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County Wexford, Ireland

WASTE LICENCE  
PROPOSED DECISION

<b>Waste Licence Register Number:</b>	31-1
<b>Applicant:</b>	Clare County Council
<b>Location of Facility:</b>	Doora Landfill, Bunnow, Ballaghboy, Gaurus, Doora, Co. Clare.

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# 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 not contravene any of the requirements of Section 40(4) of the Waste Management Act, 1996.

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

## ***Part I Activities Licensed***

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to grant this Waste Licence to Clare County Council, County Buildings, New Road, Ennis, Co. Clare to carry on the waste activities listed below at Doora landfill, Bunnow, Ballaghboy, Gaurus, Doora, Co. Clare subject to eleven 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 4:** Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.

This activity is limited to the possible future storage of leachate at the facility.

**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 refers to the possible future 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 refers to the possible future treatment of leachate at the facility.

**Class 12:** Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule

This activity refers to the possible temporary operation of a waste transfer station at the site and the compaction of waste prior to removal offsite to landfill

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

This activity is limited to storage of 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 3:** Recycling or reclamation of metals and metal compounds.

This activity is limited to the collection of metals 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 restoration of the facility and the collection 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.

**Class 10:** The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.

This activity is limited to the possible use of inert materials in restoration.

**Class 11:** Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.

This activity is limited to the possible use of inert materials in restoration.

**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.

# INTERPRETATION

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>Application</b>	The application by the licensee for this waste licence, including any other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
<b>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>Commercial waste</b>	As defined in Section 5 (1) of the Act.
<b>Condition</b>	A condition of this licence. In any case where this licence refers to a numbered condition, the reference shall be taken to mean the condition and any sub-condition therein which the context of the reference requires that reference is made to
<b>Containment boom</b>	A boom which can contain spillages and prevent these from entering drains or watercourses.
<b>Cover material</b>	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.
<b>Daytime</b>	8.00 a.m. to 10.00 p.m.
<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence
<b>Drawing</b>	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
<b>Emission</b>	As defined in Section 5 (1) of the Act.
<b>Emission Limit Value</b>	Those limits, including concentration limits and deposition levels established in Schedule G.
<b>Environmental Pollution</b>	As defined in Section 5 (1) of the Act.
<b>European Waste Catalogue (EWC)</b>	The EWC is a harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.

<b>Facility</b>	That area or areas defined under Condition 1.2
<b>Hazardous Waste</b>	As defined in Section 4 (2) of the Act.
<b>Inert waste</b>	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.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
<b>Landfill</b>	As defined in Section 5 (1) of the Act.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>Leachate</b>	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.
<b>LEL (Lower Explosive Limit)</b>	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.
<b>Licence</b>	A Waste Licence issued in accordance with the Act.
<b>Licensee</b>	Clare County Council
<b>List I/II Organics</b>	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 2% dry matter
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
<b>Mobile Plant</b>	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works
<b>Monthly</b>	At least 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	Municipal waste as defined in Section 5 (1) of the Act.
<b>Night-time</b>	10.00 p.m. to 8.00 a.m.
<b>Non-hazardous waste</b>	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
<b>Quarterly</b>	A period of three calendar months, the first period of which commences on the date of grant of this licence
<b>Recovery</b>	As defined in Section 4 (4) of the Act.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments

<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
<b>Specified Emissions</b>	Those emissions listed in Schedule F: Emission Limits of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in Schedule D: Specified Engineering Works of this licence.
<b>Submit</b>	Unless the context of this licence indicates otherwise, submit in writing to the Agency for its agreement
<b>Trigger Level</b>	A parameter value which when achieved or exceeded requires certain actions to be taken.
<b>Waste</b>	As defined in Section 4(1) of the Act.
<b>Waste disposal activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
<b>Waste recovery activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
<b>White Goods</b>	Refrigerators, cookers, ovens and other similar appliances.
<b>Working Day</b>	From April to October inclusive, 8.00 a.m. to 6.00 p.m. Monday to Saturday.  From November to March inclusive, 8.00 a.m. to 5.00 p.m. Monday to Saturday.
<b>Working Face</b>	The area of the site in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

## **Part II CONDITIONS**

### **CONDITION 1 SCOPE**

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I and required by the licence.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on Drawing No. 98-01001.03, Revision A entitled '1:5000 Site Plan' of the EIS. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. 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. Every 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.
- 1.4. 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.
- 1.5. Where the Agency considers that a non-compliance with the Conditions of this licence has occurred, it may serve a notice on the licensee specifying:
  - a) that only those wastes as specified, if any, in the notice are to be accepted at the facility after the date set down in the notice;
  - b) that the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice; and,
  - c) that the licensee shall carry out any other requirement specified in the notice.

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

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



## **CONDITION 2    MANAGEMENT OF THE ACTIVITY**

### **2.1    Environmental Management System**

2.1.1    The licensee shall within eighteen months from the date of grant of this licence, 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.

2.1.2    The EMS shall include as a minimum those elements specified in the Conditions 2.2 to 2.7 below:

### **2.2    Schedule of Environmental Objectives and Targets**

2.2.1    The licensee shall, within twelve months from the date of grant of this licence, submit to the Agency for its agreement a Schedule of Objectives and Targets. The objectives should be specific and the targets measurable.

2.2.2    The Schedule shall address a five year period as a minimum and shall be reviewed and submitted annually to the Agency for its agreement.

### **2.3    Environmental Management Programme**

2.3.1    The licensee shall, within twelve months from the date of grant of this licence, submit to the Agency for its agreement an Environmental Management Programme (EMP). The EMP shall include a time-scale for achieving the Schedule of Objectives and Targets and shall comply with any other guidance issued by the Agency.

2.3.2    The EMP shall include, as a minimum, the information specified in Schedule A: Content of the Environmental Management Programme. The EMP shall be reviewed and submitted to the Agency for its agreement annually.

### **2.4    Corrective Action**

2.4.1    Within six months of the date of grant of this licence the licensee shall establish and maintain written Corrective Action Procedures to ensure that corrective action is taken should specified requirements to this licence not be fulfilled.

### **2.5    Awareness and Training**

2.5.1    Within six months of the date of grant of this the licensee shall establish and maintain Awareness and Training Procedures for identifying training needs and for providing appropriate training, for personnel whose work is related to the licensed facility. Written records of training shall be maintained.

### **2.6    Management Structure**

2.6.1    Within three months from the date of grant of this licence, the licensee shall submit written details of the management structure of the facility for the agreement of the Agency. Any proposed changes in the management structure shall be submitted in writing to the Agency for its agreement.

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;
- b) details of the responsibilities for each individual named under a) above;
- c) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
- d) contingency arrangements for the absences of the named persons from the facility.

## 2.7 Communications

2.7.1 Within six months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement a Communications Programme to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

## 2.8 Annual Environmental Report

2.8.1 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).

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

2.9 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 suitably qualified and experienced deputy, shall be present at all times during the operation of the facility.

2.10 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required and shall be aware of the requirements of this licence.

**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 NOTIFICATION AND RECORD KEEPING

3.1 The licensee shall make written records of the following incidents:

- a) any nuisance caused by the activity
- 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;

- d) any indication that environmental pollution has, or may have, taken place;
  - e) any occurrence with the potential for environmental pollution; and,
  - f) any emergency.
- 3.2 The written record shall include all aspects described in Condition 10.7(a-e).
- 3.3 Unless otherwise instructed in writing by the Agency, the licensee shall:
- a) notify the Agency as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident;
  - b) submit the written record required by this condition to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident; and
  - c) in the event of any incident which relates to discharges to surface water, notify Shannon Regional Fisheries Board as soon as practicable and in any case not later than 10:00am on the following working day after such an incident.
- 3.4 Should any further actions be taken after the date of written notification, as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.
- 3.5 Unless otherwise agreed by the Agency, all documentation submitted to the Agency shall:
- (a) be sent to the Agency's headquarters;
  - (b) comprise one original and three copies;
  - (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; and
  - (g) in the case of results of any environmental monitoring, be accompanied by a written interpretation setting out their significance.
- 3.6 Copies of all environmental monitoring data obtained by the licensee which relates to the facility shall be forwarded to the Agency at the frequencies set out in Schedule C: Recording and Reporting to the Agency of this licence.
- 3.7 Unless otherwise agreed with the Agency, all documentation and records required to be made under this licence, shall be retained by the licensee.
- 3.8 The licensee shall provide additional copies of any documentation and records referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.
- 3.9 The licensee shall keep the following documents at the facility office referred to in Condition 4.5.

- 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.
- 3.10 The licensee shall maintain a written record for each load of waste arriving at the facility. The licensee shall record the following:
- a) the name of the carrier;
  - b) the vehicle registration number;
  - c) the name of the producer(s)/collector(s) of the waste as appropriate;
  - d) a description of the waste including the associated EWC codes;
  - e) the quantity of the waste, recorded in tonnes;
  - f) the name of the person checking the load; and,
  - g) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.
- 3.11 The licensee shall maintain a written record of the type and quantity, recorded in tonnes, of all wastes recovered at the facility.
- 3.12 The licensee shall maintain a written record of all complaints relating to the operation of the activity. Each such record shall give details of the following:
- a) date and time of the complaint;
  - b) the name of the complainant;
  - c) details of the nature of the complaint;
  - d) actions taken on foot of the complaint and the results of such actions; and,
  - e) the response made to each complainant.
- 3.13 The licensee shall assign and clearly label a unique reference code to each container at the Civic Waste Facility. A written record shall be kept for each load of waste departing from the facility. The following shall be recorded:
- a) the date on which filling of the container commenced;
  - b) the date on which the container was filled;
  - c) the number of sealed containers being stored overnight;
  - d) the name of the carrier;
  - e) the vehicle registration number;
  - f) the destination of the waste (facility name and waste licence/permit number as appropriate);
  - g) a description of the waste (if recovered or rejected waste, the specific nature of the waste);
  - h) the quantity of waste, recorded in tonnes;
  - i) the name of the person checking the load; and,
  - j) the time and date of departure.

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

## CONDITION 4 SITE INFRASTRUCTURE

- 4.1 The licensee shall establish all infrastructure referred to in this licence or as instructed by the Agency.
- 4.2 Site Notice Board
- 4.2.1 The licensee shall provide and maintain a Site Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the identification board shall be 1200 mm by 750 mm.
- 4.2.2 The board shall clearly show:
- a) the name and telephone number of the facility;
  - b) the normal hours of opening;
  - c) the name, address and telephone number of the licence holder;
  - d) an emergency out of hours contact telephone number;
  - e) the name, address and telephone number of the operator of the facility;
  - f) the licence reference number;
  - g) where and when environmental monitoring information relating to the facility can be obtained.
- 4.3 Site Security
- 4.3.1 Unless otherwise agreed with the Agency, the licensee shall provide and maintain palisade fencing, gates and a CCTV monitoring system at the locations shown in Drawing No. 98-01001.13, Revision A, entitled 'Weighbridge and waste reception upgrade' of the EIS. In addition, the licensee shall ensure that, within six months of the date of grant of this licence, security fencing is provided around the perimeter of the facility. The base of the fencing shall be set in the ground.
- 4.3.2 The licensee shall remedy any defect in the gates and/or fencing as follows:
- a) a temporary repair shall be made by the end of the working day; and,
  - b) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days or as otherwise agreed with the Agency.
- 4.3.3 Gates shall be locked shut when the facility is unsupervised.
- 4.4 Site Roads and Hardstanding
- 4.4.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.
- 4.5 The licensee shall provide and maintain an office on the facility. The office shall be maintained in a manner suitable for the processing and storing of documentation.
- 4.6 The licensee shall provide and maintain a working telephone and facsimile machine in the office specified in Condition 4.5 above.

#### 4.7 Inspection

4.7.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility. The licensee shall ensure that these areas are 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 suitably and clearly segregated from each other.

4.8 The licensee shall provide and maintain a weighbridge at the facility at the location shown on Drawing No. 98-01001.13, Revision A, entitled 'Weighbridge and waste reception upgrade' of the EIS.

4.9 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.

#### 4.10 Sewerage

4.10.1 The licensee shall provide and maintain the septic tanks and associated percolation areas at the locations shown on Drawing No. 98-01001.13, Revision A, entitled 'Weighbridge and waste reception upgrade' of the EIS. The septic tanks and percolation areas shall satisfy the criteria set out in SR6 Septic Tank Systems (NSAI 1991).

#### 4.11 Storage Areas

4.11.1 Unless otherwise agreed with the Agency, the licensee shall, within three months of date of grant of this licence, provide and maintain a bunded fuel storage area at the facility.

4.11.2 All tank and drum storage areas shall be rendered impervious to the materials stored therein. In addition, tank and drum storage areas shall, as a minimum be bunded, either locally or remotely, to a volume not less than the greater of the following:

- (a) 110% of the capacity of the largest tank or drum within the bunded area; or
- (b) 25% of the total volume of substance which could be stored within the bunded area.

4.11.3 All drainage from bunded areas shall be diverted for collection and safe disposal.

4.11.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

4.11.5 The integrity and water tightness of all the bunds, tanks and containers and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency following its installation and prior to its use as a fuel storage area. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. The licensee shall also submit to the Agency for its agreement in each case a written report on the storage of fuels at the facility. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

4.11.6 All tanks and containers shall be labelled to clearly indicate their contents.

#### 4.12 Specified Engineering Works

- 4.12.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in Schedule D: Specified Engineering Works, to the Agency for its agreement at least two weeks 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.
- 4.12.2 All specified engineering works shall be supervised by a competent person(s) agreed in advance by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 4.12.3 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) where relevant a drawing and sections showing the location of all samples and tests carried out;
  - e) where relevant daily records sheets/diary;
  - f) name(s) of contractor(s)/individual(s) responsible for undertaking the 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; and
  - i) any other information requested in writing by the Agency.

#### 4.13 Leachate Management

- 4.13.1 Within six months of the date of grant of this licence, the licensee shall provide a representative number of boreholes in the landfilled area, in the waste, at locations to be agreed with the Agency. These boreholes shall be used to facilitate the measurement of leachate levels and for the removal and abstraction of leachate.
- 4.13.2 The licensee shall not recirculate leachate or other contaminated water over or into the waste body.

#### 4.14 Landfill Gas Management:

##### 4.14.1 Landfill Gas Flare

- (i) The licensee shall provide and maintain a landfill gas flare unit at the location specified on Figure D.5.1 entitled '1:10560 Plan of Landfill Gas Extraction System Layout' as received by the Agency on 11/02/1999. Within six months of the date of grant of the licence, the licensee shall replace the open gas flare unit with an enclosed flare unit.
  - (ii) Flare unit efficiency shall be tested within three months of the date of installation of the enclosed flare and once every three years thereafter.
- 4.14.2 Within twelve months of the date of grant of the licence, a proposal for the utilisation of landfill gas as an energy resource shall be submitted to the Agency for its agreement.

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

4.14.4 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment's 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

#### 4.15 Capping

4.15.1 Within three months of the date of grant of this licence, the licensee shall ensure that all previously deposited waste is covered by an intermediate cover of at least 300mm.

4.15.2 Unless otherwise agreed with the Agency final capping shall consist of the following:

- top soil (150 -300mm);
- subsoils, such that total thickness of top soil and subsoils is at least 1m;
- drainage layer of 0.5m thickness having a minimum hydraulic conductivity of  $1 \times 10^{-4}$  m/s;
- compacted mineral layer of a minimum 0.6m thickness with a permeability of less than  $1 \times 10^{-9}$  m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and
- gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.

#### 4.16 Surface Water Management

4.16.1 Within six months of the date of grant of this licence the licensee shall submit to the Agency for its agreement a surface water management programme for the control of surface water run off from the waste reception/civic waste facility and the waste transfer station.

4.16.2 The licensee shall maintain the surface water drainage network as specified on Drawing No. 97-01003.20, Revision B entitled '1:2500 Layout of Surface Water Drains' of the waste licence application.

#### 4.17 Groundwater Management

4.17.1 Within six months of the date of grant of this licence, the licensee shall provide and install (i) two permanent groundwater monitoring boreholes upgradient of the landfill and (ii) two permanent groundwater monitoring boreholes downgradient and to the south/south east of the facility. These boreholes shall be used to monitor groundwater in the over burden and also in the bedrock and the locations of these boreholes shall have the prior agreement of the Agency.

#### 4.18 Civic Waste Facility

4.18.1 Unless otherwise agreed with the Agency, the licensee shall provide and maintain a Civic Waste Facility, including recycling facilities, receptacles and storage area for white goods at the locations specified in Drawing No. 98-01001.13, Revision A, entitled 'Weighbridge and waste reception upgrade' of the EIS. All receptacles shall be clearly labelled to indicate their contents.

4.18.2 Waste oils collected for recovery shall be stored as specified in Condition 4.11.

#### 4.19 Waste Transfer station



- 4.19.1 Unless otherwise agreed with the Agency, the licensee shall provide a waste transfer station at the facility.
- 4.19.2 All waste activities associated with the handling of waste at the waste transfer station shall be carried out on impermeable hardstanding areas. In addition all wastes accepted at the waste transfer station shall be processed within an enclosed building.

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

## CONDITION 5 WASTE MANAGEMENT

### 5.1. Landfill

5.1.1. No waste shall be accepted for disposal at the landfill.

5.1.2. From the date of grant of this licence, only inert wastes shall be accepted for the purposes of remediation, rehabilitation, enhancement and restoration of the facility. The total amount of inert wastes to be recovered at the facility shall not exceed that required to achieve the Restoration and Aftercare Plan to be agreed under Condition 8.1 of this licence.

### 5.2. Waste Transfer Station

5.2.1. Only the following non-hazardous wastes shall be accepted at the waste transfer station: (a) Commercial and Household Waste (b) Construction and Demolition Waste and (c) Industrial Non-Hazardous Waste.

5.2.2. All wastes for disposal off-site shall be removed from the facility within forty-eight hours of its arrival on-site, unless otherwise agreed with the Agency.

### 5.3. Waste Acceptance Procedures

5.3.1. The licensee shall provide and maintain detailed written procedures for the acceptance of (i) inert wastes for restoration purposes at the facility (ii) acceptance of wastes at waste transfer station (iii) agreed wastes at the Civic Waste Facility and (iii) degassing of CFC's from white goods accepted at the Civic Waste Facility.

5.4. The Waste Inspection Area shall be used in the determination of the acceptability of suspect loads arriving at the facility. Any wastes deemed to be in contravention of this licence and/or unsuitable for recovery at this facility shall be removed for recovery or disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only.

5.5. Scavenging shall not be permitted at the facility.

5.6. Waste shall only be accepted at the Facility between the following hours (with the exclusion of Bank Holidays): 8.00 a.m. to 6.00 p.m. Monday to Saturday (April to October inclusive) and 8.00 a.m. to 5.00 p.m. Monday to Saturday (November to March inclusive) unless otherwise agreed with the Agency. Access to the facility by members of the public shall be restricted to the Civic Waste facility unless otherwise agreed with the Agency.

5.7. 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.

5.8. In order to prevent the formation of voids, all large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.

5.9. Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over without prior agreement from the Agency.

5.10. No smoking shall be allowed on the facility other than in the site offices referred to in Condition 4.5.

- 5.11. Waste sent off-site for recovery or disposal shall only be conveyed to a waste contractor as agreed with the Agency. The ultimate recovery or disposal facility for all wastes shall be agreed in advance with the Agency. 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.
- 5.12. Civic Waste Facility
- a) The Civic Waste Facility shall be provided and maintained in accordance with Condition 4.18.
  - b) Apart from waste oils, batteries, glass, beverage cans and white goods, no other waste shall be accepted at the Civic Waste Facility unless subject to the prior agreement of the Agency.
  - c) 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.
  - d) No hazardous waste (excluding waste oil and batteries collected for recovery), asbestos, liquid waste, sludge, animal carcasses or offal shall be deposited at the Civic Waste Facility.
  - e) All tipping of waste will be into receptacles, or in the case where inspection is required, into a designated inspection area.
  - f) All waste accepted at the Civic Waste Facility for disposal off-site shall be removed within 24 hours unless otherwise agreed in writing with the Agency.
  - g) At the end of the working day the floor of the Civic Waste Facility shall be cleaned of all waste.

**Reason:** *To provide for the acceptance and management of wastes authorised under this waste licence.*

## CONDITION 6 ENVIRONMENTAL NUISANCES

- 6.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin, birds, flies, mud, dust and odours. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 6.2. 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.
- 6.3. Litter Control
- 6.3.1. All loose litter accumulated within the facility and its environs, excluding that which is deposited on the working face, shall be removed subject to the agreement of the landowners and appropriately disposed of on a daily basis.
- 6.4. Any waste placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed by the licensee immediately and in any

event by 10:00am of the next working day, after such waste is discovered. Such waste shall be disposed of at an appropriate facility.

- 6.5. The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 6.6. Dust Control
  - 6.6.1. 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.
- 6.7. The licensee shall ensure that vermin, birds, flies, mud, dust and odours do not give rise to nuisance at the facility or the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution or contravene any national statutory protection granted in respect of protected species.
- 6.8. Notwithstanding Condition 6.7, the licensee shall not use explosive bird scaring devices for bird control at the facility.

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

## **CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS**

- 7.1. No specified emission from the facility shall exceed the emission limit values set out in Schedule F: Emission Limits of this licence. There shall be no other emissions of environmental significance.
- 7.2. 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.
- 7.3. 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.
- 7.4. There shall be no clearly audible tonal or compulsive component in the noise emissions from the activity measured at noise sensitive locations.
- 7.5. Landfill Gas
  - 7.5.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service 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.
  - 7.5.2. 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 enclosed 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.

7.5.3. Emission limits for emissions to atmosphere in this licence shall be interpreted in the following way:-

7.5.3.1. 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.

7.5.3.2. Non-Continuous Monitoring

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

7.6. Disposal of Leachate

7.6.1. Any leachate or other contaminated water removed from the facility shall be transported to a wastewater treatment plant whose name and location has been agreed in advance by the Agency. Disposal procedures for the leachate at the waste water treatment plant shall be in accordance with any written requirements of the Sanitary Authority.

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

## CONDITION 8 RESTORATION AND AFTERCARE

- 8.1. Within three months of the date of grant of this licence, the licensee shall submit to the Agency for agreement a Restoration and Aftercare Plan for the facility. The restoration plan shall, inter alia, provide for a method statement for the emplacement of the final capping/restoration layer(s), landscaping plans, seeding, tree planting, the ecological monitoring of restored cells and the restoration of the facility. The plan shall have regard to the guidance published in the Agency's Landfill Manual: "*Landfill Restoration and Aftercare*".
- 8.2. 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.

- 8.3. 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. Where tree planting is proposed to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Topsoil and subsoil depths shall be a minimum of 1m unless otherwise agreed in advance with the Agency.

**Reason:** *To provide for the restoration and aftercare of the facility.*

## **CONDITION 9 ENVIRONMENTAL MONITORING**

- 9.1. The licensee shall carry out such monitoring and at such locations and frequencies as set out in Schedule E: Monitoring and as specified in the Conditions of this licence.
- 9.2. Within three months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement, a proposal for (i) additional gas extraction and monitoring at the 'Active Area' specified on Figure A2 which was received by the Agency on 27/09/99 (ii) gas monitoring at the site buildings and perimeter of the facility. Proposals for the detection of off-site migration of landfill gas with particular regard to the possible increase in migration following the placement of the capping layer should also be submitted.
- 9.3. Within six months of date of grant of this licence, proposals for the inclusion of all appropriate private wells, subject to the agreement of well owners, within 1km of the facility, in the monitoring programme set out in Schedule E: Monitoring shall be submitted to the Agency for its agreement. Any new wells located within this radius shall also be considered on an ongoing basis.
- 9.4. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and off-site points as required by the Agency. All ditches and drains located around the perimeter of the facility are to be kept clear such that monitoring can be carried out successfully.
- 9.5. The licensee shall maintain all sampling and monitoring points, and clearly label and name (including national grid number) all sampling and monitoring locations, so that they may be used for representative sampling and monitoring.
- 9.6. 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 or discharge or environmental parameter.
- 9.7. The licensee shall amend the frequency, locations, methods and scope of monitoring, sampling, analyses and investigations only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
- 9.8. Within two months of the date of grant of this licence, the following information shall be submitted to the Agency for its agreement: the names, qualifications and a summary of relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring. Any proposed changes to the above shall be submitted in writing to the Agency for its agreement.
- 9.9. A topographical survey including the void space shall be carried out within three months of the date of grant of this licence. It shall be repeated annually thereafter. The survey shall also address slope stability and integrity and shall be in accordance with any written instructions issued by the Agency.

- 9.10. Prior to any development of an undisturbed area, the advice of Dúchas the Heritage Service shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to Dúchas and copied to the Agency.
- 9.11. Unless otherwise specified by this licence or agreed by the Agency, all environmental monitoring shall commence no later than two months after the date of grant of this licence.
- 9.12. Unless otherwise agreed in advance with the Agency, monitoring infrastructure which proves to be unsuitable for its purpose shall be replaced within three months of monitoring results indicating that the monitoring infrastructure is damaged or unsuitable.
- 9.13. All landfill gas monitoring equipment used for monitoring landfill gas under the requirements of this licence shall be certified as being intrinsically safe.
- 9.14. Within six months of the date of grant of this licence, the licensee shall submit to the Agency an updated appropriately scaled drawing(s) showing the location of all the monitoring locations that are stipulated in this licence.

**Reason:** *To ensure compliance with the requirements of other conditions of this licence by provision of a satisfactory system of measurement and monitoring of emissions.*

## CONDITION 10 CONTINGENCY ARRANGEMENTS

- 10.1. 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.
- 10.2. Unless otherwise agreed with the Agency, Contingency Arrangements for the facility shall be as detailed in Attachment K of the waste licence application.
- 10.3. 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.
- 10.4. 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.
- 10.5. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency. Immediate action shall be taken to extinguish it and the appropriate authorities notified.
- 10.6. In the event that monitoring of local wells and livestock water supplies 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 incident. The licensee shall submit to the Agency for its agreement and within a time specified in writing by the Agency, written proposals for the provision of an alternative supply of water to those affected.
- 10.7. Unless otherwise notified in writing by the Agency, in the event that any monitoring, sampling, complaints or observations indicate that an incident has, or may have, taken place, the licensee shall immediately:
  - a) identify the date, time and place of the incident;

- b) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission;
- c) isolate the source of the emission;
- d) evaluate the environmental pollution, if any, caused by the incident;
- e) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
- f) provide a proposal to the Agency for its agreement within one month to:
  - i) identify and put in place measures to avoid reoccurrence of the incident; and
  - ii) identify and put in place any other appropriate remedial action.

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



# CONDITION 11 CHARGES AND FINANCIAL PROVISIONS

## 11.1 Agency Charges

- 11.1.1 The licensee shall pay to the Agency an annual contribution of £13,930 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 2001 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 2000, the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> December 2000. This amount shall be paid to the Agency within one month of the date of grant of this licence.
- 11.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased or decreased the licensee shall contribute such sums as determined by the Agency to defraying its costs.

## 11.2 Financial Provision for Closure, Restoration and Aftercare

- 11.2.1 The licensee shall from a date to be set by the Agency establish and maintain a fund, or other form of approved security, 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 8.1. The type of fund and means of its release/recovery shall be agreed by the Agency prior to its establishment.
- 11.2.2 The fund shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.
- 11.2.3 The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund 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.
- 11.2.4 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.

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

# SCHEDULE A : Content of the Environmental Management Programme

## Environmental Management Programme

Items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency, or otherwise as agreed with the Agency

Timescale for achieving the objectives and targets listed in the Schedule of Objectives and Targets

Designation of Responsibility for Achieving Targets and Objectives

Other items specified by the Agency

# SCHEDULE B :Content of the Annual Environmental Report

## Annual Environmental Report Content <sup>NOTE 1</sup>

Reporting Period.

Waste activities carried out at the facility.

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

Summary report on emissions.

Summary of results and interpretations of environmental monitoring, including plans and any updates of all monitoring locations including 12 digit grid references.

Resource and energy consumption summary.

Proposed development of the facility and timescale of such development.

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 of completed cells/ phases.

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.

Monthly water balance calculation and interpretation.

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

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.

Any other items specified by the Agency.

**NOTE 1 Content to be revised subject to the agreement of the Agency after cessation of waste acceptance at the facility.**

# SCHEDULE C :Recording and Reporting to the Agency

Table C.1 Recurring Reports

Report	Reporting Frequency <sup>Note1</sup>	Report Submission Date
<b>Environmental Management System Updates</b>	Annually	One month after the end of the year reported on.
<b>Annual Environment Report (AER)</b>	Annually	Thirteen months from the date of grant of licence and one month after the end of each year thereafter.
<b>Record of incidents</b>	As they occur	Within five days of the incident.
<b>Bund, tank and container integrity assessment</b>	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.
<b>Specified Engineering Works reports</b>	As they arise	Two weeks prior to the works commencing.
<b>Monitoring of landfill gas</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Surface Water Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Groundwater Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Leachate</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Meteorological Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Dust Monitoring</b>	Three times a year	Ten days after the period being reported on
<b>Noise Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Any other monitoring</b>	As they occur	Within ten days of obtaining results.

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

# SCHEDULE D :Specified Engineering Works

## Specified Engineering Works

Construction of waste transfer station and associated works

Landfill cap installation, including temporary and intermediate capping, installation and all other containment works (including any containment works relating to leachate control).

Fencing and site security works.

Bunding of fuel and oil storage areas.

Installation of Civic Waste Facility infrastructure

Landfill gas management works, including the installation of an enclosed flare unit.

Leachate management works.

Groundwater management works.

Surface water management works.

Environmental monitoring infrastructure.

Installation of alternative drinking water supplies.

Restoration and Aftercare Works.

Nuisance control measures

Any other works notified in writing by the Agency.

# SCHEDULE E : Monitoring

Monitoring to be carried out as specified below.

## E.1 Landfill Gas

Landfill gas monitoring shall be carried out at gas monitoring locations Gas 1, Gas 2, Gas 3, Gas 4, Gas 5, Gas 6 and Gas 7 as specified in Drawing No. 97-01003.06 Revision B entitled '1:5000 Location Map of Environmental Monitoring Points' of the waste licence application. In addition, gas monitoring shall also be carried out at locations agreed with the Agency under Condition 9.2.

Table E.1.1 Landfill Gas Monitoring Frequency and Technique

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

**Note1: All monitoring equipment used should be intrinsically safe.**

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

## E.2 Dust

Dust monitoring shall be carried out at dust monitoring locations ST1, ST2, ST3 and ST4 as specified in Drawing No. 97-01003.06 Revision B entitled '1:5000 Location Map of Environmental Monitoring Points' of the waste licence application. Dust monitoring shall be carried out at an additional location along the boundary of the facility adjacent to the River Gaurus and this location shall have the prior agreement of the Agency.

Table E.2.1 Dust Monitoring Frequency and Technique

Parameter (mg/m <sup>2</sup> /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year <sup>Note 2</sup>	Standard Method <sup>Note 1</sup>

**Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute).**

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

## E.3 Noise

Noise monitoring shall be carried out at noise monitoring locations N1, N2, N3, N4, S1, S2, 'Property 7' and 'Property 9' as specified in Drawing No. 98-01001.06 Revision A entitled '1:5000 Location Map of Environmental Monitoring Points' of the Environmental Impact Statement.

Table E.3.1 Noise Monitoring Frequency and Technique

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

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

## **E.4 Surface Water, Groundwater and Leachate**

### *Surface Water Monitoring Locations*

Surface water monitoring shall be carried out at locations SW1, SW2, SW3, SW4, SW5, SW6, SW7 and SW8 as specified in Drawing No. 97-01003.06 Revision B entitled '1:5000 Location Map of Environmental Monitoring Points' of the waste licence application. In addition, surface water monitoring shall be carried out at one location immediately downstream of the Gaurus/Fergus confluence and at four additional locations along the boundary of the facility which have the prior agreement of the Agency.

### *Biological Monitoring Locations*

Biological monitoring shall be undertaken at locations WQ1, WQ2, WQ3 (immediately downstream of discharge of back drain to Gaurus River), WQ4 and WQ5 as specified in Drawing No. 97-01003.06 Revision B entitled '1:5000 Location Map of Environmental Monitoring Points' of the waste licence application. In addition, biological monitoring shall be carried out at one location immediately downstream of the Gaurus/Fergus confluence and agreed with the Agency.

### *Groundwater Monitoring Locations*

Groundwater monitoring shall be carried out at the groundwater monitoring locations OB.1, OB.2, OB.3, OB.4, OB.5, OB.6, BR.1, BR.2, BR.3, BR.5, BR.6, 'Council Well', 'Bunnow South Well' as specified in Drawing No. 97-01003.06 Revision B entitled '1:5000 Location Map of Environmental Monitoring Points' of the waste licence application and at the additional locations agreed with the Agency under Condition 4.17.1.

### *Leachate Monitoring Locations*

Leachate shall be monitored at the monitoring locations agreed under Condition 4.13.1.

Table E.4.4 Water and Leachate - Parameters /Frequency

Parameter <sup>Note 1</sup>	SURFACE WATER	GROUNDWATER	LEACHATE
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour <sup>Note 2</sup>	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
River Flow/Level	Note 7	Not Applicable	Not Applicable
Ammoniacal Nitrogen	Quarterly	Monthly	Quarterly
BOD	Quarterly	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Monthly	Quarterly
pH	Quarterly	Monthly	Quarterly
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Monthly	Quarterly
Boron	Not Applicable	Annually	Annually
Cadmium	Annually	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
Iron	Annually	Annually	Quarterly
Lead	Annually	Annually	Annually
List I/II organic substances <sup>Note 3</sup>	Note 6	Annually	Note 6
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Potassium	Annually	Quarterly	Quarterly
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Quarterly
Total Alkalinity	Annually	Annually	Not Applicable
Total Phosphorus / orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Annually	Annually	Annually
Phenols	Note 6	Quarterly	Note 6
Faecal Coliforms <sup>Note 4</sup>	Not Applicable	Annually	Annually
Total Coliforms <sup>Note 4</sup>	Not Applicable	Annually	Annually
Biological Assessment	Bi-annual <sup>Note 5</sup>	Not Applicable	Not Applicable

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures. The testing laboratory and the testing procedures shall be agreed with the Agency in advance.

- 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: 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 to be used for the assessment of rivers and streams for species abundance and diversity). This assessment should be carried out preferably during the months of May and September.
- Note 6: Once off for List I/II organic substances and thereafter as required by the Agency.
- Note 7: Locations to be agreed with the Agency.

### E.6 Enclosed Landfill Gas Flare Unit

Monitoring to be obtained at locations to be agreed with the Agency.

Parameter	Monitoring Frequency	Analysis Method <sup>Note1</sup> /Technique <sup>Note2</sup>
<b>Inlet</b>		
Methane (CH <sub>4</sub> ) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO <sub>2</sub> )%v/v	Weekly	Infrared analyser/ flame ionisation detector
Oxygen (O <sub>2</sub> ) %v/v	Weekly	Infrared analyser
<b>Outlet</b>		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO <sub>2</sub>	Biannually	Flue gas analyser
NO <sub>x</sub>	Biannually	Flue gas analyser
CO	Biannually	Flue gas analyser
Particulates	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Annually	Adsorption/Desorption / GC /GCMS <sup>Note 3</sup>
Hydrochloric acid	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Impinger / Ion Chromatography

Note1: All monitoring equipment used should be intrinsically safe.

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

Note 3: Test methods should be capable of detecting acetonitrile, dichloromethane, tetrachlorethylene and vinyl chloride as a minimum.

## SCHEDULE F :Emission Limits

### F.1 Noise Emissions: (Measured at noise sensitive locations)

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

### F.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



**F.3 Dust Deposition Limits:** (Measured at the monitoring points indicated in Table E.2.1).

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

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

**F.4 Emission Limits Values for Enclosed Landfill Gas Flare Unit**

Emission Point Reference nos: (to be agreed with the Agency)

Location: Landfill Gas flarestack

Volume to be emitted: To be agreed with Agency

Minimum discharge height: To be agreed with Agency

Parameter	Emission Limit Value
Nitrogen oxides as (NO <sub>2</sub> )	150 mg/m <sup>3</sup>
CO	50 mg/m <sup>3</sup>
Particulates	130 mg/m <sup>3</sup>
TA Luft Organics Class I <sup>Note 1</sup>	20 mg/m <sup>3</sup> (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II <sup>Note 1</sup>	100 mg/m <sup>3</sup> (at mass flows > 2 kg/hr)
TA Luft Organics Class III <sup>Note 1</sup>	150 mg/m <sup>3</sup> (at mass flows > 3kg/hr)
Hydrogen Chloride	50 mg/m <sup>3</sup> (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m <sup>3</sup> (at mass flows > 0.05 kg/h)

Note 1: 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.

## SCHEDULE G : Waste Acceptance

### G.1 Waste Acceptance

**Table G.1 Waste Categories and Quantities**

WASTE TYPE	MAXIMUM TONNES PER ANNUM
Waste to be accepted at the waste transfer station	60,000
Inert materials to be used for the purposes specified in Condition 5.1	To be agreed with the Agency

## **Part III: 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*

<b>Class 1.</b>	<b>Deposit on, in or under land (including landfill)</b>  Reason: The proposed activity would not comply with the requirements of Section 40(4) of the Waste Management Act 1996.
<b>Class 2.</b>	<b>Land treatment, including biodegradation of liquid or sludge discards in soils:</b>  Reason: The proposed activity would not comply with the requirements of Section 40(4) of the Waste Management Act 1996.
<b>Class 11.</b>	<b>Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.</b>  Reason: The proposed activity would not comply with the requirements of Section 40(4) of the Waste Management Act 1996.

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

<b>Class 2.</b>	<b>Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):</b>  Reason: The proposed composting of wastes is not appropriate for the facility and no specific proposals were included as part of the application.
<b>Class 12.</b>	<b>Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule:</b>  Reason: The proposed activity is not appropriate for the facility.

**Signed on behalf of the said Agency** \_\_\_\_\_

on the 25th day of **September, 2000** **Breda Sheehan** **Authorised Person**