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County Wexford, Ireland

## WASTE LICENCE PROPOSED DECISION

<b>Waste Licence</b>	89-1
<b>Register Number:</b>	
<b>Applicant:</b>	Cork County Council
<b>Location of Facility:</b>	Derryconnell Landfill, Derryconnell, Schull, Co. Cork.

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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 Cork Country Council, County Hall, Cork to carry on the waste activities listed below at Derryconnell Landfill, Derryconnell, Skull, Co. Cork 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 1:** Deposit on, in or under land (including landfill).

*This activity is limited to normal landfilling operations up to a maximum of 14,000 tonnes per annum*

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

*This activity is limited to the storage of leachate and contaminated water pending its disposal at another appropriate facility*

**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 landfilling operations in lined cells up to a maximum of 14,000 tonnes per annum*

**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 temporary storage of waste which is unsuitable for deposit at this facility and which has been duly notified to the Agency*

# 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 F.
<b>Environmental Pollution</b>	As defined in Section 5 (1) of the Act.
<b>Facility</b>	That area or areas defined under Condition 1.2
<b>Facility Working Day</b>	9.00 a.m. to 5.00 p.m. Monday to Friday, 9.00 a.m. to 1.00 p.m. Saturday

<b>Hazardous Waste</b>	As defined in Section 4 (2) of the Act.
<b>Household Waste</b>	As defined in Section 5 (1) of the Act.
<b>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>Licence</b>	A Waste Licence issued in accordance with the Act.
<b>Licensee</b>	Cork County Council, County Hall, Cork.
<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>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.

## **Emissions**

<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>	9.00 a.m. to 5.30 p.m. Monday to Friday.
<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 1: Activities Licensed and required by the licence.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on Drawing No. B2/2a Revision A, entitled "Site Plan" (dated February 1999), of the application. 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) a named contact person for communications with the Sanitary Authority
- c) details of the responsibilities for each individual named under a) above;
- d) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
- e) contingency arrangements for the absences of the named persons from the facility.

## 2.7 Communications

2.7.1 Within twelve 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 results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
- c) any emission which does not comply with the requirements of this licence;

- d) any trigger level specified in this licence which is attained or exceeded;
  - e) any indication that environmental pollution has, or may have, taken place;
  - f) any occurrence with the potential for environmental pollution; and,
  - g) any emergency.
- 3.2 The written record shall include all aspects described in Condition 10.6(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 the South Western 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 waste disposed of at the facility.
- 3.12 A written record shall be kept of each consignment of leachate removed from the facility. The record shall include the following:
- a) the name of the carrier;
  - b) the date and time of removal of leachate from the facility;
  - c) the volume of leachate, in cubic metres, removed from the facility on each occasion;
  - d) the name and address of the Waste Water Treatment Plant to which the leachate was transported;
  - e) any incidents or spillages of leachate during its removal or transportation.
- 3.13 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.

**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 Within three months of the date of grant of this licence, 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 Within three months of the date of grant of this licence, fencing shall be installed and maintained as described in Attachment D.1.a of the application and as shown in Drawing No. D1/1 Revision B, entitled "Site Infrastructure".
- 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. Adequate provision for access to the facility in the event of an emergency shall be made
- 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
- 4.4.2 Within three months of the date of grant of this licence a paved surface shall be provided on the access and haul roads.
- 4.4.3 Within six months of the date of grant of this licence a hard-standing area shall be provided adjacent to the offices and Civic Waste Facility in accordance with Attachment D.1.c of the application.
- 4.5 The licensee shall provide and maintain an office on the facility, at the location labelled "Admin" shown in Drawing No. D1/1 Revision B, entitled "Site Infrastructure". The office

shall be constructed and 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 Within six months of the date of grant of this licence a Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the location shown in Drawing No. D1/1 Revision B entitled "Site Infrastructure" and in accordance with the details provided in D.1 Truck Inspection Area, of the Article 16 response (received 27 August 99).

4.7.2 The licensee shall ensure that 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 suitably and clearly segregated from each other.

4.7.3 Within three months of the date of grant of this licence the licensee shall provide and maintain a weighbridge at the facility. Unless otherwise agreed with the Agency the location of the weighbridge shall be as shown on Drawing No. D1/1 Revision B, entitled "Site Infrastructure".

4.8 Wheelwash

4.8.1 Within three months of the date of grant of this licence, the licensee shall establish and maintain a wheelwash/dry wheel shake out at the facility in accordance with the details provided in D.1, Article 16 response (received 27 August 1999). Unless otherwise agreed with the Agency the location of the wheelwash shall be as shown on Drawing No. D1/1 Revision B, entitled "Site Infrastructure".

4.8.2 The licensee shall recirculate all washings from the vehicle cleaning operation within three months of the date of grant of this licence. The system shall be desludged as necessary and properly maintained at all times. Until this date the washings shall be diverted to a dedicated tanker prior to removal off-site.

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

4.10 The licensee shall provide and maintain a septic tank at the facility for sewage arising on-site. Unless otherwise agreed with the Agency the location of the septic tank shall be as shown on Drawing No. B2/2a Revision A, entitled "Site Plan" (dated February 1999). Any percolation area shall satisfy the criteria set out in SR6 Septic Tank Systems (NSAI 1991).

4.11 Fuel Storage

4.11.1 Within six months of the date of grant of the licence, the licensee shall provide and maintain a bunded fuel storage area at the facility. Unless otherwise agreed with the Agency the location of the fuel storage area shall be as shown on Drawing No. D1/1 Revision B, entitled "Site Infrastructure". Fuels shall only be stored at the agreed location.

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 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.

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 Landfill Lining

4.13.1 The landfill liner for all new cells shall be as detailed in Attachment D.3 of the application subject to the requirement that the 1m of clay shall be reworked on the facility to ensure that it is homogenous and that it achieves a permeability of  $1 \leq 10^{-9}$  m/s.

4.13.2 Formation levels of the cells shall be as shown on Drawing No. D2/1 Revision A entitled "1:500 Layout plan showing cell base levels and cross falls" (dated February 1999)

#### 4.14 Leachate Management

4.14.1 Unless otherwise agreed by the Agency or required by conditions 4.14.2 and 4.14.3, leachate management at the existing landfill and proposed cells shall be carried out as described in Attachment D.4 of the application and D.4 Article 16 (received 27 August 1999) and as specified in Drawing No. D4/1 Revision A, entitled "1:1000 Location plan showing proposed leachate collection & management arrangements" (dated February 1999) within six months of the date of grant of the licence.

4.14.2 Leachate from all leachate collection sumps shall be pumped to the leachate lagoon.

#### 4.14.3 Existing landfill

- (i) Within six months of the date of grant of this licence, the licensee shall install, as a minimum four leachate collection sumps at the locations shown on Drawing No. D4/1 Revision A, entitled "1:1000 Location plan showing proposed leachate collection & management arrangements" and an additional leachate sump at a location to be agreed with the Agency.

#### 4.14.4 Proposed cells

- (i) Leachate levels in the waste shall not exceed a level of 1.0m over the top of the liner in proposed cells 1, 2 and 3. The level of leachate in the pump sumps shall be continuously monitored.
- (ii) Recirculation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and shall only be undertaken within cells which have been lined to the satisfaction of the Agency.

#### 4.14.5 Leachate Lagoon

- (i) The frequency of removal from the lagoon by tanker shall be such that a minimum freeboard of 0.5m shall be maintained in the leachate lagoon at all times.
- (ii) Within nine months of the date of grant of this licence, the licensee shall assess the integrity of the lining of the leachate storage lagoon.
- (iii) All tanks, except the lagoon, for the storage and/or treatment of untreated leachate shall be fully enclosed except for inlet and outlet piping.
- (iv) Unless otherwise agreed with the Agency, leachate stored in the leachate storage lagoon shall be disposed of by tankering off-site in fully enclosed road tankers and discharging to Ballydehob waste water treatment works, or another wastewater treatment works to be agreed in advance with the Agency.
- (v) Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement Operational Procedures for leachate Management which include (1) procedures for the handling of leachate during removal and subsequent transport/discharge to Ballydehob, or another wastewater treatment works to be agreed in advance with the Agency and (2) monitoring infrastructure details and

procedures for monitoring the level of leachate in the pump sumps, the cells and the lagoon

- 4.14.6 All leachate management structures on-site shall be inspected and certified fit for purpose on an annual basis by an independent and appropriately qualified chartered engineer. Any remedial works recommended in this report must be implemented within a time-scale to be agreed with the Agency.

#### 4.15 Landfill Gas Management:

- 4.15.1 Within nine months of the date of grant of this licence an active landfill gas extraction system shall be installed in the existing landfill. The system shall be extended to the proposed cells when a sufficient quantity of waste is present in each.
- 4.15.2 Within six months from the date of grant of this licence, a feasibility proposal shall be submitted to the Agency for its agreement for the utilisation of landfill gas.
- 4.15.3 The licensee shall maintain all gas wells, pipework, valves, pumps, flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.
- 4.15.4 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environments 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

#### 4.16 Capping

- 4.16.1 Within three months of the date of grant of this licence, the licensee shall submit a report on those areas of the landfill that have previously been restored. This report shall include details on (i) the areas that have been restored, (ii) the type of capping installed, (iii) the state of the restored areas and (iv) recommendations. Any recommendations arising from this report and a timetable for implementation shall be agreed with the Agency and implemented.
- 4.16.2 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.
- 4.16.3 Filled cells shall be permanently capped to the specifications agreed with the Agency in accordance with Condition 4.16.2 within twelve months of the cells having been filled to the required level.
- 4.16.4 The licensee shall submit to the Agency for its agreement, at least three months prior to commencement of capping works, details of surface water control relating to run-off water arising from cap and restoration areas.



#### 4.17 Surface Water Management

- 4.17.1 Unless otherwise agreed with the Agency, surface water management at the facility shall be carried out as shown in Drawing No. D1/2 Revision B, entitled "sewage and surface water drainage infrastructure" (dated 27 August 1999) within six months of the date of grant of the licence.
- 4.17.2 The licensee shall install an appropriately sized silt trap prior to the surface water monitoring sump shown in Drawing No. D1/2 Revision B, entitled "Sewage and surface water drainage infrastructure" (dated 27 August 1999).
- 4.17.3 All surface water collected shall pass through the silt trap before entering the monitoring sump. In the event that monitoring should indicate contaminated surface water, it shall be directed to the leachate storage lagoon.
- 4.17.4 Within six months of the date of grant of this licence the licensee shall submit to the Agency for its agreement an ongoing management programme for the control of surface water run off from the facility during construction, operation and restoration.
- 4.17.5 The licensee shall ensure effective control of surface water run-off from the facility during construction, operation and restoration. Surface water accumulating in lined cells will cease to be directed to nearby streams/drains as soon as waste deposition commences in the cell.

#### 4.18 Groundwater Management

- 4.18.1 Within six months of the date of grant of this licence, the licensee shall install two additional ground water monitoring boreholes at a location to be agreed with the Agency.

#### 4.19 Civic Waste Facility

- 4.19.1 The licensee shall provide and maintain a receptacle for public tipping at the Civic Amenity area shown in Drawing No. B2/2a Revision A entitled "Site Plan" (dated February 1999).

#### 4.20 Facility Boundary /Perimeter Planting

- 4.20.1 The licensee shall install perimeter planting, including mature trees, to provide for effective screening of the facility within six months of the date of grant of this licence.

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

## CONDITION 5 WASTE MANAGEMENT

- 5.1. No liquid wastes, hazardous wastes, sludges, white goods, or cars shall be disposed of at the facility.
- 5.2. Only those waste types and quantities listed in Schedule G: Waste Acceptance shall be disposed of at the facility unless the prior agreement of the Agency has been obtained.
- 5.3. Waste Acceptance Procedures
  - 5.3.1. Unless otherwise agreed with the Agency, Waste Acceptance Procedures shall be carried out in accordance with Attachment E.2 of the application and as

shown in figure E.2/1 Revision A, "Waste acceptance procedure" (dated February 1999).

- 5.4. As a minimum all wastes shall be checked at the working face to ensure that they comply with the requirements of the licence. When installed, the waste inspection area shall be used in the determination of the acceptability of suspect loads. Any wastes deemed to be in contravention of this licence and/or unsuitable for disposal 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. A suitable hardstanding area shall be provided, within nine months of the date of grant of this licence, for the storage of all white goods and metal cars at the facility. All white goods and metal cars shall be removed from the facility at least on an annual basis.
- 5.6. The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 14,000 tonnes per annum, unless otherwise agreed in advance with the Agency.
- 5.7. Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.8. Scavenging shall not be permitted at the facility.
- 5.9. Waste shall only be accepted at the facility between the hours of 9.00am to 5.00pm Monday to Friday inclusive and 9.00am to 1.00pm on Saturdays with the exclusion of Bank Holidays unless otherwise agreed in advance with the Agency.
- 5.10. 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;
  - 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 have a slope no greater than 1 in 3; and,
  - c) all waste deposited at the working face shall be compacted as soon as is practicable and at any rate prior to the end of the working day.
- 5.11. The working face of the operational cell shall, at the end of each day, be covered with material suitable to minimise any nuisances occurring.
- 5.12. 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. Within three months of the date of grant of this licence, cover material shall be placed across the whole landfill so that no waste other than cover material or material suitable for specified engineering works is exposed.
- 5.13. The landfill shall be filled in accordance with the phasing sequence outlined in Drawing No. A1/4 Revision A, entitled "1:1000 Location plan showing future phasing of cells" (dated February 1999). The Agency shall be informed in writing at least one month prior to the licensee entering into a new phase.
- 5.14. A steel wheeled compactor or other such vehicle as agreed with the Agency shall be used for compacting all waste other than that used for restoration or construction purposes.
- 5.15. 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.

- 5.16. Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of the leachate collection system or with prior agreement from the Agency.
- 5.17. No smoking shall be allowed on the facility other than in the admin building as shown on Drawing No. B2/2a Revision A, entitled "Site Plan" (dated February 1999) after the continuous gas monitor has been installed.
- 5.18. Waste sent off-site for disposal shall only be conveyed to a waste contractor, agreed by the Agency. The ultimate disposal facility for all wastes shall be agreed in advance with the Agency. All wastes removed off-site for disposal shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.
- 5.19. Within six months of the date of grant of this licence, a report examining recovery provisions at the facility, be submitted to the Agency for agreement. Unless otherwise agreed with the Agency, this report shall address provisions for the following:
  - 5.19.1. the separation of recyclable materials from the waste;
  - 5.19.2. the recovery of metal waste and white goods including written procedures for the de-gassing of CFC's from refrigerators;
  - 5.19.3. the recovery of commercial waste, including cardboard;
  - 5.19.4. inert waste to be used for cover/restoration material at the facility;
- 5.20. Civic Waste Facility
  - a) Only household waste shall be accepted at the Civic Waste Facility. 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/recovery contractors or local authority waste collection vehicles.
  - b) The facility shall be supervised during opening hours.
  - c) All tipping of waste will be into a receptacle/skip for disposal, or in the case where inspection is required, into a designated inspection area.

**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. The measures and infrastructure as described in Attachment F.5 of the application shall be applied to control litter at the facility.
  - 6.3.2. Notwithstanding Condition 6.3.1 litter netting shall be installed and maintained around the perimeter of the active tipping area. The netting installed shall

meet the guidance given in the Agency's Manual on "Landfill Operational Practices". The netting shall be kept tidy and litter trapped in the netting shall be removed as soon as practicable.

6.3.3. All litter control infrastructure shall be inspected on a daily basis and 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 or as otherwise agreed with the Agency.

6.3.4. 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.

6.6.2. The Dust Control Measures outlined in Attachment F.3 of the application shall be implemented at the facility.

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. Within six months from the date of grant of this licence the licensee shall submit to the Agency for its agreement, an assessment of the effectiveness of the bird control measures at the facility. This assessment shall include, where required:

- a) proposals for additional bird control measures;
- b) method for assessing the effectiveness of such additional measures; and
- c) timescales for the implementation of such measures.

6.9. Prior to exiting the facility, all waste vehicles shall use the wheelwash.

6.10. Within three months of the date of grant of this licence, the licensee shall initiate a programme for the control and eradication of vermin and fly infestations at the facility. Written records shall be kept of this programme, which shall include as a minimum, details on the rodenticide(s) and insecticide(s) to be used, operator training, mode and frequency of application and measures to contain sprays within the facility boundary.

**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. Landfill Gas
- 7.4.1. 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.
- 7.4.2. 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) Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
- 7.4.3. Emission limits for emissions to atmosphere in this licence shall be interpreted in the following way:-
- 7.4.3.1. 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.
- 7.4.3.2. 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.

7.5. Emissions to Surface Water

7.5.1. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.

7.6. Disposal of Leachate

7.6.1. All Leachate and other contaminated water tankered from the facility shall be transported to Ballydehob, or another wastewater treatment plant to be agreed with the Agency, and disposed of there. Disposal procedures for the leachate at the wastewater treatment plant shall be in accordance with any written requirements of the Sanitary Authority.

7.6.2. Leachate shall not be discharged to the Ahboy River.

7.6.3. Leachate or leachate contaminated surface water shall not be allowed to accumulate in areas other than the leachate lagoon and management system.

7.6.4. The integrity of tanker(s) used for the transport of leachate offsite shall be tested on an annual basis and the records of this testing shall be maintained at the site office.

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

## CONDITION 8 RESTORATION AND AFTERCARE

8.1. Unless otherwise agreed in advance Final Restoration and Aftercare Plans for the facility shall be in accordance with Attachment G of the application and have regard to the requirements of the Landfill Directive (1999/31/EC) and the guidance published in the Agency's Landfill Manual : "*Landfill Restoration and Aftercare*".

8.2. The final profile of the facility shall be as shown in Drawing No. G 1/1 Revision A, entitled "Landfill site cross sections including layout plan showing positions of sections" (dated February 1999).

8.3. Within six months of the date of grant of this licence, the licensee shall submit proposals for landfilling and restoration to achieve the final contours defined in Condition 8.2 to the Agency for its agreement. This proposal shall include a schedule detailing the various stages of restoration and landscaping, a timeframe for carrying out such works and the intended after-use of the facility.

8.4. 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.

8.5. 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.

8.6. The restoration of the existing landfill facility shall be completed within twelve months of the date of grant of this licence, unless otherwise agreed with the Agency. The

restoration of Proposed Cells 1, 2 and 3 shall be completed within twelve months of reaching the final profile agreed under Condition 8.2.

**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 six months of the date of grant of this licence, the licensee shall install gas monitoring locations L5, L6 and L7 at the facility. L6 and L7 shall be at the locations shown in Drawing No. J1/1 Revision C, entitled "1:1000 Layout plan showing environmental monitoring locations" (received 27 August 1999). The location of gas monitoring point L5 shall be agreed in advance with the Agency.
- 9.3. Within three months from the date of grant of this licence, the licensee shall install a continuous gas monitoring system in the site office and any other enclosed structures at the facility.
- 9.4. Within nine months of the date of grant of this licence, the licensee shall install a system for the continuous monitoring of leachate levels in the leachate lagoon. A similar system shall be installed during the development of all new lined cells. Details of the system to be installed shall be submitted to the Agency for agreement within six months of the date of grant of this licence.
- 9.5. Within nine months of the date of grant of this licence, the applicant shall install a system for the continuous monitoring of surface water in the monitoring sump. This system shall monitor, as a minimum, flow, conductivity, pH and TOC.
- 9.6. 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.
- 9.7. 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.
- 9.8. 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.
- 9.9. 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.
- 9.10. Unless otherwise agreed with the Agency, a written record shall be kept of the names, qualifications and a summary of relevant experience 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.

- 9.11. 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 be in accordance with any written instructions issued by the Agency.
- 9.12. 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.
- 9.13. 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.
- 9.14. 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.
- 9.15. All on-site monitoring points as described in Condition 9.1 shall be tagged in site with their agreed sampling point codes within ten months of the granting of 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 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. 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 recurrence of the incident;  
and
  - ii) identify and put in place any other appropriate remedial action.

10.7. The licensee shall carry out a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities and shall, within six months from the date of grant of this licence submit a report, including recommendations on the risk assessment to the Agency for its agreement. The Fire Authority of Cork County Council shall be consulted by the licensee during this assessment.

**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 £10,535 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, disposed of and recovered during the reporting period and each previous year.

Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.

Methods of deposition of waste.

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
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
Noise Monitoring	Annually	One month after end of the year being reported on.
Topographical Survey	Annually	Within three months of the date of grant of the licence and one month after the end of each year thereafter.
Any other monitoring	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

Development of Phases and future Cells of the facility including preparatory works and lining.

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 Amenity Area

Installation of Waste Inspection and Waste Quarantine Areas

Installation of Weighbridge

Installation of Wheelwash

Installation of a hardstanding area for the storage of white goods and metal cars

Installation of landfill gas management and monitoring systems.

Installation of leachate management, detection, storage, treatment, monitoring and control systems.

Installation of alternative drinking water supplies.

Installation of groundwater control and/or monitoring systems.

Surface water management works.

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 locations shall be those as set out in Table E.1.1 and as shown on Drawing No.J1/1 Revision C, entitled "1:1000 Layout plan showing environmental monitoring locations" (received 27 August 1999) of the application.

Table E.1.1 Perimeter Monitoring Locations

STATION	
L1	L6
L2	L7
L3	Landfill gas flare
L4	Site Office
L5 <sup>Note1</sup>	

Note 1: Location to be agreed with the Agency

Table E.1.2 Landfill Gas Monitoring Frequency and Technique

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

Monitoring of the landfill gas flare shall be carried out as set out in Table E.2.1. Monitoring points shall be agreed with the Agency prior to the operation of the plant.

Table E.2.1 Landfill Gas Flare

Parameter	Monitoring Frequency	Analysis Method <sup>Note1</sup> /Technique <sup>Note2</sup>
Inlet		
Methane (CH <sub>4</sub> ) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO <sub>2</sub> )%v/v	Weekly	Infrared analyser
Oxygen (O <sub>2</sub> ) %v/v	Weekly	Infrared analyser
Outlet		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO <sub>2</sub>	Biannually	Flue gas analyser
NO <sub>x</sub>	Biannually	Flue gas analyser
CO	Continuous	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

Note 1: 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.

## E.3 Dust

Dust monitoring locations shall be those as set out in Table E.3.1 and on Drawing No. J1/1 Revision C, entitled "1:1000 Layout plan showing environmental monitoring locations" (received 27 August 1999) of the application.

Table E.3.1 Dust Monitoring Locations

STATION
D1
D3
D6
D8

Table E.3.2 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). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

Note 2: Twice during the period May to September, or as otherwise specified in writing by the Agency. With the agreement of the Agency monitoring can cease once landfill restoration is complete.

#### E.4 Noise

Noise monitoring locations shall be those as set out in Table E.4.1 and on Drawing No. J1/1 Revision C, entitled "1:1000 Layout plan showing environmental monitoring locations" (received 27 August 1999) of the application.

Table E.4.1 Noise Monitoring Locations

STATION		
N1	N4	N7
N2	N5	N8
N3	N6	NSL1 <sup>Note1</sup>

Note 1: NSL1 shall be located at the occupied premises shown on Drawing No. C5/1 Revision A "1:2500 layout plan showing locations of neighbouring occupied premises" (dated February 1999)

Table E.4.2 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.5 Surface Water, Groundwater and Leachate

Surface water monitoring locations shall be those as set out in Table E.5.1 and on Drawing No.J1/1 Revision C, entitled "1:1000 Layout plan showing environmental monitoring locations" (received 27 August 1999) of the application and of the parameters and frequencies outlined in Table E.5.4.

Table E.5.1 Surface Water Monitoring Locations

STATION	
SW1	SW5
SW2	SW6
SW3	SW7
SW4	

Groundwater monitoring locations shall be those as set out in Table E.5.2 and as shown on Drawing No.J1/1 Revision C, entitled "1:1000 Layout plan showing environmental monitoring locations" (dated 27 August 1999) of the application and of the parameters and frequencies outlined in Table E.5.4.

Table E.5.2 Groundwater Monitoring Locations

STATION
GW1
GW2
GW3
GW4 <sup>Note1</sup>
GW5 <sup>Note1</sup>

Note 1: Location to be agreed with the Agency

Leachate monitoring locations shall be those as set out in Table E.5.3 and as shown on Drawing No.J1/1 Revision C, entitled "1:1000 Layout plan showing environmental monitoring locations" (received 27 August 1999) of the application and of the parameters and frequencies outlined in Table E.5.4.

Table E.5.3 Leachate Monitoring Locations

LEACHATE INSPECTION MANHOLES	
L1	L5
L2	L6
L3	L7
L4	Leachate lagoon



Table E.5.4 Water and Leachate - Parameters /Frequency

<b>Parameter</b> <sup>Note 1</sup>	<b>SURFACE WATER</b>	<b>GROUNDWATER</b>	<b>LEACHATE</b>
	<b>Monitoring Frequency</b>	<b>Monitoring Frequency</b>	<b>Monitoring Frequency</b>
<b>Visual Inspection/Odour</b> <sup>Note 2</sup>	Weekly	Quarterly	Quarterly
<b>Groundwater Level</b>	Not Applicable	Monthly	Not Applicable
<b>Leachate Level</b>	Not Applicable	Not Applicable	Weekly
<b>Ammoniacal Nitrogen</b>	Quarterly	Quarterly	Monthly <sup>Note6</sup>
<b>BOD</b>	Quarterly	Not Applicable	Monthly <sup>Note6</sup>
<b>COD</b>	Quarterly	Not Applicable	Monthly <sup>Note6</sup>
<b>Chloride</b>	Quarterly	Quarterly	Quarterly
<b>Dissolved Oxygen</b>	Quarterly	Quarterly	Not Applicable
<b>Electrical Conductivity</b>	Quarterly	Quarterly	Quarterly
<b>pH</b>	Quarterly	Quarterly	Monthly <sup>Note6</sup>
<b>Total Suspended Solids</b>	Quarterly	Not Applicable	Not Applicable
<b>Temperature</b>	Quarterly	Monthly	Quarterly
<b>Boron</b>	Not Applicable	Annually	Annually
<b>Cadmium</b>	Annually	Annually	Annually
<b>Calcium</b>	Annually	Annually	Annually
<b>Chromium (Total)</b>	Annually	Annually	Annually
<b>Copper</b>	Annually	Annually	Annually
<b>Cyanide (Total)</b>	Not Applicable	Annually	Annually
<b>Fluoride</b>	Not Applicable	Annually	Annually
<b>Iron</b>	Annually	Quarterly	Annually
<b>Lead</b>	Annually	Annually	Annually
<b>List I/II organic substances</b> <sup>Note 3</sup>	Note 5	Annually	Note 7
<b>Magnesium</b>	Annually	Annually	Annually
<b>Manganese</b>	Annually	Annually	Annually
<b>Mercury</b>	Annually	Annually	Annually
<b>Potassium</b>	Annually	Quarterly	Annually
<b>Sulphate</b>	Annually	Annually	Annually
<b>Sodium</b>	Annually	Quarterly	Annually
<b>Total Alkalinity</b>	Annually	Annually	Annually
<b>Total Phosphorus / orthophosphate</b>	Annually	Annually	Annually
<b>Total Oxidised Nitrogen</b>	Annually	Quarterly	Quarterly
<b>Total Organic Carbon</b>	Not Applicable	Quarterly	Not Applicable
<b>Residue on evaporation</b>	Not Applicable	Annually	Not Applicable
<b>Zinc</b>	Annually	Annually	Annually
<b>Phenols</b>	Not Applicable	Quarterly	Not Applicable
<b>Faecal Coliforms</b> <sup>Note 4</sup>	Not Applicable	Quarterly	Annually
<b>Total Coliforms</b> <sup>Note 4</sup>	Not Applicable	Quarterly	Annually

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). In cases where large quantities of harbour dredgings have been accepted at the facility it is recommended to analyse for organotin compounds. Where there is reason to suspect organophosphorous contamination it is recommended to also scan for these compounds.

- 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: Once off for List I/II organic substances at SW1 and SW4 and thereafter as required by the Agency.
- Note 6: Monitoring for leachate lagoon (This may be amended following evaluation of results)
- Note 7: Once off for List I/II organic substances at two locations to be agreed with the Agency and thereafter as required by the Agency

## E.6 Meteorological Monitoring

Table E.6.1 Meteorological Monitoring:  
Data to be obtained at the locations specified in Attachment C of the application.

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	Daily	Standard
Humidity	Daily	Standard
Atmospheric Pressure	Daily	Standard

## SCHEDULE F :Emission Limits

**F.1 Noise Emissions:** (Measured at any noise sensitive location).

Day dB(A) $L_{Aeq}$ (30 minutes)	Night dB(A) $L_{Aeq}$ (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.3.1](#)).

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 Leachate Tankered to Wastewater Treatment Plant**

Volume to be emitted: Maximum in any one day: 21m<sup>3</sup>/day<sup>(Note1)</sup>

Parameter	Limit
pH	6-9
BOD	4 (Kg/day)

Note 1: Excess of 21m<sup>3</sup>/day leachate may be tankered to a treatment facility to be agreed with the Agency

#### **F.5 Emission Limit Values for Landfill Gas Flare**

Emission Point reference number: (to be agreed with the Agency)

Location: Landfill Flarestack(s)

Volume to be emitted: 3000m<sup>3</sup>/hr

Minimum discharge height: 5m

Parameter	Emission Limit Value <sup>Note 1</sup>
Nitrogen oxides as (NO <sub>2</sub> )	150mg/m <sup>3</sup> for Flare Stacks
CO	50mg/m <sup>3</sup> for Flare Stacks
Particulates	130 mg/m <sup>3</sup>
TA Luft Organics Class I <sup>Note 2</sup>	20 mg/m <sup>3</sup> (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II <sup>Note 2</sup>	100 mg/m <sup>3</sup> (at mass flows > 2 kg/hr)
TA Luft Organics Class III <sup>Note 2</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: Dry gas referenced to 5% oxygen by volume.

Note 2: 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 for disposal

WASTE TYPE	MAXIMUM TONNES PER ANNUM
Household	10,800
Commercial	1,200
Construction and demolition	2,000
TOTAL	14,000

Signed on behalf of the said Agency

on the 19<sup>th</sup> day of September, 2000

\_\_\_\_\_ B. Sheehan Authorised Person