78-2

Shannon

VERMICOMPOSTING LTD.

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Ms P Hermansen
Inspector of Licensing and Guidance
E.P.A.
Johnstown Castle
County Wexford

25th August 2004

Dear Ms Hermansen,

RE BALLAGHVENY LANDFIL, BALLAGHVENY, NENAGH NORTH TIPPERARY

Shannon Vermicomposting has requested the following information from North Tipperary County Council in relation to licence conditions 78-1 with a view to preparing a submission re 78-2, can you confirm this information is available and where it can be read.

Yours Sincerely,

Peter Ogg

TO: KJ.
Reply to addressee stating the information they request in their letter of 25/8 can be viewed on the public file at ? OEE Regional Inspectorate.
While reviewing the file it may be useful that you view the most recent audit and site inspection reports, which could address much of your detailed query.

MDock 26/8/04

CONDITIONS OF COMPLIANCE 78-1 TIPPERARY NORTH RIDING COUNTY COUNCIL BALLAGHVENY BALLYMACKEY, COUNTY TIPPERARY

Enclosed is a copy of the above conditions can you confirm that the conditions highlighted and identified have been complied with and provide proof.
Further, where there is a report to be submitted within a time scale stipulated by the E.P.A. please provide a copy of the report and confirm if this report was submitted within the time scale.

Condition 1 Scope

1-5
(A) Please confirm this condition has been adhered to.
(B) Please confirm this condition has been adhered to.
(C) Copy of report.

Condition 2 Management of the activity

2.1.1. Copy of the report.
2.2.1. Schedule of objections and targets copy of report.
2.3.1. Copy of report.
2.4.1. Copy of corrective action procedures.
2.5.1. Copy of written records of training.
2.6.1. Copy of management structure A,B,C,D,E.
2.7. Communications.
2.7.1. Copy of communications programme.
2.8. Annual environmental report, copy of all reports to date.
2.9. Facility manager and qualifications.
2.10. Associated staff qualifications and duties.

Condition 3 Notification and record keeping

3.1. A,B,C,D,E.
3.12. A,B,C,D,E.

Condition 4 Site Infrastructure

4.3.1. CCTV is this in place.
4.4.2. Please confirm engineering works.
4.7.1. Are these facilities in place.
4.7.3. Is this system in place.
4.9.1. Is this facility in place.
4.9.2. How often is this facility de-sludged if in place.
4.11. Is this facility in place.

4.13. Specified engineering works.

4.13.1. Copy of all notifications relating to past and current engineering works and copies of confirmation and agreement letters from the E.P.A.

4.13.2. Name of person overseeing the engineering works and there timetable of overseeing the said works in terms of attendance.

4.13.3. A,B,C,D,E,F,G,H,I.

4.14.2. Copy of this report.

4.16.1. Is there problems with leachate at the current facility accepting this cocktail of ingredients.

4.16.2. Confirm this is in place.

4.16.3. Confirm this is the case.

4.16.4. Independent engineers report please provide a copy.

4.16.5. (i) (ii) (iii) confirmation of works.

4.16.6. Copy of submission report.

4.16.7. Copy of SCADA system details and confirmation this system is in place.

4.17. Landfil gas management.

4.17.1. Confirmation a gas flare is in place and is commissioned. (i) (ii).

4.17.2. Efficiency test results.

4.17.3. Maintainence report.

4.17.4. Landfil gas alarms name of company that supplies this and maintainence programme.

4.17.5. Dates and frequencies of tests carried out.

4.17.6. Energy recovery 'recycling' provide research/report.

4.18. Capping.

4.18.1. Provide information taken from your own figures how it is possible to cover 37,000 tonnes per annum with 3,500 tonnes of C&D.

4.18.2. Provide information engineers report, photos, how the capping procedure was carried out including, (v) gas collection layer (i) (ii) (iii) (iv) (v).

4.18.3. Please provide report.

4.18.4. Engineers report.

4.18.5. Site visit will confirm this.

4.19. Surface water management.

4.19.1. (i) (ii) (iii) (iv) (v).

4.19.2. Provide proof.

4.22.2. Provide report.

Condition 5 Waste Management

5.1. Confirm no animal by-products have been accepted at this site.
5.5.1. Copy of report.
5.5.2. Copy of reports.
5.5.3. A.E.R.
5.11. Confirm sequence according to conditions provide copies of letters to the E.P.A informing them 1 month prior to work commencing.
5.12. Sludge.
5.12.1. Please confirm this condition is adhered to.
5.12.2. Copy of report.
5.12.3. Until permission has been granted has sludge been witheld from landfil.
5.12.5. Industrial sludges are any accepted at Ballaghveny Landfil, if yes copies of all analysis reports, eg, Proctor and Gamble.
5.16. Confirm no smoking at Ballaghveny Landfil including all other machine operators and contractors now working on site and in the past.
5.17. Recovery, copy of this report to include, 5.17.1, 5.17.2, 5.17.3, 5.17.4, 5.17.5, 5.17.6, 5.17.7,.
5.19. Copy of report.

Condition 6 Environmental Nuisances

6.1. Copy of records especially in relation to vermin, flies and odours.
6.2. What provision is in place especially now and at other times of vast engineering works being undertaken.
6.3.3. Copy of report.
6.7. Methods of controlling nuisances.
6.8. Confirm this is the procedure.
6.9. Confirm name of company and frequency of this service and chemicals used, also copy of report.

Condition 7 Emmission and environmental impacts

7.1. Test results.
7.2. Test results and a list of equipment in use.
7.3. Test results.
7.4. Landfil gas.
7.41. (A) (B) Test results.
7.42. (A) (B) Test results.

7.4.3.
7.4.3.1. (i) (ii) (iii)
7.4.3.2. (i) (ii) (iii)
7.5.1. How is this controlled.
7.5.2. How often are tests carried out, please provide test results.
7.5.3. When trigger levels have occured how is this dealt with.
7.6. Disposal of leachate.
7.6.3. Is leachate re-circulated.
7.6.4. Tanker test results.

Condition 8 Restoration and aftercare

8.1. Copy of this report.
8.2. Please confirm the height of 114M OD has not been exceeded.
8.3. Copy of this drawing.
8.6. Confirm a minimum of 1M material as in condition 4.18.2 has been adhered to.
8.7. Has this condition been fulfilled in total was the said restoration works carried out according to conditions and within the time scale allowed or has permission been sought for a time extention and been agreed by the E.P.A.
8.8. Soil storage, estimated soil stored.

Condition 9 Environmental monitoring

9.1. Maintaining results and records.
9.2. Copy of drawing or sight of.
9.3. Has this condition been adhered to and within the time scale specified.
9.4. Copy of submission to E.P.A. re gas monitoring system and place of installation.
9.5. Copy of monitoring programme and test results.
9.6. Test results re wells 500M from site boundary.
9.7. Sight of records relating to this condition or copy of.
9.8. Sight or copy of records or test results, and monitoring.
9.9. Has this condition been fulfilled and if so within the 10 month period.
9.10. (A) (B) (C) (D) provide all information and test results data.
9.12. Has this condition been fulfilled, and if so within the 10 month period.
9.13. What monitoring equipment was in use.
9.14. Has any changes occured.
9.15. Copy or sight of this information.
9.16. Copy or sight of the topographical surveys carried out to date.

9.17. Copy or sight of the annual report.
9.18. Was this condition adhered to.
9.19. Has there been any infrastructure that proved unsuitable for its use if so provide details of replacement works.
9.20. Provide test data.
9.21. Provide data, 9.21.1, 9.21.2.
9.22. Provide information in relation to this this survey.

Condition 10 Contingency arrangements

10.1. Copy or sight of report (ERP)
10.5. Has this situation ever occured.
10.6. Has this situation ever occured.
10.7. Has this situation ever occured.
10.8. Risk assessment report provide copy or sight of.

Condition 11 Charges and financial provisions

11.2, 11.2.1, 11.2.2, 11.2.3, 11.2.4,.
Copy or sight of information relating to these conditions.

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

WASTE LICENCE

Waste Licence Register Number:	78-1
Licensee:	Tipperary North Riding County Council
Location of Facility:	Ballaghveny Landfill, Ballymackey, Co. Tipperary

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 and objections received from all parties and the reports of its inspectors.

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency), under Section 40(1) of the said Act hereby grants this Waste Licence to Tipperary North Riding County Council to carry on the waste activities listed below at Ballaghveny Landfill, Ballymackey, County Tipperary 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 the landfilling of waste in lined cells.

Class 2. **Land treatment, including biodegradation of liquid or sludge discards in soils:**

This activity is limited to the disposal of industrial sludge, water treatment sludge and sewage sludge at the landfill.

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. It also relates to the disposal of industrial sludge, water treatment sludge and sewage sludge at the landfill.

Class 5. **Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment:**

This activity is limited to the landfilling of waste in cells 3, 4 and 5 of the existing landfill and the landfilling of waste in the four proposed new cells.

Class 11. **Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule:**

This activity is limited to the mixing of sewage sludge or construction/demolition waste with other material prior to landfilling.

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

This activity is limited to repackaging of wastes prior to disposal on-site.

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 prior to disposal on-site or removal off site for disposal.

Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996

Class 2.	**Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):**
	This activity is limited to recycling or reclamation of organic substances including paper and the composting of green waste.
Class 3.	**Recycling or reclamation of metals and metal compounds:**
	This activity is limited to the recycling or reclamation of metals and metal compounds
Class 4.	**Recycling or reclamation of other inorganic materials:**
	This activity is limited to the recycling or reclamation of other inorganic materials
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 use of composting material as cover for the landfill.
Class 11.	**Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:**
	This activity is limited to the use of inert/construction and demolition waste for landfill 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 temporary storage of waste prior to on-site recovery or removal off-site for recovery at an appropriate facility.

INTERPRETATION

Act	The Waste Management Act, 1996 (No. 10 of 1996).
Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
Agreement	Agreement in writing.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence, 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.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.
Commercial waste	As defined in Section 5 (1) of the Act.
Condition	A condition of this licence. In any case where this licence refers to a numbered condition, the reference shall be taken to mean the condition and any sub-condition therein which the context of the reference requires that reference is made to.
Containment boom	A boom which can contain spillages and prevent these from entering drains or watercourses.
Cover material	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials; or other cover material the use of which has been agreed with the Agency.
Daytime	8.00 a.m. to 10.00 p.m.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emission	As defined in Section 5 (1) of the Act.
Emission Limit Value	Those limits, including concentration limits and deposition limits established in *Schedule F: Emission Limits* of this licence.

Environmental Pollution	As defined in Section 5 (1) of the Act.
European Waste Catalogue (EWC)	The EWC is a harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	That area or areas defined under Condition 1.2.
FAS Waste Management Training Programme	A competency based certification to meet the EPA Waste Management Integrated Licensing requirements.
Green waste	Waste wood, plant matter and other vegetation.
Hazardous Waste	As defined in Section 4 (2) of the Act.
Household Waste	As defined in Section 5 (1) of the Act.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Incident	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
Landfill	As defined in Section 5 (1) of the Act.
Landfill Gas	Gases generated from the landfilled waste.
Leachate	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A Waste Licence issued in accordance with the Act.
Licensee	Tipperary North Riding County Council.
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
Maintain	Keep in a fit state, including such regular inspection, servicing and

	repair as may be necessary to adequately perform its function.
Monthly	At least 12 times per year, at approximately monthly intervals.
Night-time	10.00 p.m. to 8.00 a.m.
Non-hazardous waste	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
Quarterly	A period of three calendar months, the first period of which commences on the date of grant of this licence.
Recovery	As defined in Section 4 (4) of the Act.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
SCADA	Supervisory Control and Data Acquisition.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
Specified Emissions	Those emissions listed in *Schedule F: Emission Limits* of this licence.
Specified Engineering Works	Those engineering works listed in *Schedule D: Specified Engineering Works* of this licence.
Submit	Unless the context of this licence indicates otherwise, submit in writing to the Agency for its agreement.
Treated Sludge	Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use.
Trigger Level	A parameter value which when achieved or exceeded requires certain actions to be taken.
Waste	As defined in Section 4(1) of the Act.
Waste disposal activity	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
Waste recovery activity	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
White Goods	Refrigerators, cookers, ovens and other similar appliances.
Working Day	8.30 a.m. to 5.00 p.m. Monday to Friday inclusive and 8.30 a.m. to 4.00 p.m. on Saturdays with the exclusion of Bank Holidays.
Working Face	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: 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. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998) 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 twelve 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 six 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 six 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* of this licence. The EMP shall be reviewed and submitted to the Agency for its agreement annually.

2.4 Corrective Action

2.4.1 Within three 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 three months of the date of grant of this licence, 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;

waste licence conditions 78-1

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 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* of this licence 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. Both the facility manger and deputy shall successfully complete both the FAS waste management training programme (or equivalent agreed with the Agency) and associated on site assessment appraisal. They shall obtain certification, within twelve months of the date of being appointed, that both have successfully completed the training programme and that both are competent to manage the facility. Furthermore, any replacement site manager or deputy must have a similar qualification.

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; and,

e) 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 a.m. 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 10.00 a.m. 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 with 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 record, in written or electronic format, for each load of waste arriving at the facility, other than for the civic waste facility. The licensee shall record the following:

a) the date;

b) the name of the carrier (including if appropriate, the waste carrier registration details);

c) the vehicle registration number;

d) the name of the producer(s)/collector(s) of the waste as appropriate;

e) the name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;

f) a description of the waste including the associated EWC codes;

g) the quantity of the waste, recorded in tonnes;

h) the name of the person checking the load; and,

i) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.

3.11 The licensee shall maintain a written record of the type and quantity, recorded in tonnes, of all wastes recovered or 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 record, in written or electronic format, 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.

3.14 Provision shall be made for the transfer of environmental information specified by the Agency, in relation to the activities carried on under this licence, to the Agency's computer system within a timescale specified in writing by the Agency.

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

CONDITION 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 Security (including CCTV) and stockproof fencing and gates shall be installed and maintained as described in Attachment D.1.a of the application. The fenced area shall include the existing site, the buffer zone, waste disposal and reception area of the proposed extension as detailed in section 3.4.1 of the EIS. 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.

4.4.2 The proposed extension entrance and reception areas, the access road and internal haul roads to individual cells shall be paved and maintained in

accordance with the following specification unless otherwise agreed by the Agency:

250 mm concrete slab with mesh reinforcement overlying a 300 mm hardcore base and capping/cover material.

4.5 The licensee shall provide and maintain an office on the facility, at the location shown in Drawing No. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998). 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 By 30 June, 2002, the licensee shall provide a Waste Inspection Area and a Waste Quarantine Area at the location shown in Drawing No. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998).

4.7.2 The licensee shall ensure that these areas are 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 Drainage from these areas shall be directed to the leachate collection system.

4.8 By 30 June, 2002, the licensee shall provide and maintain a weighbridge at the proposed reception area as shown on Drawing No. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998). Prior to its installation, the licensee shall use the weighbridge at the existing site entrance.

4.9 Wheelwash

4.9.1 By 30 June, 2002, the licensee shall establish and maintain a wheelwash/dry wheel shake out at the facility at the location shown in Drawing No. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998).

4.9.2 The licensee shall recirculate all washings from the vehicle cleaning operation within four months of the date of grant of this licence. The system shall be desludged as necessary and properly maintained at all times.

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

4.11 Waste Water

4.11.1 Within six months of the date of grant of the licence, the licensee shall provide and maintain a septic tank treatment system at the facility for the treatment of sewage arising on-site. Any percolation area shall satisfy the criteria set out in the Agency's Wastewater Treatment Manual: *'Treatment systems for single houses'*.

4.12 Storage Areas

4.12.1 The licensee shall provide and maintain a bunded fuel storage area at the facility. The location of the fuel storage area shall be in the garage as shown

on Drawing No. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998). Fuels shall only be stored at the agreed location.

4.12.2 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.

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

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

4.12.5 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.

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

4.13 Specified Engineering Works

4.13.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works* of this licence, to the Agency for its agreement 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.

4.13.2 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.

4.13.3 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.

4.14 Landfill Lining:

4.14.1 The liner system for all cells in the proposed extension shall comprise the following (or equivalent): a composite liner consisting of at minimum a 0.5 m thick leachate collection layer having a minimum hydraulic conductivity of 1 x 10^{-3} m/s, a basal mineral layer of at least 1 m in thickness with a permeability of less than or equal to 1 x 10^{-9} m/s overlain by a 2 mm thick high density polyethylene (HDPE) layer. The side walls shall be designed and constructed to achieve an equivalent protection.

4.14.2 Following the placement of the liner system in all new cells, the new leachate lagoon and the surface water lagoon, the licensee shall commission an independent leak detection survey of the liner system. The results of this survey and a description of any redemption measures necessary including follow up testing shall be submitted to the Agency.

4.15 The area within which landfilling of waste is carried out in the proposed extension shall be such that there is a minimum 40 m of a buffer zone between the landfill footprint and the facility boundary.

4.16 Leachate Management

4.16.1 By 30 June, 2002, the licensee shall install a leachate management system at the facility. The system shall provide for the abstraction/collection of leachate from the waste. In the event of a suitable off-site Wastewater Treatment Plant facility not being available to accept or treat leachate from the landfill, then within twelve months of the date of grant of this licence, a leachate pre-treatment system shall be installed at the facility. The type of pre-treatment to be installed should provide for the shortcomings at the off-site Wastewater Treatment Plant facility to which it is being tankered.

4.16.2 The leachate storage lagoon lining shall be a composite liner consisting of:

- an upper component of a flexible membrane liner. At minimum a 2 mm HDPE or equivalent flexible membrane liner should be used; and
- a lower component of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1x10^{-9}m/s constructed in a series of compacted lifts no thicker than 250 mm when compacted or a 0.5 m artificial layer of enhanced soil giving equivalent protection to the foregoing also constructed in a series of compacted lifts no thicker than 250 mm when compacted.

4.16.3 Following the provision of the leachate management system in Condition 4.16.1, leachate levels in cells 3, 4 and 5 of the existing landfill and phase 1, 2, 3 and 4 of the proposed extension shall not exceed a level of 1.0 m over the top of the liner.

4.16.4 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.

4.16.5 Within three months of the date of grant of the licence, the licensee shall provide and maintain the following infrastructure at locations to be agreed with the Agency;

(i) a minimum of three leachate extraction/monitoring wells in cells 1 and 2

(ii) a minimum of two leachate extraction/monitoring wells in each of cells 3 and 5

(iii) a minimum of one leachate extraction/monitoring well in cell 4

4.16.6 Within six 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 a 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.

4.16.7 Within six months of the date of grant of the licence a SCADA System for the control of leachate management including leachate pumping, leachate levels (within cells and the leachate lagoons) and leachate recirculation shall be provided and maintained at the facility. The SCADA system shall be extended to incorporate future modifications and/or extensions to the leachate management system.

4.17 Landfill Gas Management:

4.17.1 A Gas Flare and associated infrastructure shall be installed on the facility within six months of the date of grant of the licence.

(i) The flare shall be of an enclosed type design.

(ii) Air dispersion modelling shall be used to determine the optimum location of the landfill gas flare in relation to the nearby dwellings. The results of the modelling shall be submitted to the Agency prior to the flare being installed.

4.17.2 Flare unit efficiency shall be tested once it's installed and once every three years thereafter.

4.17.3 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.

4.17.4 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. Landfill gas alarms shall be installed in all site buildings.

4.17.5 Until the operation of the landfill gas flare, passive landfill gas management at the facility shall be carried out in all cells of the existing landfill and proposed extension. Landfill Gas management and infrastructure shall meet the recommendations given in the Agency Manual on "Landfill Operational Practices". All vents installed to facilitate passive gas venting shall be fitted with an effective activated carbon filter.

4.17.6 On an annual basis as part of the AER the licensee shall submit an assessment of whether the utilisation of landfill gas as an energy resource is feasible. If feasible such a system shall be installed within a timeframe agreed with the Agency. This assessment shall include proposals regarding the utilisation of heat energy from this plant at other premises / facilities at and in the vicinity of the facility.

4.18 Capping

4.18.1 Unless otherwise agreed with the Agency daily cover and intermediate capping shall consist of the following: Subsoils and other excavation waste or construction industry waste such as bricks and crushed broken concrete. The material should be free draining and of low clay content. Daily cover should be 150 mm in depth, while intermediate capping should be 300 mm in depth.

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

(i) top soil (150 – 300 mm);

(ii) subsoils, such that total thickness of top soil and subsoils is at least 1m;

(iii) drainage layer of 0.5 m thickness having a minimum hydraulic conductivity of $1x10^{-4}$ m/s;

(iv) compacted mineral layer of a minimum 0.6 m thickness with a permeability of less than $1x10^{-9}$ m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and

(v) gas collection layer of natural material (minimum 0.3 m) or a geosynthetic layer.

4.18.3 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 shall be implemented in accordance with a timetable agreed with the Agency.

4.18.4 Filled cells shall be permanently capped to the specifications agreed with the Agency in accordance with Condition 4.18.2 within three months of the cells having been filled to the required level.

4.18.5 The licensee shall maintain a stockpile of capping materials at the facility containing the requisite volume of capping materials for a six-month period.

4.19 Surface water management

4.19.1 By 30 June, 2002, the licensee shall install a surface water management system at the facility. It shall include the following:

(i) the development of a surface water drainage network for the existing and proposed landfill area and areas of hardstanding,

(ii) design details and a drawing showing the location of the oil-water interceptor and sand trap in the hardstanding area,

(iii) the installation of an appropriately sized silt trap and surface water lagoon prior to discharge to local surface waters,

(iv) the separation of surface water from the leachate collection system,

(v) the criteria (and related monitoring) which will determine when surface water contamination has taken place and procedures to be put in place in the event of such an occurrence.

4.19.2 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.

4.20 Facility Boundary /Perimeter Planting

Apart from the removal of hedgerows to facilitate the facility access road, the boundary hedgerow network and those hedgerows within the buffer zone shall be retained and enhanced where appropriate by the licensee to minimise the views of the facility from the surrounding countryside.

4.21 Access Road

4.21.1 Subject to the agreement of the National Roads Authority, the road improvements as described in Appendix E of the EIS shall be carried out.

4.22 Civic waste facility

4.22.1 By 30 June, 2002, the licensee shall provide and maintain a new Civic Waste Facility at the facility. The details, design and location of the Civic Waste Facility shall be agreed in advance with the Agency.

4.22.2 The licensee shall, not later that six months from the date of grant of this licence submit to the Agency a decommissioning plan, including a time schedule for the decommissioning of the existing Civic Waste Facility.

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

CONDITION 5 WASTE MANAGEMENT

5.1. No hazardous waste, liquid waste, animal by-products or remains shall be accepted at the facility.

5.2. All sludges shall be dewatered prior to acceptance at the facility.

5.3. Subject to Condition 5.1, and any requirements of Condition 5.2, only those waste types and quantities listed in Schedule G: Waste Acceptance shall be recovered or disposed of at the facility.

5.4. Only household waste (domestic quantities) and waste for recovery shall be accepted at the Civic Waste Facility.

5.5. Waste Acceptance Procedures

5.5.1. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement detailed written procedures for the acceptance and handling of all wastes. This shall include procedures for the acceptance of waste at the civic waste facility, and to distinguish between inert, non-hazardous and hazardous wastes.

5.5.2. The procedures shall include a proposal for sludge, eluate and toxicity testing by standardised and internationally accepted procedures and carried

out by a competent laboratory and shall be submitted to the Agency for its agreement within six months of the date of grant of this licence.

5.5.3. Testing shall be performed on a minimum of two samples per annum for all industrial sludges/solids being accepted at the facility and the results included in the AER.

5.6. The quantity of wastes to be accepted for disposal at the landfill shall not exceed 37,000 tonnes per annum, unless otherwise agreed in advance with the Agency. The quantity of sludges to be accepted at the facility shall not exceed 3,500 tonnes per annum.

5.7. Scavenging shall not be permitted at the facility.

5.8. Waste shall only be accepted at the facility between the hours 8.30 a.m. and 5.00 p.m. Monday to Friday inclusive and 8.30 a.m. to 4.00 p.m. on Saturdays with the exclusion of Bank Holidays unless otherwise agreed in advance with the Agency.

5.9. 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.

5.10. Within three months of the date of grant of this licence, the licensee shall ensure that all previously deposited waste is covered by a temporary cover of at least 500 mm so that no waste other than cover material or material suitable for specified engineering works is exposed. In the case of waste being deposited at the working face, such waste shall, by the end of each day, be covered with cover material so as to minimise any nuisances occurring and such that no other waste is exposed. 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.

5.11. Unless otherwise agreed with the Agency, Phase 2 of the proposed extension shall be filled first followed by Phase 1, 3 and 4 as shown in Drawing No. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998). The Agency shall be informed in writing at least one month prior to the licensee entering into a new phase or cell.

5.12. Sludge

5.12.1. Sludge shall only be accepted at the facility between the hours of 8.30 a.m. and 2.00 p.m. Monday to Friday inclusive. All sludge shall be covered immediately with other waste.

5.12.2. Within twelve months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement proposals for reducing the quantity of sludges to be accepted at the facility.

5.12.3. From 1 January, 2004, only treated sludges shall be accepted at the facility.

5.12.4. No sludges shall be accepted at the facility from 1 January, 2006.

5.12.5. Prior to the acceptance of industrial/water treatment sludges at the facility, the licensee shall submit a full characterisation of such sludges to the Agency for its agreement.

5.13. 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.

5.14. 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.

5.15. Unless otherwise agreed with the Agency, waste once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction, installation of the leachate management system, landfill gas management system and the occurrence of fire within the waste.

5.16. No smoking shall be allowed on the facility other than in the Administration Building after the continuous gas monitor has been installed as shown on Drawing No. BALL/WLA/02 Revision A, entitled "Site Plan" (dated Sept 1998).

5.17. Recovery

Within six months of the date of grant of this licence, the licensee shall submit a report examining recovery provisions to the Agency for agreement. Unless otherwise agreed with the Agency, this report shall address provisions for the following:

5.17.1. the separation of recyclable materials from the waste;

5.17.2. the recovery of Construction and Demolition Waste;

5.17.3. the recovery of metal waste and white goods including written procedures for the de-gassing of CFC's from refrigerators;

5.17.4. the recovery of commercial waste, including cardboard;

5.17.5. composting of biodegradable or green waste at the facility having regard to good practice and sustainability;

5.17.6. inert waste to be used for cover/restoration material at the facility;

5.17.7. measures to meet the targets set in the Waste Management Plan and the Waste Policy Document from the Department of the Environment and Local Government entitled "Changing our Ways".

5.18. Waste sent off-site for recovery or disposal shall only be conveyed to a waste contractor agreed by 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.

5.19. The licensee shall submit a proposal to the Agency on the reduction of the fraction of biodegradable waste being disposed of at the facility and for any consequential impact on landfill gas utilisation within eighteen months of the date of grant of the licence.

5.20 Compost facility

The quantity of compost and waste held at the composting facility shall not exceed 1000 cubic metres at any one time.

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. This shall include written records of the daily bird control activities and the number of birds observed on the facility.

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. 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.

6.3.2. 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.

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

6.3.4. All loose litter accumulated within the facility and its environs, excluding that which is deposited at 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 10.00 a.m. 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. 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. All stockpiles shall be adequately contained to minimise dust generation.

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. Upon installation of the wheelwash, all waste vehicles shall use the wheelwash facilities prior to exiting the facility.

6.9. Within three months of the date of grant of the licence, the licensee shall submit to the Agency for its agreement a programme for the control and eradication of vermin and fly infestations at the facility. This programme should 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) in the case of landfill gas flare:

Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and

b) in the case of landfill gas combustion plant:

Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.

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. Any surface water emissions at the facility shall only be made to the Ballaghveny Stream at a location agreed in advance by the Agency. Surface water emissions shall only be made via the outlet from the surface water lagoon, unless otherwise agreed with the Agency.

7.5.2. Contaminated surface water shall not be discharged when its quality exceeds the action levels to be determined under Condition 9.5 of this licence.

7.5.3. 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. 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 a Waste Water Treatment Plant to be agreed in advance with the Agency.

7.6.2. The frequency of leachate removal/discharge from all leachate lagoons shall be such that a minimum freeboard of 0.75 m shall be maintained at all times.

7.6.3. Re-circulation 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.

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. Within six months of the date of grant of this licence, detailed Restoration and Aftercare Plans, including landscaping plans, shall be submitted for the agreement of the Agency. These shall have regard to the requirements of Conditions 8.2 and 8.3, the Landfill Directive (1999/31/EC) and the guidance published in the Agency's Landfill Manual: *"Landfill Restoration and Aftercare"*.

8.2. Unless otherwise agreed with the Agency, the final post-settlement height of the facility shall not exceed 114 m OD at any location.

8.3. Within three months of the date of grant of this licence, the licensee shall submit a drawing of the final contours of the facility for the agreement of the Agency.

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.

8.6. 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 1 m unless otherwise agreed in advance with the Agency.

8.7. The restoration of the existing landfill facility shall be completed within twelve months of the date of grant of this licence. The restoration of the proposed extension shall be completed within twelve months of reaching the final profile agreed under Condition 8.3.

8.8 Soil Storage

8.8.1 Soils shall be removed and stored in the manner as described in the Agency's manual on "Landfill Restoration and Aftercare". The storage of soils shall be in such a manner to maximise the preservation of the soil structure for future use within the facility.

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* of this licence 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 submit to the Agency an updated appropriately scaled drawing(s) showing the location of all the monitoring locations that are stipulated in this licence. This shall include any additional monitoring locations required to fulfil this licence. This shall be accompanied by a register of unique coded reference numbers and twelve figure grid references for each monitoring location.

9.3. Within five months of the date of grant of this licence, at locations to be agreed in advance with the Agency, the licensee shall install 12 perimeter monitoring boreholes to detect off-site migration of landfill gas.

9.4. Within three months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement details of the permanent gas monitoring system to be installed in the site office, garage and any other enclosed structures at the facility.

9.5. The licensee shall implement a monitoring programme for the water in the surface water lagoon (to be agreed under condition 4.19). This programme shall take account of the criteria/trigger levels, which will determine when the penstock in the outlet from the surface water lagoon shall be closed. Such continuous monitoring shall, as a minimum, include conductivity, pH and TOC and shall be carried out on the inlet to the surface water lagoon and fulfil the requirements of Schedule E.5: Surface Water Monitoring of this licence.

9.6. Within six months of the date of grant of this licence, the licensee shall include all private wells within 500m of the facility, subject to the agreement of the well owners, in the monitoring programme set out in *Schedule E: Monitoring* of this licence.

9.7. The level of leachate within the filled waste and in the pump sumps shall be continuously monitored and recorded on a daily basis.

9.8. The licensee shall monitor both the surface water discharged from the facility and the flow in the Ballaghveny Stream. Monitoring shall, at minimum, include and fulfil the requirements of Schedule E.5.1: Surface Water Monitoring of this licence.

9.9. The licensee shall agree an additional surface water monitoring point on the Ollatrim River downstream of its confluence with the Ballaghveny Stream.

9.10. Prior to the commencement of waste activities a telemetry system shall be installed and maintained at the facility. This system shall include for;

a) recording of leachate levels in the lined cells and lagoon.

b) recording of levels in the surface water lagoon and flows to the perimeter streams.

c) quality of the surface water at the inlet to the surface water lagoons and being discharged to the perimeter streams

d) permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

9.11. 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.

9.12. 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. All monitoring points on-site shall be tagged with their agreed sampling point codes within ten months of the granting of this licence.

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

9.14. 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.

9.15. 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.

9.16. A topographical survey including the void space shall be carried out within six 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.

9.17. An annual biological assessment of the Ballaghveny Stream shall be undertaken. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams. The report shall include a drawing showing the location of monitoring points, each identified by a unique number and a twelve-figure grid reference.

9.18. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two months after the date of grant of this licence.

9.19. 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.

9.20. All landfill gas monitoring equipment used for monitoring landfill gas under the requirements of this licence shall be certified as being intrinsically safe.

9.21. Archaeological Monitoring/Survey

9.21.1. During the excavation of subsoil for site development/preparation works, the licensee shall ensure that the presence of archaeological remains is monitored and recorded by a qualified archaeologist. In the event that any features/artefacts of archaeological value are unearthed the licensee shall take the appropriate precautions to ensure these features/artefacts are surveyed to an appropriate level of detail. The National Museum, Dúchas and the Agency shall be informed of any such finds as soon as possible after the find.

9.21.2. The scope of any archaeological investigations and /or mitigation measures shall be agreed in advance with Dúchas.

9.22. An assessment of the ecology of the habitats within and adjoining the facility shall be undertaken within twelve months of the date of the grant of this licence and shall be submitted to the Agency for its agreement. This assessment shall be repeated annually thereafter. The scope, content and details of the contractors carrying out this assessment shall be submitted to the Agency for its agreement within three months of the date of grant 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. 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.

10.3. 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.

10.4. No waste shall be burned 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.

10.5. In the event that monitoring of local wells (identified in Condition 9) 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 provide an alternative adequate and safe supply of water to those affected.

10.6. In the event that monitoring should indicate contamination of the water in the surface water lagoon, the outlet penstock shall be closed and the contaminated water shall be pumped to the leachate lagoon until such time as the source of the contamination has been identified and appropriate measures introduced to prevent further contamination of surface water.

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 recurrence of the incident; and

ii) identify and put in place any other appropriate remedial action.

10.8. 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 Tipperary North Riding 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 £18,163 (€23,062) 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 2002 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 2001, the licensee shall pay a pro rata amount from the date of this licence to 31st December 2001. 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 written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 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 & by = Appropriate Wholesale Price Index [Capital Goods, Building Construction (i.e. Materials & Wages) Index], as published 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
A programme on the reduction of the fraction of biodegradable waste being disposed of at the landfill in accordance with the recommendations of the Landfill Directive and any consequential impact on landfill gas utilisation.
Other items specified by the Agency

SCHEDULE B : Content of the Annual Environmental Report

Annual Environmental Report Content [Note 1]
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. This must include the following : • Summary of monitoring results for key leachate indicator parameters; • Comparison of monitoring results against baseline data and relevant standards; • Graphical presentation of the trends in the concentration of key leachate indicator parameters; and, • an assessment and explanation of the significance of the results and trends detected.
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.
Annual Budget and site running costs.
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 Note 1	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.
Leachate Management Structures report	Annually	One month after end of the year 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.
Biological Monitoring	Annually	One month after end of the year being reported on.
Ecological Monitoring	Annually	One month after end of the year 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.
Capping Material Stockpiles	Biannually	One month after end of the period being reported on.
Topographical Survey	Biannually	Three months from the date of grant of licence and one month after the end of the period being reported thereafter.
Flare Test	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.
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 including CCTV.
Bunding of fuel and oil storage areas.
Installation of Waste Inspection and Waste Quarantine Areas
Installation of Weighbridge
Installation of Wheelwash
Telemetry system
SCADA system
Installation of landfill gas management and monitoring systems.
Installation of leachate management, detection, storage, treatment, monitoring and control systems.
Installation of groundwater control and/or monitoring systems.
Surface water management works including installation of surface water lagoon and monitoring and control systems.
Restoration and Aftercare Works.
Nuisance control measures
Any future composting of organic wastes
Any lime stabilisation of sewage sludge
Any component separation on site
Roads and Access Works
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

- MP9,10,11,12,13
- 12 Perimeter Monitoring Locations (locations to be agreed in advance with the Agency)
- Site Office and Garage

Table E.1.1 Landfill Gas Monitoring Frequency and Technique

Parameter	Monitoring Frequency		Analysis Method/Technique[Note 1]
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH_4) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO_2)%v/v	Monthly	Weekly	Infrared analyser
Oxygen(O_2) %v/v	Monthly	Weekly	Electrochemical cell
Atmospheric Pressure	Monthly	Weekly	Standard
Temperature	Monthly	Weekly	Standard
Minor Landfill Gas Constituents	Annually	Annually	See Note 2

Note 1: Or other methods agreed in advance with the Agency. All monitoring equipment used should be intrinsically safe. Perimeter boreholes shall be monitored by the use of Flame Ionisation Detector.

Note 2: Sampling to be carried out for minor landfill gas constituents (e.g. H_2S,mercaptans, aliphatic acids etc.) as required by the Agency following evaluation of monthly results.

E.2 Landfill Gas Flare

Monitoring to be obtained at locations to be agreed with the Agency within three months of the date of grant of this licence.

Parameter	Monitoring Frequency	Analysis Method[Note 1]/Technique[Note 2]
Inlet		
Methane (CH_4) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO_2)%v/v	Weekly	Infrared analyser
Oxygen (O_2) %v/v	Weekly	Infrared analyser
Outlet		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO_2	Biannually	Flue gas analyser
Nox	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 [Note 3]
Hydrochloric acid	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Impinger / Ion Chromatography
Hydrocarbons	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 Drawing No. BALL/REPL/04 entitled "Surface water, groundwater, landfill gas, leachate, noise and dust monitoring locations" (dated Jan 2000) of the application.

Table E.3.1 Dust Monitoring Locations

STATION
DSP1
DSP2
DSP3
DSP4 Note1

Note 1: Location to be agreed with the Agency

Table E.3.2 Dust Monitoring Frequency and Technique

Parameter (mg/m²/day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year Note 2	Standard Method Note 1

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

Note 2: Twice during the period May to September, or as otherwise specified in writing by the Agency. 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 Drawing No. BALL/REPL/04 entitled "Surface water, groundwater, landfill gas, leachate, noise and dust monitoring locations" (dated Jan 2000) of the application.

Table E.4.1 Noise Monitoring Locations

STATION	
B1	B4
B2	NSL1
B3	NSL2

Table E.4.2 Noise Monitoring Frequency and Technique

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

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

E.5 Surface Water, Groundwater and Leachate

Surface water monitoring locations shall be those as set out in Table E.5.1 and Drawing No. BALL/REPL/04 entitled "Surface water, groundwater, landfill gas, leachate, noise and dust monitoring locations" (dated Jan 2000) of the application and of the parameters and frequencies outlined in Table E.5.5.

Table E.5.1 Surface Water Monitoring Locations

STATION
SW1
SW2
SW3Note1
SW4
SW6Note2

Note 1: Location as shown in Drawing No. 1 entitled "Map No.2 Location of Boreholes and Geophysical Readings" of EIS Vol. 3

Note 2: To be agreed under condition 9.9 of the licence

Groundwater monitoring locations shall be those as set out in Table E.5.2 and Drawing No. BALL/REPL/04 entitled "Surface water, groundwater, landfill gas, leachate, noise and dust monitoring locations" (dated Jan 2000) of the application and of the parameters and frequencies outlined in Table E.5.5.

Table E.5.2 Groundwater Monitoring Locations

STATION		
GW5	GW10	BH3Note1
GW6	GW11	private wells (condition 9.6)
GW9	GW12	

Note1: Location as shown in Drawing No. 1 entitled "Map No.2 Location of Boreholes and Geophysical Readings" of EIS Vol.3.

Leachate monitoring locations shall be those as set out in Table E.5.3, E.5.4 and Drawing No. BALL/REPL/04 entitled "Surface water, groundwater, landfill gas, leachate, noise and dust monitoring locations" (dated Jan 2000) of the application and of the parameters and frequencies outlined in Table E.5.5.

Table E.5.3 Leachate Monitoring Locations

LEACHATE INSPECTION MANHOLES
Each leachate collection manhole / monitoring well

Leachate storage lagoons

Table E.5.4 Leachate Level/Composition Monitoring

Monitoring Medium	Parameters	Frequency		Monitoring Points
		Operational	Aftercare	
Leachate	Leachate levels and freeboard in leachate storage lagoons	Continuously (Telemetry)	Weekly	In each cell of the landfill and in the leachate lagoon
	Leachate composition analysis as per Table E.5.5	As per Table E.5.5	At half the frequency specified in Table E.5.5 with a minimum of once per annum	Each cell of the landfill.

Table E.5.5 Water and Leachate - Parameters /Frequency

Parameter [Note 1]	SURFACE WATER Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection/Odour [Note 2]	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly [Note 6]	Quarterly	Quarterly
BOD	Quarterly [Note 6]	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly [Note 6]	Quarterly	Quarterly
pH	Quarterly [Note 6]	Quarterly	Quarterly
Total Suspended Solids	Quarterly [Note 6]	Not Applicable	Not Applicable
Temperature	Quarterly [Note 6]	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	Quarterly	Annually
Lead	Annually	Annually	Annually
List I/II organic substances [Note 3]	Note 8	Note 8	Note 8
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Potassium	Annually	Quarterly	Annually
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Annually
Total Alkalinity	Annually	Annually	Annually [Note 5]
Total Phosphorus / orthophosphate	Annually [Note 6]	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
Faecal Coliforms [Note 4]	Not Applicable	Quarterly [Note9]	Annually
Total Coliforms [Note 4]	Not Applicable	Quarterly [Note9]	Annually
Biological Assessment	Annually [Note7]	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: 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: Only to be analysed in instances of on-site treatment of leachate

Note 6: Discharge of diverted surface water/groundwater, at a monitoring location to be agreed in accordance with Condition 9.8, shall be monitored on a monthly basis for these parameters unless flow in that month does not allow such monitoring.

Note 7: Appropriate biological methods (such as EPA Q-Rating System to be used for the assessment of rivers and streams).

Note 8: Surface Water: Once off for list 1/11 organic substances and thereafter as required by the Agency.
Groundwater: Annually from a representative upgradient borehole and two representative downgradient boreholes. Leachate: Once off for list 1/11 organic substances and thereafter as required by the Agency.

Note 9: For Monitoring Location BH3 only.

E.6 Meteorological Monitoring

Table E.6.1 Meteorological Monitoring: Data to be obtained at Birr Weather Station

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 noise sensitive locations NSL1 and NSL2

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 or at the perimeter of the site.

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/m² /day)[Note 1]
350

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

F.4 Emission Limits Values for Landfill Gas Flare

Emission Point reference nos: (to be agreed with the Agency/
Location: Landfill flarestack(s)
Volume to be emitted:3000m³/hr
Minimum discharge height:5m

Parameter	Emission Limit Value
Nitrogen oxides as (NO_2)	500 mg/m³
CO	650 mg/m³
Particulates	130 mg/m³
TA Luft Organics Class I [Note 1]	20 mg/m³ (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II [Note 1]	100 mg/m³ (at mass flows > 2 kg/hr)
TA Luft Organics Class III [Note 1]	150 mg/m³ (at mass flows > 3kg/hr)
Hydrogen Chloride	50 mg/m³ (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m³ (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.

F.5 Surface Water Discharge Limits: Measured at the discharge point from the surface water lagoon to the Ballaghveny Stream (grid reference to be submitted to the Agency).

Level (Suspended Solids mg/l)
35

SCHEDULE G : Waste Acceptance

G.1 Waste Acceptance

Table G.1 Waste Categories and Quantities

WASTE TYPE	MAXIMUM TONNES PER ANNUM
Household	22,000
Commercial/Industrial	10,000
Sludge	3,500
Construction and demolition	1,500
Total	37,000

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

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:**

Reason: The application does not include any information or proposals on any activity which comes within the scope of this Class. The applicant states that composting is to be carried out under this Class, however it is Class 2 of the Fourth Schedule which provides for composting. The application includes that Class of activity and this decision deals with the composting activity under that Class.

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

Class 1. **Solvent reclamation or regeneration:**

Reason: The application does not include any activity which comes within the scope of this Class. The solvent storage activity concerned in the application is catered for under Class 13 of the Fourth Schedule. The application includes Class 13 of the Fourth Schedule and this decision deals with the solvent storage activity under that class.

Class 8. **Oil re-refining or other re-uses of oil:**

Reason: The application does not include any information or proposals on any activity which comes within the scope of this Class. The waste oil storage activity concerned in the application is catered for under Class 13 of the Fourth Schedule. The application includes Class 13 of the Fourth Schedule and this decision deals with the waste oil storage activity under that Class.

Sealed by the seal of the Agency on this 4th day of May, 2001.

PRESENT when the seal of the Agency was affixed hereto:

Padraic Larkin **Authorised Person**