



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

WASTE LICENCE
LANDFILL FOR NON-HAZARDOUS WASTE

PROPOSED DECISION

Waste Licence	13-1
Register Number:	
Applicant:	Galway City Council (formerly Galway Corporation)
Location of Facility:	Carrowbrowne Landfill Site, Carrowbrowne, Headford Road, Co. Galway.

INTRODUCTION

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

This licence provides for the acceptance of a maximum of 200,000 tonnes of non-hazardous household, commercial and industrial waste at the landfill at Carrowbrowne, Headford Road, Co. Galway. Galway City Council (formerly Galway Corporation) will only be permitted to deposit non-hazardous waste in lined cells which have been constructed in the north western corner of the facility. Once the lined cells have been filled, the licensee will be required to restore the facility as part of the restoration and aftercare plan which will have to be agreed with the Agency. Activities on-site will consist of the collection and management of leachate generated and the management of landfill gas at the facility. The licence provides for the acceptance of waste at a Civic Waste facility and the development of composting operations at the facility.

Galway City Council must also manage and operate the facility to ensure that the activities do not cause environmental pollution. The Council has 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 Galway City Council is allowed to operate and manage this facility.

Table of Contents

	Page No.
REASONS FOR THE DECISION	1
PART I ACTIVITIES LICENSED	1
PART II ACTIVITIES REFUSED	2
INTERPRETATION	3
PART II CONDITIONS	6
CONDITION 1 SCOPE OF THE LICENCE	5
CONDITION 2 MANAGEMENT OF THE FACILITY	6
CONDITION 3 FACILITY INFRASTRUCTURE	8
CONDITION 4 RESTORATION AND AFTERCARE	12
CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT	13
CONDITION 6 EMISSIONS	16
CONDITION 7 NUISANCE CONTROL	18
CONDITION 8 MONITORING	19
CONDITION 9 CONTINGENCY ARRANGEMENTS	20
CONDITION 10 RECORDS	21
CONDITION 11 REPORTS AND NOTIFICATIONS	22
CONDITION 12 CHARGES AND FINANCIAL PROVISIONS	24
SCHEDULE A : Waste Acceptance	26
SCHEDULE B : Specified Engineering Works	26
SCHEDULE C : Emission Limits	26
SCHEDULE D : Monitoring	27
SCHEDULE E : Recording and Reporting to the Agency	33
SCHEDULE F : Standards for Compost Quality	34
SCHEDULE G : Content of the Annual Environmental Report	35

DECISION & REASONS FOR THE DECISION

The Environmental Protection Agency (the Agency) is satisfied, on the basis of the information available, that the requirements of Section 40(4) of the Waste Management Act, 1996 have been complied with in respect of the application for a waste licence for the activities listed hereunder in Part I.

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

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Agency proposes, under Section 40(1) of the said Act to grant this Waste Licence to Galway City Council (formerly Galway Corporation), City Hall, College Road, Galway to carry on the waste activities listed below at Carrowbrowne Landfill Site, Carrowbrowne, Headford Road, Co. Galway 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 5.	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment. This activity is limited to the deposit of waste into lined cells.
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: This activity is limited to the treatment of leachate at the facility.
Class 7.	Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) 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: This activity is limited to the treatment of leachate at the facility.
Class 13.	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced. This activity is limited to the storage of wastes at the facility prior to removal off-site to an appropriate facility.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Act 1996

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes): This activity is limited to the recovery of waste at the Civic Waste facility and the composting of waste at the facility.
Class 3.	Recycling or reclamation of metals and metal compounds: This activity is limited to recovery of waste at the Civic Waste facility.
Class 4.	Recycling or reclamation of other inorganic materials: This activity is limited to the recovery of inert waste for remediation works and restoration of the facility and the recovery of inorganic materials at the Civic Waste facility.
Class 9.	Use of any waste principally as a fuel or other means to generate energy: This activity is limited to the possible future use of landfill gas to generate electrical power and energy.
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 of waste prior to being recycled, re-used or reclaimed.

Part II: Activities Refused

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to refuse the following classes of activities.

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

Class 1.	Deposit on, in or under land (including landfill): Reason: The proposed activity would not comply with Section 40(4) of the Waste Management Act 1996.
-----------------	--

INTERPRETATION

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Act, (the Act), 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.
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 the waste licence application.
Application	The application by the licensee for this waste licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
Condition	A condition of this licence.
Construction and Demolition Waste	All wastes which arise from construction, renovation and demolition activities.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses.
Cover material	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials; or other cover material the use of which has been agreed with the Agency.
Daily Cover	Is the term used to describe material spread (about 150mm if soil cover is used) over deposited waste at the end of each day. Synthetic materials may also be used. Its objective is to minimise odour, the amount of litter generated and to control flies and access to the waste by birds and vermin. Where soils are used for daily cover, it is recommended that they be removed at the start of the day and subsequently reused as much as possible.
Daytime	8.00 a.m. to 10.00 p.m.
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.
Emergency	Those occurrences defined in Condition 9.4
Emission Limits	Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , of this licence.
European Waste Catalogue (EWC)	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.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Hazardous waste	As defined in Section 4(2) of the Act.
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.

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.
Intermediate Cover	Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration.
Landfill	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
Landfill Gas	Gases generated from the landfilled waste.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A Waste Licence issued in accordance with the Act.
Licensee	Galway City Council (formerly Galway Corporation), City Hall, College Road, Galway
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	10.00 p.m. to 8.00 a.m.
Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc, which may be recycled
Quarterly	At approximately three monthly intervals.
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 between 15% and 25% dry matter.
Specified Emissions	Those emissions listed in <i>Schedule C: Emission Limits</i> of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> of this licence.
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.
Trigger Level	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
White Goods	Refrigerators, cookers, ovens and other similar appliances.
EPA Working Day	Refers to the following hours; 9.00 a.m. to 5.30 p.m. Monday to Friday inclusive.

PART III CONDITIONS

CONDITION 1 SCOPE OF THE LICENCE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and authorised by this licence.
- 1.2. For the purposes of this licence, the facility is the area of land outlined in red on Drawing No. 025022/2 entitled 'Site Location Map' of the application which was received by the Agency on 21/06/00. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. 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.
- 1.4. A maximum of 200,000 tonnes of non-hazardous household, commercial and industrial waste shall be deposited at the facility. Only those waste types listed in *Schedule A: Waste Acceptance* of this licence shall be accepted at the facility. No hazardous waste, liquid waste or sludges shall be disposed of at the facility.
- 1.5. Waste shall only be disposed of into engineered lined cells which are constructed in accordance with the conditions of this licence and details of which have been agreed in advance with the Agency. Waste shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 1.6. Whole used tyres (other than bicycle tyres and tyres with an outside diameter above 1.4m) shall not be disposed of at the facility from 16 July 2002. Shredded tyres shall not be disposed of at the facility from 16 July 2006.
- 1.7. The licensee shall ensure that inert waste accepted at the facility is subject to treatment where technically feasible.
- 1.8. Waste Acceptance Hours and Hours of Operation
 - 1.8.1. Landfill
 - 1.8.1.1. Waste may only be accepted for disposal at the landfill between the hours of 8.30 a.m. to 6.00 p.m. Monday to Friday inclusive and 8.30 a.m. to 1.00 p.m. on Saturdays.
 - 1.8.1.2. The landfill shall only be operated during the hours of 8.00 a.m. to 6.30 p.m. Monday to Friday inclusive and 8.00 a.m. to 1.30 p.m. on Saturdays.
 - 1.8.1.3. Waste shall not be accepted at the facility on Sundays or on Bank Holidays.
 - 1.8.2. Civic Waste Facility
 - 1.8.2.1. Waste shall only be accepted at the Civic Waste Facility between the hours of 8.00 a.m. to 6.00 p.m.
 - 1.8.3. Composting
 - 1.8.3.1. Waste shall only be accepted for composting between the hours of 8.00 a.m. to 6.00 p.m. Monday to Saturday inclusive.
- 1.9. 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 trigger level specified in this licence which is attained or exceeded; and
 - d) any indication that environmental pollution has, or may have, taken place.
- 1.10 Where the Agency considers that a non-compliance with any condition of this licence has occurred, it may serve a notice on the licensee specifying:
- 1.10.1 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;
 - 1.10.2 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
 - 1.10.3 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 permission is received from the Agency.

- 1.11 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.

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 The Civic Waste Facility shall be supervised by an appropriately qualified and competent person at all times while waste may be accepted.
- 2.1.3 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS Waste Management Training Programme (or equivalent agreed with the Agency) and associated on site assessment appraisal within twelve months of appointment.
- 2.1.4 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 acceptance of waste at the facility, the licensee shall submit written details of the management structure of the facility to the Agency. 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; and
- c) details of the relevant education, training and experience held by each of the persons nominated under a) above.

2.3 Environmental Management System (EMS)

2.3.1 The licensee shall establish and maintain an EMS. Within twelve months from the date of grant of this licence, 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) the items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency.
- (ii) methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets and
- (iii) 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 any of the procedures detailed in the EMS not be followed.

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 Programme

2.4.1 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. A liaison committee shall also be established which will enable communication between representatives of the

local residents and the licensee. The Communications Programme shall be established within six months of the date of grant of the licence.

REASON: To make provision for the proper 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 as required by the conditions of this licence.
- 3.2 Specified Engineering Works
- 3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: 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.
- 3.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.2.3 Following the completion of all 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 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) daily record sheets/diary;
 - f) name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
 - g) name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
 - h) records of any problems and the remedial works carried out to resolve those problems; and
 - i) any other information requested in writing by the Agency.
- 3.3 Facility Notice Board
- 3.3.1 The licensee shall provide and maintain a 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.
- 3.3.2 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.

3.4 Facility Security

3.4.1 Prior to the acceptance of waste at the facility, the licensee shall install CCTV cameras at all entrances to the facility. The CCTV camera system shall be operated 24 hours per day, 7 days per week.

3.4.2 Security gates shall be maintained at the entrance to the facility and adequate security fencing shall be provided around the perimeter of the facility.

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

a) a temporary repair shall be made by the end of the working day; and,

b) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

3.5 Facility Roads

3.5.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.

3.6 Facility Office

3.6.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.

3.6.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.

3.7 Waste Inspection and Quarantine Areas

3.7.1 Prior to the acceptance of waste at the facility, a Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.

3.7.2 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.

3.8 Weighbridge

3.8.1 Prior to the acceptance of waste at the facility, the licensee shall provide and maintain a weighbridge at the facility.

3.9 Wheel Cleaning

3.9.1 Prior to the acceptance of waste at the facility, the licensee shall establish and maintain a wheelwash at the facility.

3.10 Waste Water Treatment Plant

3.10.1 Sewage arising at the facility shall be directed to the leachate treatment system.

3.11 Tank and Drum Storage Areas

3.11.1 The licensee shall provide and maintain a bunded fuel storage area at the facility. Fuels shall only be stored at this location.

- 3.11.2 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.11.3 All tank and drum storage areas shall, as a minimum, be banded, 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 banded area; or
 - (b) 25% of the total volume of substance which could be stored within the banded area.
- 3.11.4 All drainage from banded areas shall be diverted for collection and safe disposal.
- 3.11.5 All inlets, outlets, vent pipes, valves and gauges must be within the banded area.
- 3.11.6 The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency following its installation and prior to its use as a storage area. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.

3.12 Landfill Lining

- 3.12.1 The licensee shall, three months prior to the development of the engineered lined cells, submit a report to the Agency on the nature and extent of historical waste deposition in the area of the facility where the new cells are proposed to be located. This shall include as a minimum, the results of site investigations together with an assessment of the likely impacts of developing cells in areas where waste has been historically deposited. This report should also assess the feasibility of excavating and removing previously deposited waste from the proposed areas. Any recommendations arising from this report shall be implemented as part of the development of the lined cells.
- 3.12.2 Subject to the requirements of Condition 3.12.1, the lining of the engineered cells shall comprise of the following:
- (i) a composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1×10^{-9} m/s, (or equivalent to be agreed with the Agency) overlain by an appropriate geocomposite layer which in turn is overlain by a 2mm thick Flexible Membrane Liner;
 - (ii) a geotextile protection layer placed over the Flexible Membrane Liner;
 - (iii) a 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains;
 - (iv) the side walls shall be designed and constructed to achieve an equivalent protection.

Where lining will take place on top of existing waste, the capping of the existing waste shall include the provision of an active gas collection layer which is laid beneath the composite liner. The gas collection layer shall consist of a 0.5m layer of natural material with the addition of a horizontal gas collection system. The gas collection drains shall be HDPE and shall be surrounded by gravel.

3.13 Leachate Management Infrastructure

- 3.13.1 Prior to the development of the lined cells at the facility, the licensee shall (i) install a new leachate treatment system at another suitable location within the facility. The new leachate treatment system shall provide for the adequate collection, storage and pre-treatment of leachate prior to its discharge to sewer. (ii) decommission the existing leachate treatment system which is located adjacent to the western boundary of the facility. If necessary, interim measures shall be provided for the collection, storage and pre-treatment of

leachate in the period between the decommissioning of the existing leachate treatment system and the commissioning of the new leachate treatment system.

3.13.2 The licensee shall maintain the leachate containment and collection system around the perimeter of the facility.

3.13.3 The licensee shall maintain boreholes G5D, G7D, G11D, 110D, 111D and 113D within the landfilled area to facilitate the removal and abstraction of leachate.

3.13.4 All drainage from the weighbridge, wheelwash and waste quarantine/inspection areas shall drain to the leachate treatment system.

3.14 Landfill Gas Management

3.14.1 The licensee shall maintain and operate the existing landfill gas flare at the facility. Within six months of the date of grant of the licence, the open gas flare unit shall be upgraded to an enclosed flare unit.

3.14.2 The enclosed landfill gas flare efficiency shall be tested within three months of its installation and every three years thereafter.

3.14.3 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.

3.14.4 The licensee shall maintain all gas wells, extraction wells, pipework, valves, flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.

3.15 Surface Water Management

3.15.1 Effective surface water 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 be capable of the following:

a) the prevention of contaminated water and leachate discharges from surface water drains and courses; and

b) the collection/diversion of run off arising from capped and restored areas.

c) the diversion of clean surface waters so as to prevent the ingress of clean water into the existing waste body.

3.15.2 A perimeter flood protection berm shall be maintained around the existing landfill facility at a height of 9m OD.

3.16 Groundwater Management

3.16.1 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 be capable of the following;

(i) the protection of the groundwater resources from pollution by the waste activities; and

(ii) the protection of other infrastructure, such as the liner, from any adverse effects caused by the groundwater.

3.17 Civic Waste Facility

3.17.1 Prior to the acceptance of waste at the Civic Waste Facility, the licensee shall provide and maintain the appropriate infrastructure for such purposes at the facility. The type of

wastes to be accepted at the Civic Waste facility shall be agreed in advance with the Agency.

3.17.2 The licensee shall install and maintain a silt trap and an oil interceptor at the facility to ensure that all surface water discharges from the Civic Waste Facility pass through a silt trap and oil interceptor prior to discharge.

3.17.3 All silt traps and oil interceptors shall be in accordance with European Standard prEN 858 (installations for the separation of light liquids).

3.18 Compost facility

3.18.1 Prior to any waste being accepted for composting at the facility, appropriate infrastructure for the composting of waste shall be established and maintained at the facility.

3.18.2 The entire compost area must be hardstand and all drainage shall either be recirculated back into the composting process or drain to the leachate treatment system.

3.18.3 Prior to the commencement of composting operations at the facility, the licensee shall submit a report to the Agency for its agreement, which shall assess the need for enclosure and odour management of the proposed composting operations (including waste reception, curing and storage) at the facility. Any recommendations arising from this report shall be implemented within a timeframe to be agreed with the Agency.

3.18.4 The licensee shall provide and maintain an air extraction and air abatement system for the treatment of odours arising from the composting operations. Monitoring of the abatement system shall be carried out as specified in *Schedule D: Monitoring*, of this licence.

3.19 Telemetry

3.19.1 Prior to the commencement of waste disposal, a telemetry system shall be installed and maintained at the facility. This system shall include for:-

- a) Recording of leachate levels in the lined cells and lagoon.
- b) Permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

3.20 Monitoring Infrastructure

3.20.1 Replacement of Infrastructure

- (i) Monitoring infrastructure which is damaged or proves to be unsuitable for its purpose shall be replaced within three months of it being damaged or recognised as being unsuitable.

REASON: To provide appropriate infrastructure for the protection of the environment.

CONDITION 4 RESTORATION AND AFTERCARE

4.1. Prior to the commencement of waste activities at the facility, the licensee shall submit to the Agency for agreement a Restoration and Aftercare Plan for the facility. This shall include the following: details on the emplacement of the final capping/restoration layer(s), landscaping plans, tree planting, afteruse details and details on the final restoration of the facility. The plan shall have regard to the guidance published in the Agency's Landfill Manual: '*Landfill Restoration and Aftercare*'. The restoration of the landfill facility shall be completed within a timeframe to be agreed with the Agency.

- 4.2. Within three months of the date of grant of the licence, the licensee shall submit to the Agency for its agreement, a proposal for landscaping and tree planting in order to minimise the visual impact of the facility on the surrounding countryside. The landscaping and tree planting programme shall commence within twelve months of the date of grant of the licence.
- 4.3. Unless otherwise agreed with the Agency under Condition 4.1 above, the final capping shall consist of the following:
- a) top soil (150 -300mm);
 - b) subsoils, such that total thickness of top soil and subsoils is at least 1m;
 - c) drainage layer of 0.5m thickness having a minimum hydraulic conductivity of 1×10^{-4} m/s;
 - d) 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
 - e) gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 4.4. 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
- 4.5. Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Combined topsoil and subsoil depths shall be a minimum of 1m.

REASON: To provide for the restoration of the facility

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

5.1.1 Waste Acceptance Procedures

- 5.1.1 Prior to the acceptance of waste at the facility, the licensee shall develop and maintain detailed procedures for the acceptance and handling of all wastes at the facility. These shall include procedures for the acceptance of (i) non-hazardous waste for disposal at the facility (ii) inert wastes for restoration of the facility (iii) agreed wastes at the Civic Waste Facility and (iv) wastes for composting at the facility.

- 5.2 All wastes shall be checked on arrival at the facility and all waste for disposal shall be checked at the working face. Any wastes not suitable for acceptance shall be removed for recovery or disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only.

5.3 Working Face

- 5.3.1 Unless the prior agreement of the Agency is given, the following shall apply at the landfill:

- a) only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials; and
- b) the working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and 40 meters length and have a slope no greater than 1 in 3.

- 5.3.2 All waste deposited at the working face shall be compacted, using a steel wheeled compactor, and covered as soon as is practicable and at any rate prior to the end of the working day.

- 5.3.3 The working face, or faces, shall each day at the end of the day, be covered with suitable material.
- 5.4 Daily and Intermediate Cover
- 5.4.1 Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.
- 5.4.2 Within three months of the date of grant of this licence, appropriate cover material shall be placed across the whole landfill so that no waste, other than the following is exposed:
- a) waste suitable for specified engineering works; and
 - b) waste on the working face during the operational hours of the facility.
- 5.5 Operational Controls
- 5.5.1 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 5.5.2 Wastes which have been deposited and covered shall not be excavated, disturbed or otherwise picked over without the prior agreement of the Agency.
- 5.5.3 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.
- 5.5.4 Filled cells shall be permanently capped within twelve months of the lined cells having been filled to the required level.
- 5.5.5 Scavenging shall not be permitted at the facility.
- 5.5.6 Gates shall be locked shut when the facility is unsupervised.
- 5.5.7 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.5.8 Fuels shall only be stored at appropriately bunded locations on the facility.
- 5.5.9 All tanks and drums shall be labelled to clearly indicate their contents.
- 5.5.10 No smoking shall be allowed on the facility other than in the site offices.
- 5.6 Composting
- 5.6.1 Only source segregated organic waste (including green waste) shall be composted at the facility.
- 5.6.2 All wastes (with the exception of green waste) accepted for organic waste composting shall be introduced into the compost process within 24 hours of acceptance at the facility.
- 5.6.3 Unless otherwise agreed with the Agency, the waste being composted shall be exposed to a temperature of $>60^{\circ}\text{C}$ for a period of at least 6 days.
- 5.6.4 No waste shall be left uncovered in the composting area from the close of operation on Saturday until Monday morning opening unless otherwise agreed with the Agency.
- 5.6.5 Compost shall comply with the Quality Standards as specified in *Schedule F: Standards for Compost Quality*, of this licence, unless otherwise agreed with the Agency.

- 5.6.6 Compost of Class 1 Standard shall be considered a product, and shall be used according to best agronomic practice.
- 5.6.7 Compost of Class 2 Standard shall be considered a product, and shall be used according to best agronomic practice. Notwithstanding this, it shall be used in a quantity not exceeding 30 Tonnes dry matter per hectare (on a three year average).
- 5.6.8 Compost not reaching the standards designated Class 1 or Class 2 shall be considered a waste, and the details recorded as required under Condition 10.6.
- 5.7 Off-site Disposal and Recovery
- 5.7.2 Waste sent off-site for recovery or disposal shall only be conveyed by a waste contractor agreed by the Agency;
- 5.7.3 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agency;
- 5.7.4 All wastes removed off-site for recovery or disposal shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.
- 5.8 Civic Waste Facility
- 5.8.2 The Civic Waste Facility shall only be used by private vehicles. The facility shall not be used as a transfer station for disposal of waste by commercial waste disposal contractors or local authority waste collection vehicles.
- 5.8.3 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.
- 5.8.4 The licensee shall assign and clearly label each container at the Civic Waste Facility to indicate their contents.
- 5.8.5 At the end of the working day the floor of the Civic Waste Facility shall be cleared of waste.
- 5.9 Leachate Management
- 5.9.2 Leachate collected in the peripheral leachate collection system and from the leachate abstraction boreholes shall be pumped to the leachate treatment system. All leachate shall be pre-treated prior to its discharge to sewer.
- 5.9.3 The licensee shall not recirculate leachate or other contaminated water over or into the waste body.
- 5.9.4 Leachate levels in the waste shall not exceed a level of 1.0m over the top of the liner at the base of the lined cells.
- 5.9.5 The frequency of leachate removal/discharge from any leachate lagoon shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoon at all times.
- 5.10 Maintenance
- 5.10.2 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.

- 5.10.3 All lagoon structures on the facility shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer.
- 5.10.4 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.10.5 Once installed, 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 to a skip.

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

CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule C: Emission Limits* of this licence. There shall be no other emissions of environmental significance.
- 6.2. 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.
- 6.3. Landfill Gas
 - 6.3.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:
 - a) Methane, greater than or equal to 1.0% v/v; and
 - b) Carbon dioxide, greater than or equal to 1.5% v/v.
 - 6.3.2. 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 :-
 - a) in the case of landfill gas flare:

Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
 - b) in the case of landfill gas combustion plant (where relevant):

Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
 - 6.3.3. Emission limits for landfill gas emissions to atmosphere in this licence shall be interpreted in the following way:-
 - 6.3.3.1. 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.

6.3.2.2. Non-Continuous Monitoring

- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute samples is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
- (ii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- (iii) For flow, no hourly or daily mean value shall exceed the emission limit value.

6.4. Emissions to Surface Water from Civic Waste Facility

- 6.4.1. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.
- 6.4.2. The trigger levels for surface water discharges from the Civic Waste Facility (measured at monitoring point SW1) are:
 - (a) BOD 25mg/l
 - (b) Suspended Solids 35mg/l

6.5. PM₁₀

- 6.5.1. The trigger level for PM₁₀ from the facility measured at any location on the boundary of the facility is:
 - a) PM₁₀ greater than 50µg/m³ for a daily sample.

6.6. Groundwater

- 6.6.1. Prior to the acceptance of waste for disposal at the facility, the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger levels for representative groundwater monitoring locations in accordance with the requirements of Directive 1999/31/EC.

6.7. Emissions to Sewer

- 6.7.1. Unless otherwise agreed in advance with the Agency and the Sanitary Authority, the following shall apply for the discharge of leachate to the Galway City Council Sewer.
- 6.7.2. No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to sewer maintenance personnel working in the sewerage system, or as would be damaging to the fabric of the sewer, or as would interfere with the biological functioning of a downstream wastewater treatment works.
- 6.7.3. The licensee shall permit authorised persons of the Agency and the Sanitary Authority to inspect, examine and test, at all reasonable times, any works and apparatus installed, in connection with the discharge or emission, and to take samples of the discharge or emission.
- 6.7.4. No discharge or emission to sewer shall take place which might give rise to any reaction within the sewer or to the liberation of by-products which may be of environmental significance.
- 6.7.5. The licensee shall ensure that the discharge shall not contain dissolved methane, petroleum spirits or organic solvents (including chlorinated organic solvents), at concentrations which would give rise to flammable or explosive vapours in the sewer.

- 6.7.6. Non-trade effluent wastewater (e.g. firewater, accidental spillage) which occurs on-site shall not be discharged to the sewer without the prior authorisation of the Sanitary Authority.
- 6.7.7. The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which a discharge or emission is being made. Each such inspection chamber or manhole shall be constructed and maintained by the licensee so as to permit the taking of samples of the discharge.
- 6.7.8. Emission limit values for emissions to sewer in this licence shall be interpreted in the following way:-
- a) Continuous monitoring.

No flow value shall exceed the specified limit
 - b) Non-Continuous monitoring.

Eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling shall not exceed 1.2 times the emission limit value.
 - c) No grab sample shall exceed 1.2 times the emission limit value.

REASON: To control emissions from the facility and provide for the protection of the environment.

CONDITION 7 NUISANCE CONTROL

7.1 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.

7.2 The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.

7.3 Litter Control

7.3.1 Prior to the commencement of waste deposition in the lined cells, litter fencing shall be installed and maintained around the perimeter of the active tipping area. The netting shall meet the guidance given in the EPA Manual on "Landfill Operational Practices" and shall be kept tidy. Litter trapped in the netting shall be removed as soon as practicable and in accordance with Condition 7.3.3 below.

7.3.2 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows:

- a) a temporary repair shall be made by the end of the working day; and,
- b) a repair to the standard of the original netting shall be undertaken within three working days.

7.3.3 All loose litter or other waste, placed on or in the vicinity of the facility and its environs shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00am of the next working day after such waste is discovered.

7.3.4 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.

7.4 Dust Control

7.4.1 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

7.5 Prior to exiting the facility, all waste vehicles shall use the wheelwash once installed.

7.6 Bird Control

7.6.1 Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques. The birds of prey and/or other techniques shall be in place on the facility at least two weeks prior to the acceptance of waste at the facility and shall maintain their presence every day, from before dawn to after dark, until the waste activities cease and all the waste is capped to the written satisfaction of the Agency. The use of gas operated bird scaring devices is prohibited at the facility.

REASON: To provide for the control of nuisances

CONDITION 8 MONITORING

8.1. The licensee shall carry out such monitoring and at such locations and frequencies as set out in *Schedule D: Monitoring* of this licence and as specified in this licence. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two months after the date of grant of this licence.

8.2. The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence 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.

8.3. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.

8.4. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.

8.5. Landfill Gas

8.5.1. Within six months of the date of grant of this licence, the licensee shall install a permanent gas monitoring system in any buildings at the facility. The system installed shall be capable of monitoring the parameters specified in Table D.1.2.

8.6. Subject to the agreement of the well owners, all private wells within 1km of the facility shall be included in the monitoring programme set out in *Schedule D: Monitoring* of this licence.

8.7. Meteorological Monitoring

8.7.1. The licensee shall provide and maintain a meteorological station at the facility capable of monitoring the parameters listed in *Schedule D.7: Meteorological Monitoring* of this licence.

8.8. Topographical Survey

8.8.1. A topographical survey (including details on the height of the flood protection berm) shall be carried out within three months of the date of grant of this licence. Following the completion of this survey the licensee shall submit any revised plans for the size and scale of future cells planned for the facility. The survey shall include a measurement of the remaining available void space and shall be in accordance with any written instructions issued by the Agency. It shall be repeated annually thereafter until

restoration has been completed. The survey shall be in accordance with any written instructions issued by the Agency.

8.9. Biological Assessment

8.9.1. A biological assessment of surface water courses in the vicinity of the facility shall be undertaken within twelve months of the date of grant of this licence and every year thereafter. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams. The location of monitoring points shall be agreed with the Agency.

8.10. Stability Assessment

8.10.1. Within six months of the date of grant of this licence, and annually thereafter, the licensee shall carry out a stability assessment of the side slopes of the facility.

8.11. Nuisance Monitoring

8.11.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours.

8.12. Groundwater Monitoring

8.12.1. Subject to the agreement of the well owners, all private wells within 500m of the facility shall be included in the monitoring programme set out in *Schedule D: Monitoring* of this licence.

REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions

CONDITION 9 CONTINGENCY ARRANGEMENTS

9.1. In the event of an incident 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 arising therefrom;
- c) isolate the source of any such 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 of the incident occurring 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.

9.2. The licensee shall within six months of the date of grant of this licence, 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 a risk

assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.

- 9.3. 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.
- 9.4. Emergencies
- 9.4.1. 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;
- 9.4.2. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities;
- 9.4.3. In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected;
- 9.4.4. In the event that monitoring of the slide slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions

CONDITION 10 RECORDS

- 10.1 The licensee shall keep the following documents at the facility office.
- a) the current waste licence relating to the facility;
 - b) the current EMS for the facility;
 - c) the previous year's AER for the facility;
 - d) all written procedures produced by the licensee which relate to the licensed activities.
- 10.2 The licensee shall maintain a written record for each load of waste arriving at the facility, excluding those arriving at the Civic Waste Facility. The licensee shall record the following:
- a) the date;
 - b) the name of the carrier (including if appropriate, the waste carrier registration details and waste collection permit number);
 - c) the vehicle registration number;
 - d) the name of the producer(s)/collector(s) of the waste as appropriate;
 - e) the name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;
 - f) a description of the waste including the associated EWC codes;
 - g) the quantity of the waste, recorded in tonnes
 - h) the name of the person checking the load; and,
 - i) 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.
- 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.
- 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) details of all nuisance inspections; and
- e) 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.

10.4 The licensee shall maintain a written record of all complaints relating to the operation of the facility. 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.

10.5 The licensee shall maintain a record of all CCTV footage at the facility for one month after it has been recorded.

10.6 A written record shall be kept for each load of waste departing from the Civic Waste Facility. The following shall be recorded:

- a) the name of the carrier;
- b) the vehicle registration number and waste collection permit number;
- c) the destination of the waste (facility name and waste licence/permit number as appropriate);
- d) a description of the waste (if recovered or rejected waste, the specific nature of the waste);
- e) the quantity of waste, recorded in tonnes;
- f) the name of the person checking the load; and,
- g) the time and date of departure.

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

CONDITION 11 REPORTS AND NOTIFICATIONS

11.1 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:

- a) be sent to the Agency's headquarters;
- b) comprise one original and three copies unless additional copies are required;
- c) be formatted in accordance with any written instruction or guidance issued by the Agency;
- d) include whatever information as is specified in writing by the Agency;
- e) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;

- f) be submitted in accordance to the relevant reporting frequencies specified by this licence, such as in *Schedule E: Recording and Reporting to the Agency* of this licence;
- g) be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
- h) be transferred electronically to the Agency's computer system if required by the Agency.

11.2 In the event of an incident occurring on the facility, the licensee shall:

- a) notify the Agency as soon as practicable and in any case not later than 10.00 a.m. the following working day after the occurrence of any incident;
- b) submit a written record of the incident, including all aspects described in Condition 9.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident; and
- c) in the event of any incident which relates to discharges to surface water, notify the Western Regional Fisheries as soon as practicable and in any case not later than 10:00 a.m. on the following working day after such an incident.
- d) Should any further actions be taken 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.

11.3 Reports relating to Facility Operations

11.3.1 Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement proposals for the operation of the facility in adverse wind conditions.

11.3.2 Within six months of the date of grant of this licence, the licensee shall submit a report to the Agency for its agreement on the quantities/levels of landfill gas which are generated at the facility and its potential utilisation as an energy source.

11.3.3 Prior to the commencement of waste activities at the facility, a report examining waste recovery options shall be submitted to the Agency for its agreement. This report shall address methods to contribute to the achievement of the recovery targets stated in national and European Union waste policies and shall include the following:

- a) proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste going to landfills as specified in the Landfill Directive;
- b) the percentage of waste receiving treatment (other than inert waste for which treatment is not technically feasible, or any other waste, the treatment of which will not reduce its volume or hazardous nature)
- c) the separation of recyclable materials from the waste;
- d) the recovery of Construction and Demolition Waste;
- e) the recovery of metal waste and white goods including written procedures for the de-gassing of CFC's from refrigerators;
- f) the recovery of commercial waste, including cardboard;
- g) inert waste to be used for cover/restoration material at the facility;
- h) proposals regarding the utilisation of energy from the gas utilisation plant;
- i) the feasibility of using landfill gas as a fuel for on-site vehicles;

11.4 Vermin and Flies

11.4.1 Prior to the commencement of waste activities at the facility, the licensee shall submit to the Agency for its agreement a proposal for the control and eradication of vermin and fly infestations at the facility. This proposal should include as a minimum, operator

training, details on the rodenticide(s) and insecticide(s) to be used, mode and frequency of application and measures to contain sprays within the facility boundary.

11.5 Odour

11.5.1 Prior to the commencement of waste activities at the facility, the licensee shall submit to the Agency for its agreement, odour monitoring trigger levels. The agreed levels shall apply both at the facility and at designated off-site sensitive locations.

11.6 Monitoring Locations

11.6.1 Within six months of the date of grant of this licence, the licensee shall submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence. The drawing(s) shall include the reference code of each monitoring point.

11.7 Annual Environmental Report

11.7.1 The licensee shall submit to the Agency for its agreement, within thirteen months from the date of grant of this licence, and within one month of the end of each year thereafter, an Annual Environmental Report (AER).

11.7.2 The AER shall include as a minimum the information specified in *Schedule G: Content of Annual Environmental Report* of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.

REASON: To provide for proper reports to and notifications to the Agency.

CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €24,995 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2003 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Public Sector Average Earnings Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2002, the licensee shall pay a pro rata amount from the date of this licence to 31st December. 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.

12.2 Financial Provision for Closure, Restoration and Aftercare

12.2.1 The licensee shall from a date to be set by the Agency establish and maintain a fund, or provide a written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 4. The type of fund established and means of its release/recovery shall be agreed by the Agency prior to its establishment.

- 12.2.2 Any fund established shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.
- 12.2.3 The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund or guarantee must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.
- 12.2.4 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 restoration and aftercare cost
- ECOST = Existing restoration 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.

12.3 Cost of landfill of waste.

The licensee shall ensure that the costs of operation, provision of financial security, closure, remediation, restoration and after-care for a period of at least 30 years shall be covered by the price to be charged for the disposal of waste at the facility.

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

SCHEDULE A : Waste Acceptance

A.1 Waste Acceptance - Waste Categories and Quantities

Waste Type	Maximum (Tonnes Per Annum)
Household, commercial and industrial	50,000 subject to a maximum overall total tonnage of 200,000 tonnes
Inert materials to be used for the purposes of remediation and restoration of the facility	To be agreed with the Agency under Condition 4.1
Organic Waste for Composting	9,500 ^{Note 1}
Civic Waste Facility	8,500 ^{Note 1}

Note 1: Unless otherwise agreed with the Agency.

SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Development of engineered lined cells
Final capping.
Compost Facilities (including air abatement system)
Landfill Gas Management Infrastructure
Leachate Management Infrastructure (including relocation/installation of new leachate treatment system)
Surface Water Management Infrastructure
Groundwater Control Infrastructure
Any other works notified in writing by the Agency.

SCHEDULE C :Emission Limits

C.1 Noise Emissions: (Measured at Noise Sensitive Locations)

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

C.2 Landfill Gas Concentration Limits: (Measured in any building on or adjacent to the facility).

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

C.3 Dust Deposition Limits: (Measured at the monitoring points indicated in Table D 2.1 below).

Level (mg/m ² /day) ^{Note 1}
350

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

C.4 Surface Water Discharge Limits: (Measured at the monitoring point SW1 as indicated in Table D.4.1.).

Parameter	Emission Limit Value
Mineral oils	5mg/l

C.5 Emission Limits Values for Enclosed Landfill Gas Flare Unit/Utilisation Plant^{Note 4}

Emission Point reference nos: To be agreed with the Agency

Location: Landfill Gas Combustion Plant and flarestacks

Volume to be emitted: To be agreed with the Agency

Minimum discharge height: To be agreed with the Agency

Parameter	Emission Limit Value ^{Note 2}
Nitrogen oxides as (NO ₂)	500 mg/m ³ (150mg/m ³) ^{Note 3}
CO	650 mg/m ³ (50mg/m ³) ^{Note 3}
Particulates	130 mg/m ³
Hydrogen Chloride	50 mg/m ³ (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m ³ (at mass flows > 0.05 kg/h)

Note 1: In addition to the above individual limits, the sum of the concentrations of Class I, II and III shall not exceed the Class III limits.

Note 2: See Condition 6.3.2.

Note 3: Emission limit Values in brackets represent limit values for flare units.

Note 4: See Condition 11.3.2. re landfill gas utilisation plant.

C.6 Emission Limits Values for Composting process

Emission Point reference no: To be agreed with the Agency

Minimum discharge height: To be agreed with the Agency

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

SCHEDULE D : Monitoring

Monitoring to be carried out as specified below.

D.1 Landfill Gas

Table D.1.1 Landfill Gas Monitoring Locations

Monitoring Locations
Wells LG1, LG2, LG3, LG4, LG6, LG7, LG9, LG10
Manifolds A, B, C, D

Table D.1.2 Landfill Gas Monitoring Parameters, Frequency and Technique

Parameter	Monitoring Frequency		Analysis Method ^{Note1} /Technique ^{Note2}
	Gas Boreholes/ Vents /Wells	Site Office ^{Note3}	
Methane (CH ₄) % v/v	Monthly	Continuous	Infrared analyser/flame ionisation detector
Carbon dioxide (CO ₂)% v/v	Monthly	Continuous	Infrared analyser/ flame ionisation detector
Oxygen(O ₂) %v/v	Monthly	Continuous	Electrochemical cell
Atmospheric Pressure	Monthly	Continuous	Standard
Temperature	Monthly	Continuous	Standard

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

Note 2: Or other methods agreed in advance with the Agency.

Note 3: To be monitored on a continuous basis within six months of the date of grant of this licence. Until that time, monitoring shall be on a weekly basis.

D.2 Dust, Bioaerosols & Odour

Table D.2.1 Monitoring Locations

Monitoring Locations
Four dust deposition monitoring points along boundary of facility ^{Note 1}
One dust deposition monitoring point at nearest sensitive location ^{Note 1}
PM ₁₀ and Bioaerosol monitoring locations ^{Note 2}
Odour monitoring ^{Note 3}

Note 1: Locations to be agreed with the Agency.

Note 2: Monitoring for PM₁₀ and bioaerosols should be carried out at one upwind and two downwind locations to be agreed with the Agency.

Note 3: Odour monitoring should be carried out at the following locations: (i) composting air abatement system (ii) waste reception/mixing area (iii) one upwind and (iv) two downwind locations. The locations should be agreed with the Agency.

Table D.2.2 Dust, Bioaerosol and Odour Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust deposition (mg/m ² /day)	Three times a year ^{Note 2}	Standard Method ^{Note 1}
PM ₁₀ (µg/m ³)	Annually ^{Note 5}	See Note 4
<i>Aspergillus fumigatus</i>	Annually ^{Note 5}	Grab sample ^{Note 3}
Mesophilic bacteria	Annually ^{Note 5}	Grab sample ^{Note 3}
Odour	Annually ^{Note 5}	Olfactometric

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 agreed with the Agency.

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

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

Note 5: Monitoring for odour, PM₁₀ and bioaerosols shall be carried out prior to the commencement of composting at the facility and thereafter on an annual basis.

Table D.2.3 Monitoring Frequency and Technique for Emissions from Composting Air Abatement System^{Note 1}

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	Quarterly	Standard laboratory method
pH	Quarterly	pH probe
Ammonia	Quarterly	Standard laboratory method
Total viable counts	Quarterly	Standard laboratory method
Inlet and Outlet Gas		
Ammonia	Quarterly	Colorimetric Indicator Tubes
Hydrogen sulphide	Quarterly	Colorimetric Indicator Tubes
Mercaptans	Quarterly	Colorimetric Indicator Tubes
Odour measurement	Annually	Olfactometric

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 an appropriately trained staff member.

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.

Table D.2.4 Monitoring Frequency for Composting Process

Parameter	Monitoring Frequency	Monitoring equipment/method
Temperature	Continuous	Temperature probe/recorder
Moisture	Daily	Subjective by operator.

D.3 Noise

Table D.3.1 Noise Monitoring Locations

Monitoring Locations
N1, N2, N3, N4, N5 (Halting site) ^{Note 1}
N6 (Nearest Noise Sensitive location) ^{Note 1}

Note 1: To be agreed with the Agency.

Table D.3.2 Noise Monitoring Frequency and Technique

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 and Measurement of Environmental noise. Parts 1, 2 and 3."

D.4 Surface Water, Groundwater and Leachate

Table D.4.1 Surface Water Monitoring Locations

Monitoring Locations
G37s, G22s, LF2, G24s, G29s (Downstream of Confluence) ^{Note 1}
G38s, G23s, G12s, G21s
SW1(discharge from Civic Waste Facility) ^{Note 1}

Note 1: To be agreed with the Agency.

Table D.4.2 Groundwater Monitoring Locations

Monitoring Locations
G1AP, G4AP, G9AP, G10AP, G108AP
G1A, G2A, G4A, G10A, 105A, 106A, 108A, 116A

Table D.4.3 Leachate Monitoring Locations

Monitoring Locations
G7D, G11D, 110D
Leachate monitoring points in lined cells ^{Note 1}
L1 (leachate entering leachate treatment system) ^{Note 1}

Note 1: To be agreed with the Agency.

Table D.4.4 Water and Leachate - Parameters / Frequency

Parameter ^{Note 1}	SURFACE WATER Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Monthly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Quarterly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly	Quarterly	Quarterly
BOD ^{Note 7}	Quarterly	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Not Applicable	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Quarterly
PH	Quarterly	Quarterly	Quarterly
Total Suspended Solids ^{Note 7}	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Not Applicable	Not Applicable
Metals and Non- metals ^{Note 8}	Annually ^{Note 6}	Annually ^{Note 6}	Annually ^{Note 6}
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances ^{Note 3}	Notes 6, 9	Annually ^{Note 6}	Notes 6, 9
Mercury	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not Applicable
Total Phosphorus/orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Annually	Annually
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Faecal Coliforms ^{Note 4}	Not Applicable	Annually	Annually

Parameter ^{Note 1}	SURFACE WATER	GROUNDWATER	LEACHATE
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Total Coliforms ^{Note 4}	Not Applicable	Annually	Annually
Mineral Oils ^{Note 7}	Quarterly	Not Applicable	Not Applicable
Biological Assessment	Annually ^{Note 5}	Not Applicable	Not Applicable

- 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).
- Note 4:** In the case where groundwater is extracted for drinking water, if there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points should include enumeration of total bacteria at 22°C and 37°C and faecal streptococci.
- Note 5:** Appropriate biological methods (such as EPA Q-Rating System to be used for the assessment of rivers and streams).
- Note 6:** The following points shall be monitored: 2 No. surface water monitoring points, 2 No. leachate monitoring points, 3 No. groundwater monitoring points. Locations should be agreed with the Agency.
- Note 7:** The surface water discharge from the civic waste facility shall be monitored for BOD, Total Suspended Solids and Mineral Oils on a quarterly basis.
- Note 8:** Parameters to be analysed by AA/ICP should include as a minimum, boron, calcium, cadmium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.
- Note 9:** Once-off and thereafter as requested by the Agency. This once-off monitoring shall be undertaken within twelve months of the date of grant of the licence.

D.5 Enclosed Landfill Gas Flare/Landfill Gas Utilisation Plant^{Note 2}

Table D.5.1 Monitoring Locations

Monitoring Locations
Landfill Gas Enclosed Flare ^{Note 1}
Landfill Gas Utilisation Plant ^{Note 1}

- Note 1:** To be agreed with the Agency.
- Note 2:** See Condition 11.3.2. re landfill gas utilisation plant.

Table D.5.2 Monitoring Parameters, Frequency and Methods/Techniques

Parameter	Monitoring Frequency	Analysis Method ^{Note1} /Technique ^{Note2}
Inlet		
Methane (CH ₄) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO ₂)% v/v	Weekly	Infrared analyser/ flame ionisation detector
Oxygen (O ₂) %v/v	Weekly	Infrared analyser
Outlet		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO ₂	Biannually	Flue gas analyser
NO _x	Biannually	Flue gas analyser
CO	Biannually ^{Note 3}	Flue gas analyser
TOC	Annually	TOC meter
Particulates	Annually	Isokinetic/Gravimetric
Hydrochloric acid	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Impinger / Ion Chromatography

- Note 1:** All monitoring equipment used should be intrinsically safe.
- Note 2:** Or other methods agreed in advance with the Agency.
- Note 3:** Continuous CO monitor for combustion plant.

D.6 Monitoring of Emissions to Sewer

Table D.6.1 Monitoring Locations

Monitoring Locations
L2 (discharge from leachate treatment system) ^{Note 1}

Note 1: To be agreed with the Agency.

Table D.6.2 Monitoring Parameters, Frequency and Methods/Techniques

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 1}
Flow	Continuous ^{Note 3}	Flow meter / recorder
Dissolved Methane	Continuous ^{Note 3}	Probe
Biochemical Oxygen Demand	Quarterly	Standard Methods ^{Note 2}
Chemical Oxygen Demand	Quarterly	Standard Methods ^{Note 2}
Ammoniacal nitrogen	Quarterly	Standard Methods ^{Note 2}
Suspended Solids	Quarterly	Gravimetric
Sulphates	Quarterly	Standard Methods ^{Note 2}
pH	Quarterly	pH meter/recorder

Note 1: Or an equivalent method acceptable to the Agency.

Note 2: "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) 19th Ed. 1995, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA".

Note 3: To be monitored on a continuous basis within six months of the date of grant of this licence.

D.7 Meteorological Monitoring

Table D.7.1 Meteorological Monitoring:
Data to be obtained at a location on the facility.

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Force and Direction	Daily	Standard
Evaporation	Daily	Standard
Evapotranspiration ^{Note 1}	Daily	Standard
Humidity	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 E :Recording and Reporting to the Agency

Report	Reporting Frequency ^{Note1}	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
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.
Bund, tank and container integrity assessment	Every three years	Six months from the date of grant of licence and one month after end of the three year period being reported on.
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.
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Dust Monitoring	Three times a year	Ten days after the period being reported on
PM₁₀ and Bioaerosol monitoring	Annually	One month after end of the year being reported on.
Noise Monitoring	Annually	One month after end of the year being reported on.
Any other monitoring	As they occur	Within ten days of obtaining results.

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

SCHEDULE F : Standards for Compost Quality

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

[The following criteria (where they apply to compost) are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH₄-N, NO₃-N, pH and dry matter content should also be measured]

1. Maturity

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 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 ^{Note 1}

Maximum Trace Element Concentration Limits ^{Note 2}

Parameter (mg/kg, dry mass)	Compost Class 1 ^{Note 4}	Compost Class 2 ^{Note 4}
Cadmium (Cd)	0.7	1.5
Chromium (Cr)	100	150
Copper (Cu)	100	150
Mercury (Hg)	0.5	1
Nickel (Ni)	50	75
Lead (Pb)	100	150
Zinc (Zn)	200	400
Impurities >2mm ^{Note 3}	<0.5%	<0.5%
Gravel and Stones >5mm ^{Note 3}	<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: 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 3: 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

Note 4: Normalised to 30% organic matter

3. Pathogens

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

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 methods of analyses and sample numbers.

SCHEDULE G :Content of the Annual Environmental Report

Annual Environmental Report Content

Reporting Period.

Waste activities carried out at the facility.

Quantity and Composition of waste accepted, disposed and recovered during the reporting period and each previous year.

Summary report on emissions.

Summary of results and interpretation of environmental monitoring.

Resource and energy consumption summary.

Volume of leachate produced and volume of leachate transported / discharged off-site.

Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.

Report on restoration.

Site survey showing existing levels of the facility at the end of the reporting period.

Estimated annual and cumulative quantities of landfill gas emitted from the facility.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Annual water balance calculation and interpretation.

Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.

Schedule of Environmental Objectives and Targets for the forthcoming year.

Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls.

Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.

Report on training of staff.

Any other items specified by the Agency.

Signed on behalf of the said Agency
on the 3rd day of July 2002

Patrick J. Nolan **Authorised Person**