clarify the interpretation of emission limit values fixed under the licence.

Condition 5. Emissions

- 5.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule B: Emission Limits* of this licence. There shall be no other emissions of environmental significance.
- 5.2 The licensee shall ensure that the activities shall be carried out in a manner such that emissions including odours do not result in significant impairment of, and/or significant interference with amenities or the environment beyond the facility boundary.
- 5.3 No substance shall be discharged in a manner, or at a concentration which, following initial dilution, causes tainting of fish or shellfish.
- 5.4 The licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any

method used by the licensee to control any such nuisance shall not cause environmental pollution.

5.5 Emissions to Surface Water

5.5.1 Unless otherwise agreed by the Agency no trade effluent or leachate shall be discharged to surface water drains and courses.

5.5.2 There shall be no direct emissions to groundwater.

Reason: To provide for the protection of the environment by way of control and limitation of emissions.

Condition 6. Control and Monitoring

6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring*, of this licence:

6.1.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.

6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.

6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.

6.1.4 Where analysis is sub-contracted it shall be to a competent laboratory.

6.2 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.

6.3 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge.

6.4 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer.

6.5 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.

6.6 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions. This programme shall be included in the Environmental Management Programme.

- 6.7 The integrity and water tightness of all underground pipes and tanks and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 6.8 Storm water
- 6.8.1 A visual examination of the storm water discharge from the final interceptor chamber shall be carried out daily. A log of such inspections shall be maintained.
- 6.8.2 The drainage system, bunds, silt traps 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.
- 6.9 The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.
- 6.10 The licensee shall prepare and maintain a PER for the site. The substances to be included in the PER shall be agreed by the Agency each year by reference to the list specified in the Agency's AER Guidance Note. The PER shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted as part of the AER.
- 6.11 Within nine months of the date of grant of this licence a continuous monitoring system shall be installed and maintained at the facility. All facility operations linked to the telemetry system shall also have a manual control which will be reverted to in the event of break in power supply or during maintenance. As a minimum the system shall record and relay the following information:
- (a) temperature and oxygen content of the compost at all stages during its production.

Reason: To provide for the protection of the environment by way of treatment and monitoring of emissions.

Condition 7. Resource Use and Energy Efficiency

- 7.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The audit shall be carried out in accordance with the guidance published by the Agency; "Guidance Note on Energy Efficiency Auditing". The energy efficiency audit shall be repeated at intervals as required by the Agency.
- 7.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets of the AER.
- 7.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in

water usage shall be incorporated into the Schedule of Environmental Objectives and Targets.

- 7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: To provide for the efficient use of resources and energy in all site operations.

Condition 8. Materials Handling

- 8.1 Disposal or recovery of waste shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.
- 8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported only from the site of the activity to an approved site of recovery/disposal in a manner which will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.3 The licensee shall ensure that waste prior to transfer to another person shall be classified packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.4 Waste shall be stored in designated areas, protected as may be appropriate, against spillage and leachate run-off. The waste is to be clearly labelled and appropriately segregated.
- 8.5 No waste classified as green list waste in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No.259/1993, as amended) shall be consigned for recovery without the agreement of the Agency.
- 8.6 Unless approved in writing by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.
- 8.7 All waste processing for disposal shall be carried out inside the waste transfer building.
- 8.8 Waste Acceptance and Characterisation Procedures at the Landfill and Transfer Station.
- 8.8.1 Waste shall only be accepted, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2001.

- 8.8.2 No hazardous wastes (other than as may be permitted under Condition 8.4) or liquid wastes shall be disposed of at the facility.
- 8.8.3 Inert waste accepted at the facility shall comply with the standards established in the EU Decision (2003/33/EC). The licensee shall ensure that inert waste accepted at the facility is subject to treatment where technically feasible.
- 8.8.4 Waste arriving at the facility shall be inspected at the point of entry to the facility and subject to this inspection, weighed, documented and directed to the Waste Transfer Building. Each load of waste arriving at the Waste Transfer Building shall be inspected upon tipping within this building. Only after such inspections shall the waste be processed for disposal or recovery.
- 8.8.5 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated and removed from the facility at the earliest possible time. Temporary storage of such wastes shall be in a designated Waste Quarantine Area. Waste shall be stored under appropriate conditions in the quarantine area to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance or objectionable condition.
- 8.8.6 A record of all inspections of incoming waste loads shall be maintained.
- 8.8.7 Waste shall be accepted at the facility only from known customers or new customers subject to initial waste profiling and waste characterisation off-site. There shall be no casual public access to the facility.
- 8.9 Compost
- 8.9.1 The licensee shall operate a trial composting scheme for a period of twelve months at the existing composting unit and shall not process greater than 1,000 tonnes of waste during the period of the trial. Upon completion of the trial scheme, the licensee shall submit a report to the Agency on the outcome of the trial. The report shall include as a minimum the scope of the trial, location, throughput, and the composting system employed.
- 8.9.2 Following the trial period the licensee shall recommence the acceptance of biowaste at the composting facility without the prior written agreement of the Agency. Written records of the quantities and type of wastes composted must be maintained.
- 8.9.3 Unless otherwise agreed with the Agency, only source separated organic waste and green waste shall be used in the operation of the waste composting facility.
- 8.9.4 All Category 3 animal by-product waste accepted at the facility for treatment shall be treated in accordance with the requirements of the *'European Parliament and Council Regulation No 1774/2002 laying down health rules concerning animal by-products not intended for human consumption'* and associated National Legislation.
- 8.9.5 The bulking agent to facilitate the composting process shall be bark mulch or other such similar bulking material agreed in advance with the Agency.

- 8.9.6 All putrescible wastes accepted to the composting unit shall be introduced into the compost process within 24 hours of delivery.
- 8.9.7 All waste water and contaminated surface water/run-off from composting operations shall be diverted to the leachate management system.
- 8.9.8 Procedures for the operation of the wood chipper shall be submitted to the Agency for agreement prior to the commencement of any wood chipping.
- 8.10 Compost Quality
- 8.10.1 Compost quality monitoring shall be undertaken as set out in *Schedule F: Standards for Compost Quality*, of this licence.
- 8.10.2 Any compost not meeting any standard as per *Schedule F: Standards for Compost Quality*, of this licence may be reused in the process or handled as a waste and details recorded as per Waste Records condition.

Reason: To provide for the appropriate handling of materials and the protection of the environment.

Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall ensure that a documented Accident Prevention Policy is in place which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.2 The licensee shall ensure that a documented Emergency Response Procedure is in place, which shall address any emergency situation which may originate on-site. This Procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.3 In the event of an incident the licensee shall immediately:-
- (i) isolate the source of any such emission;
 - (ii) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (iii) evaluate the environmental pollution, if any, caused by the incident;
 - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - (v) identify the date, time and place of the incident;
 - (vi) provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed with the Agency to:-

- identify and put in place measures to avoid reoccurrence of the incident; and
- identify and put in place any other appropriate remedial action.

Reason: To provide for the protection of the environment.

Condition 10. Closure, Restoration and Aftercare

- 10.1 Unless otherwise agreed, the landfill shall be permanently capped by 31 December 2005.
- 10.2 Landscaping
- 10.2.1 Landscaping of the facility as described in the application documentation.
- 10.2.2 Unless otherwise agreed by the Agency, the finished (post settlement restored) levels of the landfill shall be 15m O.D Malin Head.
- 10.2.3 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
- 10.3 Final Capping
- (i) Unless otherwise agreed by the Agency, the final capping shall consist of the following:-
- (ii) Top soil (150 -300mm);
- (iii) Subsoils, such that total thickness of top soil and subsoils is at least 1m;
- (iv) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of 1×10^{-4} m/s or a geosynthetic material that provides equivalent transmissivity;
- (v) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than 1×10^{-9} m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and
- (vi) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 10.4 No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.
- 10.5 All soils shall be stored to preserve the soil structure for future use.
- 10.6 Closure, Restoration & Aftercare Management Plan (CRAMP):

- 10.6.1 The licensee shall prepare for agreement by the Agency, a fully detailed and costed plan for the closure, restoration and long-term aftercare of the site or part thereof.
- 10.6.2 The plan shall be maintained and reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the prior written agreement of the Agency.
- 10.7 The CRAMP shall include as a minimum, the following:-
- 10.7.1 A scope statement for the plan.
- 10.7.2 The criteria, including those specified in this licence, which define the successful closure & restoration of the facility or part thereof, and which ensures minimum impact to the environment.
- 10.7.3 A programme to achieve the stated criteria.
- 10.7.4 Where relevant, a test programme to demonstrate the successful implementation of the plan.
- 10.7.5 Details of the long-term supervision, monitoring, control, maintenance and reporting requirements for the restored facility.
- 10.7.6 Details of costings for the plan and the financial provisions that will underwrite these costs.
- 10.8 A final validation report to include a certificate of completion for the CRAMP, for all or part of the site as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: To make provision for the proper closure of the activity ensuring protection of the environment.

Condition 11. Notifications, Records and Reports

- 11.1 The licensee shall notify the Agency by both telephone and either facsimile or electronic mail, if available, to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- 11.1.1 Any release of environmental significance to atmosphere from any potential emission point including bypasses.
- 11.1.2 Any emission which does not comply with the requirements of this licence.
- 11.1.3 Any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control & Monitoring*, of this licence which is likely to lead to loss of control of the abatement system.

11.1.4 Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

11.2 In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the Southern Regional Fisheries Board as soon as practicable after such an incident.

11.3 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to; manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall as soon as practicable following incident notification, submit to the Agency the incident record.

11.4 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.

11.5 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility.

11.6 The licensee shall as a minimum keep the following documents at the facility:-

- (i) the licences relating to the facility;
- (ii) the current EMS for the facility;
- (iii) the previous year's AER for the facility;
- (iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;
- (v) relevant correspondence with the Agency;
- (vi) an up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points

and this documentation shall be available to the Agency for inspection at all reasonable times.

11.7 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.

- 11.8 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:
- 11.8.1 The tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery.
 - 11.8.2 The names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number).
 - 11.8.3 Details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required.
 - 11.8.4 Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.
 - 11.8.5 Details of all wastes consigned abroad for Recovery and classified as 'Green' in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No. 259/1993, as amended). The rationale for the classification must form part of the record.
 - 11.8.6 Details of any rejected consignments.
 - 11.8.7 Details of any approved waste mixing.
 - 11.8.8 The results of any waste analyses required under *Schedule C: Control & Monitoring*, of this licence.
 - 11.8.9 The tonnages and EWC Code for the waste materials recovered/disposed on-site.
- 11.9 A record shall be kept of each consignment of trade effluent, leachate and/or contaminated storm 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 trade effluent, leachate and/or contaminated storm water from the facility;
 - c) the volume of trade effluent, leachate and/or contaminated storm 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 trade effluent, leachate and/or contaminated storm water was transported; and
 - e) any incidents or spillages of trade effluent, leachate and/or contaminated storm water during its removal or transportation.
- 11.10 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).

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €16,948 or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2003. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2003, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events or accidents/incidents, as may be associated with the carrying on of an activity.

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

SCHEDULE A: Limitations

A.1

The following waste related processes are authorised:

- i. Composting
- ii. C & D waste recovery (incl. crushing, screening, sorting, blending)
- iii. Use of compost & inert waste in landfill operation
- iv. Storage of waste subject to Condition 3.1
- v. Recovery of dry recyclables at the Civic Waste Facility

No addition to these processes are permitted unless agreed in advance with the Agency.



A.2 Waste Acceptance

A.2 Waste Categories and Quantities

WASTE TYPE ^{Note 2, Note 4}	MAXIMUM (TONNES PER ANNUM) ^{Note 3}
Municipal Waste	10,000
Hazardous Municipal Waste (separately collected fractions including white goods WEEE): 20 01 21* 20 01 23* 20 01 33* 20 01 35* 20 01 36 20 01 37*	400
Inert Waste	See ^{Note 1}
Garden Waste	1,120
Total	11,520

Note 1: Volume of inert waste for recovery and landfill restoration works cannot exceed 20,000T during lifetime of the licence, unless otherwise agreed by the Agency. Inert waste accepted at the facility shall comply with the standards established in the EU Decision (2003/33/EC).

Note 2: Any proposals to accept other compatible waste streams must be agreed in advance by the Agency and the total amount of waste must be within that specified.

Note 3: The individual limitation on waste streams may be varied with the agreement of the Agency subject to the overall total limit staying the same.

Note 4: Unless otherwise agreed by the Agency, only the wastes 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.



SCHEDULE B: Emission Limits

B.1 Emissions to Air

Landfill Derived Gas Concentration Limits:

(Measured in any building on or adjacent to the facility and perimeter boreholes).

Methane	Carbon Dioxide
20 % LEL (1% v/v)	1.5 % v/v



Emission Limits Values for Landfill Gas Plant:

Emission Point Reference numbers: (To be agreed by Agency in advance.)

Minimum discharge height: 5m

Parameter	Flare (enclosed) Emission Limit Value ^{Note 1}	Utilisation Plant Emission Limit Value ^{Note 1}
Nitrogen oxides (NO _x)	150 mg/m ³	500 mg/m ³
Carbon monoxide (CO)	50 mg/m ³	1400 mg/m ³
VOC (asC)	10 mg/m ³	1000 mg/m ³
Non-methane VOC	5 mg/m ³	75 mg/m ³

Note 1: Dry gas referenced to 5% oxygen by volume for utilisation plants and 3% oxygen by volume for flares.



Dust Deposition Limits:

Measured at the three monitoring points as agreed by the Agency

Level (mg/m ² /day) ^{Note 1}
350

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



Emission Limit Values from Biodegradable Waste Composting

Emission Point Reference Number: Emission point from Biodegradable Waste Composting Unit, to be agreed in advance with the Agency.

Parameter	Emission Limit Value
Total Particulates	50 mg/m ³
Ammonia	50 (ppm v/v)
Amines	5 (ppm v/v)
Hydrogen Sulphide & Mercaptans	5 (ppm v/v)



B.2 Emissions to Water

There are no Emissions to Water of environmental significance.



B.3 Emissions Limits for Treated Leachate Discharged to Surface Water

To be agreed by the Agency in advance



B4. Noise Emissions

Daytime dB(A) L _{Aeq} (30 minutes)	Night-time dB(A) L _{Aeq} (30 minutes)
55 ^{Note 1}	45 ^{Note 1}

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.



SCHEDULE C: Control & Monitoring

C.1.1 Control of Emissions to Air

Emission Point Reference No.: Flare Stacks & Generation Plant

Description of Treatment: Gas Extraction & Combustion

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Continuous burn	Continuous with alarm/call-out	Flame detector or equivalent approved Pumps/engines
Extraction	Continuous with alarm/call-out	Pressure gauge or equivalent approved Pumps/engines

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No.: Emission point from Biodegradable Waste Composting Unit, to be agreed in advance by the Agency.

Description of Treatment: To be agreed in advance by the Agency.

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Extraction	Continuous with alarm/call-out	Pressure gauge or equivalent approved Pumps/engines
Aeration	Continuous	Oxygen probe
Temperature control of compost	Continuous	Temperature probe

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



C.1.2 Monitoring of Emissions to Air

Emission Point Reference
No.:

Flare Stacks & Generation Plant

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method ^{Note 1} /Technique
Inlet			
Methane (CH ₄) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Carbon dioxide (CO ₂) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Oxygen (O ₂) % v/v	Continuous	Weekly	Electrochemical or equivalent approved
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Residence Time	Quarterly	Quarterly	To be agreed.
Outlet			
Carbon monoxide (CO)	Continuous	Continuous	Flue gas analyser/datalogger or equivalent approved
Nitrogen Oxides (Nox)	Biannually	Biannually	Flue gas analyser or equivalent approved
Sulphur dioxide (SO ₂)	Biannually	Biannually	Flue gas analyser or equivalent approved
Particulates	Not applicable	Annually	Isokinetic/Gravimetric or equivalent approved

Note 1: All monitoring equipment used should be intrinsically safe.



C.1.3 Monitoring of Landfill Gas Emissions

Location: Perimeter Landfill Gas boreholes and other selected locations as may be specified^{Note 1}

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 2}
Methane (CH ₄)	Monthly	InfraRed Analyser/FID
Carbon Dioxide (CO ₂)		InfraRed
Oxygen (O ₂)		Electrochemical Cell
Atmospheric pressure & Trend		Standard method

Note 1: All perimeter monitoring boreholes must be installed to the standards specified in the Agency Guidance on Landfill Monitoring.

Note 2: Or other method agreed.

C.1.4 Monitoring of Composting Emissions

Parameter ^{Note 1}	Monitoring Frequency	Analysis Method/Technique
Dust (mg/m ² /day)	Quarterly ^{Note 2}	Standard Method ^{Note 3}
Odour	Quarterly ^{Note 5}	See ^{Note 4}
Bacteria	Bi-annually	Grab sample ^{Note 5}
Aspergillus fumigatus	Annually	Grab sample ^{Note 5}

- Note 1:** Meteorological monitoring to be carried out concurrently with all above monitoring.
- Note 2:** Twice during the period May to September, or as otherwise specified in writing by the Agency.
- Note 3:** Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute).
- Note 4:** Odour measurements shall be by olfactometric measurement and analysis for mercaptans, hydrogen sulphide, ammonia, amines as set out in Table F.4.3.
- Note 5:** Enumeration of colonies to be carried out as described in ‘Standardised Protocol for the Sampling and Enumeration of Airborn Micro-organisms at composting Facilities’ the Composting Association 1999.

C1.5 Monitoring of Composting Emissions at Bio-filters

Emission Point Reference No.: To be agreed in advance by the Agency

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 1}
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 by 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.



C.2.1 Control of Emissions to Water

Emission Control Location: Interceptor

Description of Treatment: Tank and Gates

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Residence time & Flow restriction	Flow rate, depth	Flow meter, overflow alarm, emergency storage

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C2.2 Monitoring of Storm Water Emissions

Emission Point Reference No.: Last Chamber of Interceptor

Parameter	Monitoring Frequency	Analysis Method/Technique
Biochemical Oxygen Demand	Monthly	Standard Method
Oils, fats & greases/Mineral Oils	Monthly	Standard Method
Suspended Solids	Monthly	Standard Method
Toxicity ^{Note 1}	As may be required	To be agreed by the Agency
Visual Inspection	Weekly	Sample and examine for colour and odour

Note 1: The number of toxic units (Tu) = 100/x hour EC/LC₅₀ in percentage vol/vol so that higher Tu values reflect greater levels of toxicity. For test regimes where species death is not easily detected, immobilisation is considered equivalent to death.

C2.3 Leachate Monitoring

Location: Leachate Holding Tank, Leachate Sumps and Leachate Monitoring Points in the Cells.

PARAMETER ^{Note 1}	LEACHATE ^{Note 2} Monitoring Frequency
Visual Inspection/Odour	Daily
Leachate Level	Weekly
BOD	Quarterly
COD	Quarterly
Chloride	Annually
Ammoniacal Nitrogen	Annually
Electrical Conductivity	Annually
Ph	Annually
Metals / non metals ^{Note 3}	Annually
Cyanide (Total)	Annually
Fluoride	Annually
List I/II organic substances ^{Note 4}	Annually
Mercury	Annually
Sulphate	Annually
Total P/orthophosphate	Annually
Total Oxidised Nitrogen	Annually

- Note 1:** All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.
- Note 2:** Visual Inspection and Leachate Levels to be monitored at all leachate monitoring points in the cells, collection sumps and holding tank. Leachate composition to be monitored at the leachate holding tank.
- Note 3:** Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.
- Note 4:** Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).



C.3.1 Control of Emissions to Sewer

There are no Process Effluent Emissions to Sewer.



C.3.2 Monitoring of Emissions to Sewer

There are no Process Effluent Emissions to Sewer.



C.4 Waste Monitoring

Not applicable



C.5 Noise Monitoring

There is no additional noise monitoring required in this schedule.



C.6 Ambient Monitoring

Groundwater Monitoring

Location: Groundwater Wells BHG04E; BHG04D; BHG04G; BHG04B; GW 2A; RC6A; RC3; and RC4, as specified in Drawing No. DLBH-04

Parameter ^{Note 1}	GROUNDWATER Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Quarterly
Groundwater Level	Monthly
Ammoniacal Nitrogen	Quarterly
Chloride	Quarterly
Dissolved Oxygen	Annually
Electrical Conductivity	Quarterly
pH	Quarterly
Temperature	Quarterly
Cadmium	Annually
Chromium (Total)	Annually
Copper	Annually
Cyanide (Total)	Annually
Iron	Quarterly
Lead	Annually
List I/II organic substances ^{Note 3}	Annually
Magnesium	Annually
Manganese	Annually
Mercury	Annually
Nickel	Annually
Potassium	Annually
Sulphate	Annually
Total Alkalinity	Annually
Total Phosphorus / orthophosphate	Annually
Total Oxidised Nitrogen	Quarterly
Zinc	Annually
Phenols	Annually

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: Where there is evident gross contamination of leachate, additional samples should be analysed.

Note 3: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (US Environmental Protection Agency method 525 or equivalent, and pesticides (US Environmental Protection Agency method 608 or equivalent).

Receiving Water Monitoring

Location: SW1, SW2, and SW4 in Drawing Ref: Drawing No. DLBH-04

Parameter	Monitoring Frequency	Analysis Method/Technique
Biological Quality (Q) Rating/Q Index	Annually ^{Note 1}	To be agreed with the Agency
Parameters in Table C2.2	Visual Inspection Weekly All others Quarterly unless specified as Annually in Table C2.2	Standard Methods

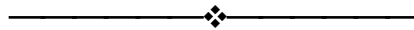
Note 1: Monitoring period - June to September.

Meteorological Monitoring

Location: At the facility at a location to be agreed, or from an agreed representative station in the region.

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Direction	Daily	Standard
Wind Force ^{Note 1}	Daily	Standard
Atmospheric Pressure ^{Note 1}	Daily	Standard

Note 1: Monitoring frequency for these parameters may be decreased with the agreement of the Agency.



SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}

Summary of emissions from the installation/facility.

Waste management record.

Waste (sludge) analysis.

Waste Recovery Report.

Topographical survey.

Remaining void, projected completion date.

Resource consumption summary.

Complaints summary.

Schedule of Environmental Objectives and Targets.

Environmental management programme – report for previous year.

Environmental management programme – proposal for current year.

Pollution emission register – report for previous year.

Pollution emission register – proposal for current year.

Noise monitoring report summary.

Meteorological data summary.

Ambient monitoring summary.

Current monitoring location reference drawing.

Tank and pipeline testing and inspection report.

Reported incidents summary.

Energy efficiency audit report summary.

Report on progress made and proposals being developed to minimise generation of leachate for disposal.

Development / Infrastructural works summary (completed in previous year or prepared for current year).

Report on management and staffing structure of the installation/facility.

Report on the programme for public information.

Reports on financial provision made under this licence.

Statement on the costs of Landfill.

Review of Environmental Liabilities.

Statement of financial provisions in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).

Any amendments to the CRAMP.

Detailed Statement, with mass balance, of C & D wastes and compost used in construction.

Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency



SCHEDULE E: Specified Engineering Works

Specified Engineering Works

Development of the Transfer Station including BAT upgrade works.

Final capping.

Installation of Landfill Gas Management Infrastructure.

Installation of Leachate Management Infrastructure.

Installation of Groundwater Control Infrastructure.

Installation of Surface Water Management Infrastructure.

Any other works notified in writing by the Agency.



SCHEDULE F: Standards for Compost Quality

The following criteria 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. Use of compost is subject to the “European Parliament and Council Regulation No. 1774/2002 laying down health rules concerning animal by-products not intended for human consumption and associated National Legislation.

Compost shall be deemed unsatisfactory if more than 10% of samples fail the criteria below. No sample shall exceed 1.2 times the quality limit values set.

1. Maturity

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

- C/N ratio ≤ 25 ;
- oxygen uptake rate ≤ 150 mg O₂/kg volatile solids per hour;
- 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; and
- Elimination of the following test organisms (used to evaluate composting system efficiency in removing plant pathogens and weed seeds during the composting process): *Plasmodiophora brassicae*, tobacco-mosaic-virus (TMV) and tomato seeds.

Guidance on test may be obtained from the German document LAGA M10 ‘Quality Criteria and Application Recommendations for Compost’.

2. Foreign Matter

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.

Foreign matter content as a percentage of oven-dried mass	≤1.5%
Foreign matter, maximum dimensions, in mm	25 mm

3. Trace Elements

Maximum Trace Element Concentration Limits for Compost^{Note 2}

Trace Elements	(mg/kg, dry mass)
Arsenic (As) ^{Note 1}	15
Cadmium (Cd)	1.5
Chromium (Cr)	100
Copper (Cu)	100
Mercury (Hg)	1
Molybdenum (Mo) ^{Note 1}	5
Nickel (Ni)	50
Lead (Pb)	150
Selenium (Se) ^{Note 1}	2
Zinc (Zn)	350

Note 1: Monitoring of these parameters required if waste from an industrial source.

Note 2: 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.

4. Pathogens

Pathogenic organism content must not exceed the following limits:

- Escherichia coli ≤1,000 CFU/g
- Salmonella species absent in 25 g sample.

5. Monitoring

The licensee shall submit to the Agency for its agreement, prior to commencement of compost operations, details of methods of analyses, methods of sampling and sample numbers.

The analyses shall be carried out:

- (a) every six months for plants producing more than 500 and up to 1,000 tonnes of treated biowaste per year;
- (b) at intervals of at least every 1,000 tonnes of treated biowaste produced or every 3 months, whichever comes first, for plants producing more than 1,000 and up to 10,000 tonnes of treated biowaste per year;
- (c) every month for plants producing more than 10,000 tonnes of treated biowaste per year.



SCHEDULE G: Reporting

Completed reports shall be submitted to:

The Environmental Protection Agency
Office of Environmental Enforcement
EPA Headquarters
PO Box 3000
Johnstown castle estate
Co. Wexford **or** Any other address as may be specified by the Agency

Reports are required to be forwarded as required in the licence and as may be set out below:

Report	Reporting Frequency ^{Note1}	Report Submission Date
Annual Environment Report (AER)	Annually	By 31 st March of each year.
Record of incidents	As they occur	Within five days of the incident.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Dust Monitoring	Quarterly	Ten days after end of the quarter being reported on.
Drawing with Monitoring locations	-	Prior to commencement of waste disposal
Schedule of Objectives & Targets	-	3 months prior to commencement of development
Leachate Disposal Agreement	-	Prior to commencement of waste disposal

Note 1: Unless altered at the request of the Agency.



Sealed by the seal of the Agency on this the day of May, 2005

PRESENT when the seal of the Agency
was affixed hereto:

Padraic Larkin, Director