

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

WASTE LICENCE
LICENCE

Waste Licence Register Number:	41-1
Licensee:	Shannon Environmental Services Limited
Location of Facility:	Smithstown Industrial Estate, Shannon, County Clare.

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Reasons for the Decision

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence any emissions from the activity will comply with and not contravene any of the requirements of Section 40(4) of the Waste Management Act, 1996.

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

No objection having been received to the proposed decision, the licence is granted in accordance with the terms of the proposed decision and the reasons therefor.

Part I - 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 Shannon Environmental Services Limited to carry on the waste activities listed below at Smithstown Industrial Estate, Shannon, County Clare subject to eleven No. 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 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.
- Class 7:* Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule.
- Class 11:* Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
- Class 12:* Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
- Class 13:* Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

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

- Class 2:* Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
- Class 3:* Recycling or reclamation of metals and metal compounds.
- Class 4:* Recycling or reclamation of other inorganic materials.
- Class 8:* Oil re-refining or other re-uses of oil.

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.

INTERPRETATION

Act	The Waste Management Act, 1996 (No. 10 of 1996).
Adequate lighting	20 lux measured at ground level.
Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Agreement	Agreement in writing.
Annually	All or part of a period of twelve consecutive months.
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.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Biannually	All or part of a period of six consecutive months.
Condition	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 to be made to.
Containment boom	A boom which can contain spillages and prevent these from entering drains or watercourses.
Daily	During days of the week with at least 200 measurements in a calendar year and no more than one measurement on any one day.
Emission	As defined in Section 5 (1) of the Act.
Environmental pollution	As defined in Section 5 (1) of the Act.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	That area or areas defined under Condition 1.2 of this licence.
Hazardous waste	As defined in Section 4 (2) of the Act.
IBC	Intermediate bulk container

Incident	Any reference to an incident in this licence means an incident as defined in Condition 3.1
Industrial waste	As defined in Section 5 (1) of the Act.
Licence	A Waste Licence issued in accordance with the Act.
Local authority	Clare County Council
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
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.
Sanitary authority	Clare County Council
Specified emissions	Those emissions listed in Schedule G of this licence.
Specified engineering works	Those engineering works listed in Schedule E of this licence.
Submit	Unless the context of this licence indicates otherwise, submit to the Agency in writing for agreement
TA Luft	Technical Instructions on Air Quality Control - TA Luft in accordance with art. 48 of the Federal Immission Control Law (BImSchG) dated 15 March 1974 (BGBl. I p.721). Federal Ministry for Environment, Bonn 1986 and amendments.
The Licensee	Shannon Environmental Services Limited
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.
Working day	Monday to Friday 0800hrs to 1800 hrs.

Part II - CONDITIONS

Condition 1 SCOPE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in *Schedule A: Waste Activities* and required by the licence.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on the Site Plan, drawing no. 41-1-M8 dated 12/7/99. 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 written 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.

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- 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 Environmental 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 nine 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 B: Content of the Environmental Management Programme*. The EMP shall be reviewed and submitted to the Agency for its agreement annually.
- 2.4. Corrective Action
- 2.4.1 Within six months from 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 the specified requirements of this licence not be fulfilled.
- 2.5. Awareness and Training
- 2.5.1 Within six months from 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 all personnel whose work is related to the licensed facility. Written records of training shall be maintained.
- 2.6. Management Structure
- 2.6.1 Within three months from the date of grant of this licence, the licensee shall submit written details of the management structure of the facility for the agreement of the Agency. Any proposed changes in the management structure shall be submitted in writing to the Agency for its agreement. Written details of the management structure shall include the following information:
- (a) the names of all persons who are to provide the management and supervision of the waste activities authorised by the licence;
 - (b) a named contact person for communications with the Sanitary Authority;
 - (c) details of the responsibilities for each individual named under a) above;
 - (d) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and,

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- (e) contingency arrangement for the absences of the named persons from the facility.

2.7. Communications

2.7.1 Within twelve months from the date of grant of this licence, the licensee shall submit for agreement to the Agency 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 C: Content of Annual Environmental Report* and shall be prepared in accordance with any relevant written guidelines issued by the Agency.

2.9. The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a suitably qualified and experienced deputy shall be present at all times during the operation of the facility.

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

Reason: To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.

Condition 3 NOTIFICATION AND RECORD KEEPING

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

- (a) any nuisance caused by the activity;
- (b) any emission which results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
- (c) any emission which does not comply with the requirements of this licence;
- (d) any trigger level specified in this licence which is attained or exceeded;
- (e) any indication that contamination has, or may have, taken place;
- (f) any occurrence with the potential for environmental pollution; and
- (g) any emergency.

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- 3.2. The written record of an incident as specified in Condition 3.1 shall include all aspects described in Condition 10.6 (a) to (e).
- 3.3. Unless otherwise instructed in writing by the Agency, the licensee shall:
- (a) notify the Agency as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident;
 - (b) submit the written record required by this condition to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident; and
 - (c) in the event of any incident which relates to discharges to surface water, notify Clare County Council and/or Shannon Regional Fisheries Board as soon as practicable and in any case not later than 10:00am on the following working day after such an incident.
- 3.4. Should any further actions be taken after the date of written notification, as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.
- 3.5. Unless otherwise agreed by the Agency, all documentation submitted to the Agency shall:
- (a) be sent to the Agency's headquarters;
 - (b) comprise one original and three copies;
 - (c) be formatted in accordance with any written instruction or guidance issued by the Agency;
 - (d) include whatever information as is specified in writing by the Agency;
 - (e) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
 - (f) be submitted in accordance to the relevant reporting frequencies specified by this licence;
 - (g) be certified as accurate and representative by the licensee; and
 - (h) 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 D* to this licence.
- 3.7. Unless otherwise agreed with the Agency, all documentation required to be maintained under this licence, shall be retained by the licensee.
- 3.8. The licensee shall provide additional copies of any documentation 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 office referred to in Condition 4.4:

- (a) the current waste licence relating to the facility;
- (b) the current Environmental Management System for the facility;
- (c) the previous year's Annual Environmental Report for the facility; and
- (d) all written procedures produced by the licensee which relate to the licensed activities.

3.10. 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.

3.11. The licensee shall maintain a written record for each load of waste arriving at or leaving the facility. The licensee shall record the following:

- (a) the time and date of arrival or departure;
- (b) the name of the carrier;
- (c) the vehicle registration number;
- (d) for incoming loads, the name of the producers and collectors of the waste as appropriate;
- (e) a description of the waste load including the associated EWC codes;
- (f) the quantity of waste, recorded in tonnes and the number and type of containers;
- (g) the name of the person checking the load;
- (h) the category of the waste as per Tables E.1.2 and E.1.3 of the application;
- (i) a hazard code as determined under Condition 5.3;
- (j) the proposed storage area for the waste;
- (k) the waste processing procedure proposed as required under Condition 5.2;
- (l) for incoming loads, a pre-notification reference number as required under Condition 5.2;
- (m) where incoming or outgoing loads or parts thereof are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed;
- (n) a consignment note number (including transfrontier shipment notification and movement/tracking form numbers, as appropriate);
- (o) for waste processed at the facility, the date of processing and the waste processing procedure employed;

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- (p) the destination of outgoing waste (including a facility name and waste licence or permit number as appropriate);
 - (q) for outgoing waste, the disposal or recovery process for which the waste is destined;
 - (r) written confirmation that consigned waste has reached its destination and/or has been subjected to the recovery or disposal process for which it was destined, as appropriate; and
 - (s) any other information which might be required from time to time by the Agency.

Where waste is received or removed as a mixed load, relevant details shall be recorded in respect of each waste type.

A format for the maintenance of appropriate records to show compliance with this condition shall be submitted for agreement with the Agency within three months of the date of grant of this licence and shall be subsequently modified only with the agreement of the Agency.

These records shall be kept for a period of not less than three years.

3.12. The licensee shall maintain a written record of all complaints relating to the operation of the activity. Each such record shall give details of the following:

- (a) date and time of the complaint;
- (b) the name of the complainant;
- (c) details of the nature of the complaint;
- (d) actions taken on foot of the complaint and the results of such actions; and
- (e) the response made to each complainant.

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 prior to the commencement of the licensed activities or as instructed by the Agency or as otherwise set out in the licence.

4.2. Site Notice Board

4.2.1 Within three months from the date of grant of this licence, the licensee shall provide and maintain a notice board at each of the two entrances to the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of each identification board shall be 1200mm by 750 mm.

4.2.2 The board shall clearly show:

- (a) the name and telephone number of the facility;

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- (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 waste licence reference number; and
 - (g) where and when environmental monitoring information relating to the facility can be obtained.

4.2.3 A plan drawing on durable material of the facility identifying the location of each storage and treatment system shall be displayed as close as is possible to each of the two entrances to the facility. The plan shall be replaced as material changes are made to the facility.

4.3. Site Security

4.3.1 The licensee shall maintain the wall and fencing as referred to in Section D.1 and in Attachment I.1 of the application.

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 in writing with the Agency.

4.3.3 Gates shall be kept locked shut when the facility is unsupervised.

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

4.5. The licensee shall provide and maintain a working telephone and facsimile machine in the office specified in Condition 4.4 above.

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

4.7. Bunding

4.7.1 All waste, chemical and fuel storage areas shall be rendered impervious to the materials stored therein. In addition, tank, drum and IBC 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
- (b) 25% of the total volume of substance which could be stored within the bunded area.

4.7.2 All inlets, outlets, vent pipes, valves and gauges shall be within the bunded areas.

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- 4.7.3 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.
- 4.7.4 Each bunded area shall be clearly labelled to indicate the class of material that may be stored in that area and the maximum quantity of that class of material that can be stored therein. The label shall be of such a size and lettering that it is legible to persons outside the bunded area.
- 4.7.5 All spillages and liquids recovered from bunded areas shall be treated as hazardous waste unless they are known to be otherwise. All drainage from bunded areas shall be diverted for collection and appropriate recovery or disposal.
- 4.7.6 All operational areas of the facility shall be surfaced with a durable and impermeable material capable of taking loaded vehicles without deformation.
- 4.7.7 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 within six months from the date of grant of this licence. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 4.7.8 An assessment of spill and rainwater drainage from the remotely bunded waste storage and handling areas at the facility shall be carried out within six months of the date of grant of this licence and submitted to the Agency for agreement. The assessment shall, at a minimum, consider the potential for interaction of any and all of the classes of hazardous waste stored in those areas and shall identify any improvement works that should be carried out to prevent unexpected interactions from taking place.
- 4.8. The integrity and water tightness of all underground pipes and tanks and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency within six months from the date of grant of this licence. This testing shall be carried out by the licensee at least once every five years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 4.9. All drainage and access points to foul sewer services shall be painted with red squares. All drainage and access points to surface water services shall be painted with blue triangles.
- 4.10. Traffic arrangements at the facility shall be such that the emergency services' vehicles shall have access to all parts of the facility at all times.
- 4.11. The licensee shall, within three months of the date of grant of this licence, install in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 4.12. Specified Engineering Works
- 4.12.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in *Schedule E: Specified Engineering Works*, to the Agency for its agreement prior to any such works being carried out. No such works shall be carried out without the prior agreement of the Agency.

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- 4.12.2 All specified engineering works shall be supervised by a competent person(s) agreed in advance by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 4.12.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation report. 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) daily record 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.

Reason: To provide for the protection of the environment

Condition 5 WASTE ACCEPTANCE AND HANDLING

Waste acceptance

- 5.1. Only those waste types listed in Tables E.1.2 and E.1.3 of the application, with the exception of asbestos waste and potentially infectious healthcare waste, shall be accepted at the facility. Unsegregated household, municipal, commercial or industrial waste shall not be accepted at the facility.
- 5.2. No waste may be accepted at the facility except where:
- (a) the waste has been pre-notified to the licensee;
 - (b) the waste has been characterised in terms of its nature, constituents and contaminants prior to its arrival at the facility;
 - (c) the characteristics of the waste have been verified by the licensee by sampling and analysis of the waste upon its arrival at the facility;
 - (d) an effective procedure for processing the waste is in place. A format for procedures shall be agreed with the Agency within three months of the date of grant of this licence;
 - (e) a designated and suitable storage area is available at the facility; and
 - (f) within three months of the date of grant of this licence, a designated waste quarantine area is available at the facility for the

storage of any waste which does not conform with the pre-notification and which cannot be otherwise accepted at the facility.

- 5.3. All waste accepted at the facility shall be classified according to "Recommendations on the Transport of Dangerous Goods: Model Regulations", tenth revised edition, United Nations, 1997 or by an alternative classification code as may be agreed with or specified by the Agency.
- 5.4. The quantity of waste to be accepted at the facility shall not exceed 34,000 tonnes per annum unless otherwise agreed with the Agency.
- 5.5. Waste shall only be accepted at the facility between the hours of 08.30 and 18.00 Monday to Saturday inclusive unless otherwise agreed with the Agency.
- 5.6. All containers shall be uniquely marked with an identification code using indelible or other permanent or electronic markings. All containers shall be marked or labelled to clearly indicate their contents. All previous markings and labels shall be defaced or crossed out but shall remain legible.

Waste storage

- 5.7. Waste and chemical storage plan
 - 5.7.1 Within three months of the date of grant of this licence, a waste and chemical storage plan shall be established and maintained. The plan may be paper based or electronic.
 - 5.7.2 The waste storage plan shall illustrate the location, identification code, volume and content of all waste containers held at the facility. The chemical storage plan shall illustrate the location, volume and content of all chemical containers whose volume exceeds 25 litres held at the facility.
 - 5.7.3 The waste and chemical storage plan shall be updated daily by the end of each working day and shall be verified as updated by an authorised person or a nominated deputy as identified under Condition 2.6.1.
- 5.8. No waste shall be stored at the facility in other than designated storage areas illustrated on drawing number 41-1-M8 dated 12/7/99 or as otherwise agreed with the Agency. In any case, no waste shall be stored at the facility for longer than six months except as otherwise agreed with the Agency.
- 5.9. Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated, stored in a designated quarantine area and at the earliest possible time removed from the facility.
- 5.10. Subject to Conditions 4.7, 5.8 and 5.9, appropriate arrangements shall be made for the storage of incompatible substances. The arrangements shall ensure that no *undesirable* mixing of incompatible substances, as a result of spillages or otherwise, shall take place.
- 5.11. All 200 litre drums shall be stored on pallets or shelves to a maximum stacking height of three drums. IBCs shall be stored to a maximum stacking height of three containers. During storage, each drum or IBC shall be accessible to allow for the reading of its identification code.

Waste processing and handling

- 5.12. Compatibility

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- 5.12.1 The compatibility of any wastes to be bulked, blended, reacted or otherwise mixed shall be established prior to such mixing taking place. The procedures to be in place under Condition 5.2(d) shall consider any compatibility testing that may be required, including, as far as is possible, the identification of any potentially abnormal or unusual situations. Compatibility testing shall also be carried out where recovered rainwater and well water abstracted at the facility are to be used in waste processing.
- 5.12.2 A detailed procedure for the carrying out of compatibility tests shall be submitted for agreement with the Agency within three months of the date of grant of this licence. In addition to the laboratory tests identified in Attachment J of the application, the procedure should consider the use of chemical reaction hazard evaluation including (a) calorimetry for the measurement of exotherms resulting from mixtures of waste and (b) methods for the measurement of gas generation.
- 5.12.3 Records shall be maintained of all compatibility tests carried out.
- 5.12.4 A format for the maintenance of appropriate records to show compliance with condition 5.12.3 shall be submitted for agreement with the Agency within three months of the date of grant of this licence and shall be subsequently modified only with the agreement of the Agency.
- 5.13. No waste shall be processed by any procedure other than by an appropriate procedure put in place for the purpose of complying with Condition 5.2.
- 5.14. No waste shall be processed in the reactors number 10 and 11 illustrated on drawing no. 41-1-M8 dated 12/7/99 except where the three stage scrubber whose air emission point is denoted as 1 on drawing no. 41-1-M10 dated 22/11/99 is in full and proper working order.
- 5.15. All containers which contain hazardous substances, and all other containers with a capacity exceeding 25 litres, shall be decontaminated or otherwise appropriately cleaned out prior to crushing, shredding or other destruction. The contents of all containers and any washings arising from their decontamination shall be collected and appropriately managed.
- 5.16. All containers accepted at the facility shall be whole and sound. Any leaking or otherwise ruptured containers shall immediately be overdrummed or the contents transferred to a sound container in a manner which will not adversely affect the environment. This activity shall only be carried out in bunded areas such that any spillage arising from the activity may be contained and collected.
- 5.17. Subject to Condition 7.10, all spillages of waste shall be cleaned up so as to prevent spilled fluid draining to the foul or storm sewer and in any case so as not to adversely affect the environment.
- 5.18. All waste removed off-site for recovery or disposal shall only be conveyed by an authorised contractor, as agreed with the Agency, and shall be transported from the facility in a manner which will not adversely affect the environment.
- 5.19. All waste removed off-site shall only be conveyed to an appropriate facility, as agreed with the Agency, for the purpose of recovery or disposal.
- 5.20. No waste shall be burned or otherwise combusted at the facility.

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 daily intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin and odours. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 6.2. The licensee shall ensure that all vehicles delivering waste to or removing waste from the facility are fully enclosed and clean and shall not give rise to offensive odours or other nuisance.
- 6.3. The licensee shall ensure that vermin do not give rise to nuisance at the facility or the immediate environment of the facility.
- 6.4. All loose litter accumulated within the facility and its environs shall be removed and appropriately disposed of on a daily basis.

Reason: To provide for the control of nuisances.

Condition 7 EMISSIONS AND ENVIRONMENTAL IMPACTS

- 7.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule G: Emission Limits*. 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 supplied 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, noise or odours do not result in significant impairment of, or significant interference with, amenities or the environment beyond the facility boundary. There shall be no clearly audible tonal or impulsive component in the noise emissions from the facility at the facility boundary.
- 7.4. Emissions to atmosphere shall be subject to the following conditions:
 - 7.4.1 Emission limit values to atmosphere in this licence shall be interpreted in the following way:
 - 7.4.1.1 For non-continuous monitoring:
 - (a) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
 - (b) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
 - (c) For flow, no hourly or daily mean shall exceed the relevant limit value.

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- (d) Mass flow thresholds refer to a rate of discharge expressed in units of kg/h, above which the concentration emission limit value applies. Mass flow threshold rates shall be determined on the basis of a single 30 minute measurement (i.e. the concentration determined as a 30 minute average shall be multiplied by an appropriate measurement of flow and the result shall be expressed in units of kg/h).
- (e) Mass flow limits shall be calculated on the basis of the concentration, determined as an average over the specified period, multiplied by an appropriate measurement of flow. No value, so determined, shall exceed the mass flow limit value.
- 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:
- Temperature 273K, pressure 101.3kPa (no correction for oxygen or water content).
- 7.4.3 Emissions to atmosphere shall only be made at locations 1, 6 and 7 as illustrated on drawing no. 41-1-M10 dated 22 November 1999.
- 7.4.4 The licensee shall within twelve months of the date of grant of this licence assess the emissions to atmosphere at emission point 6 (lab smalls processing) and at emission point 7 (silver smelter). The licensee shall report the findings of this assessment to the Agency and shall interpret the findings of the assessment. The report shall consider means of reduction of these emissions.
- 7.4.5 The licensee shall within twelve months of the date of grant of this licence submit a proposal to the Agency for its agreement for the reduction of fugitive and aerosol emissions to air.
- 7.4.6 The licensee shall within six months of the date of grant of this licence enclose the biological wastewater treatment processes such that odour emissions are eliminated.
- 7.5. There shall be no direct emissions to groundwater. No potentially polluting substance or matter shall be permitted to discharge to ground or groundwater.
- 7.6. There shall be no direct emissions to surface water.
- 7.7. The licensee shall notify the Sanitary Authority, the Local Authority, Shannon Development and/or the Agency, whichever is appropriate, as soon as is practicable after the occurrence of any one of the following:
- (a) any incident with the potential for contamination of surface water or groundwater, or posing a threat to land, or a Sanitary Authority or Shannon Development sewer or personnel working in connection with a sewer, or requiring an emergency response by the Sanitary Authority, the Local Authority or Shannon Development;
- (b) any emission which relates to a discharge to sewer which does not comply with the requirements of this licence.
- 7.8. Emissions to sewer shall be subject to the following conditions:
- 7.8.1 All surface water drained or pumped from the bunded areas, treatment facility, storage and transfer areas and all other surface water likely to suffer

contamination shall be discharged to the industrial foul sewer operated by Shannon Development. Only uncontaminated surface water shall be discharged to the stormwater sewer operated by Shannon Development. Uncontaminated roof water from buildings shall be discharged directly to the stormwater sewer. Domestic effluent from the facility shall be discharged to the industrial foul sewer.

- 7.8.2 Emissions of trade effluent to sewer shall only be made through emission point 23 as illustrated on drawing no. 41-1-M10 dated 22 November 1999.
 - 7.8.3 No sludge arising from the collection, storage or treatment of waste at the facility shall be discharged to the sewer system.
 - 7.8.4 The licensee shall at no time discharge or permit to discharge into the sewer any liquid matter or thing which is or may be liable to set or congeal at average sewer temperature or is capable of giving off any inflammable or explosive gas or any acid, alkali or other substance in sufficient concentration to cause corrosion to sewer pipes, penstock and sewer fittings or the general integrity of the sewer.
 - 7.8.5 No substance shall be present in the effluent in such concentrations as would constitute a danger to sewer maintenance personnel, or sewer fabric, or the liberation of by-products which may interfere with the operations of the Tradaree Point wastewater treatment plant.
 - 7.8.6 The licensee shall ensure that the effluent discharge shall not contain petroleum spirits or organic solvents (including chlorinated organic solvents) which would give rise to flammable or explosive vapours in sewers.
 - 7.8.7 Shannon Development and/or Sanitary Authority personnel shall have access to the discharge location for the purpose of inspecting the facility and taking samples of effluent.
 - 7.8.8 All records relating to the analysis and measurement of trade effluent shall be made available to Shannon Development and/or the Sanitary Authority for inspection and in any case shall be forwarded to Shannon Development and/or the Sanitary Authority on a monthly basis within 10 days after the end of the period being reported on.
 - 7.8.9 Where toxicity analysis is carried out on a waste prior to or upon its arrival at the facility, the result of that analysis shall be made available to Shannon Development and/or the Sanitary Authority.
 - 7.8.10 Any costs incurred by Shannon Development and/or the Sanitary Authority, as a result of the discharge of effluent contrary to the conditions herein, shall be recoverable in full by Shannon Development and/or the Sanitary Authority.
 - 7.8.11 The licensee shall present to Shannon Development evidence of insurance, in which policy the interests of Shannon Development shall be noted, adequate to indemnify Shannon Development against all damages consequential to non-compliance with the conditions herein which relate to the discharge of effluent.
- 7.9. Emission limits for emissions to sewer shall be interpreted as follows:
- (a) For continuous monitoring:
 - No flow value shall exceed the specified limit.
 - No pH value shall deviate from the specified range.

No temperature value shall exceed the emission limit value.

(b) For non-continuous monitoring:

No pH value shall deviate from the specified range.

No temperature value shall exceed the emission limit value.

For parameters other than pH, temperature and flow, eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.

For parameters other than pH, temperature and flow, no grab sample value shall exceed 1.2 times the emission limit value

7.10. Non-trade effluent wastewater (e.g. fire water, accidental spillage) which occurs on site shall not be discharged to the sewer without the prior authorisation of Shannon Development and/or the Sanitary Authority. The Agency shall be notified of such an event.

7.11. An appraisal of the available test species of aquatic organisms and their applicability in determining the toxicity of a representative volume of the discharged trade effluent shall be carried out. A method for the determination of the toxicity of a representative volume of trade effluent shall be developed based on this appraisal. A report on the appraisal, method development and method shall be submitted for agreement with the Agency within twelve months from the date of grant of this licence.

The method shall allow for and incorporate the carrying out of 96 hour assays as may be requested by Shannon Development and/or the Sanitary Authority.

7.12. The licensee shall provide and maintain at monitoring point X1 as required by Shannon Development:

- (a) flow proportional automatic effluent sampling equipment; and
- (b) continuous recording equipment to measure flow rate, temperature and pH of effluents being discharged.

These items of equipment shall be located in the sample house illustrated on drawing no. 41-1-M8 dated 12/7/99 except as otherwise agreed with the Agency. This building shall be locked and the keys held in the custody of Shannon Development, Clare County Council and the licensee.

7.13. Samples obtained from the automatic sampling equipment will be treated as follows:

- (a) the sample shall be thoroughly homogenised and subdivided into three equal parts;
- (b) one part shall be analysed as required under Condition 9.1;
- (c) one part shall be made available to Clare County Council for the purpose of analysis; and
- (d) one part shall be made available to Shannon Development for the purpose of analysis.

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

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

Condition 8 DECOMMISSIONING AND AFTERCARE

- 8.1. Within twelve months of the date of grant of this licence, the licensee shall submit to the Agency for agreement a Decommissioning and Aftercare Plan for the facility. The licensee shall update this plan when required in writing by the Agency and submit proposed amendments to the Agency for its agreement.

Reason: To provide for decommissioning of the facility and aftercare of the site on which the facility is located.

Condition 9 ENVIRONMENTAL MONITORING

- 9.1. The licensee shall carry out such monitoring and at such frequencies as set out in *Schedule F: Monitoring* and as specified by the conditions of this licence.
- 9.2. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers instructions so that all monitoring results accurately reflect any emission or discharge or other environmental parameter.
- 9.3. 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.
- 9.4. Unless otherwise agreed in writing 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 any sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
- 9.5. The licensee shall provide safe and permanent access to all sampling and monitoring points.
- 9.6. The licensee shall maintain all sampling and monitoring points so that they may be used for the representative sampling and monitoring of emissions from the facility.
- 9.7. The location of the groundwater monitoring points shall be as per Attachment C.6 of the application. Twelve digit grid references shall be assigned to each monitoring point and shall be submitted with the first groundwater monitoring report.
- 9.8. All of the parameters listed in Table F.3.2 of *Schedule F.3 Monitoring of groundwater* shall be tested for at each of the groundwater monitoring locations within three months of the date of grant of this licence.

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- 9.9. A programme, including timescales, for the remediation of contaminated groundwater and soil beneath the facility shall be submitted for agreement with the Agency within twelve months from the date of grant of this licence.
- 9.10. Within three months of the date of grant of this licence, a representative sample of all sludges generated at the facility shall be characterised for the parameters below. The characteristics shall be verified at a frequency to be agreed with the Agency. A written record shall be maintained of all analysis carried out.
- Parameters to be examined:
- (a) specific heavy metals and other compounds in the sludge and its leachate; and
 - (b) the toxicity of the sludge and its leachate expressed as toxic units and measured in accordance with a method to be agreed with the Agency.
- 9.11. A programme for the monitoring of discharges to the stormwater sewer shall be submitted to the Agency for its agreement within six months from 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 from 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 situation 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 in an appropriate manner.
- 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. 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. The licensee shall carry out a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities and, 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. This assessment shall include an examination of the existing arrangements for storage of fire water. The Chief Fire Officer of Clare County Council shall be consulted by the licensee during this assessment.
- 10.6. In the event that any monitoring, sampling 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;

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- (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) identify and put in place measures to avoid recurrence of the incident; and
 - (g) identify and put in place any other appropriate remedial action.

Reason: To provide for the protection of the environment.

Condition 11 CHARGES AND FINANCIAL PROVISIONS

11.1. Agency charges

11.1.1 The licensee shall pay to the Agency an annual contribution of £14,927 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2001 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Consumer Price Index from the date of the grant of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2000, the licensee shall pay a pro rata amount from the date of grant of this licence to 31st December 2000. This amount shall be paid to the Agency within one month from 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 due to an incident occurring on or adjacent to the facility and associated with the facility, the licensee shall contribute such sums as determined by the Agency to defraying its costs.

11.2. Environmental Liabilities

11.2.1 The licensee shall arrange for the completion of a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility which will address liabilities arising from the carrying on of the activities to which this licence relates or in consequence of ceasing to carry on those activities. A report on this assessment shall be submitted to the Agency for agreement within six months of date of grant of this licence.

11.2.2 Within nine months of the date of grant of this licence, the licensee shall make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which this licence relates or in consequence of ceasing to carry on those activities. Such provision shall be maintained unless otherwise agreed in writing by the Agency.

11.2.3 The amount of financial provision, held under Condition 11.2.2 shall be reviewed and revised as necessary, but at least annually. Any proposal for such a revision shall be submitted to the Agency for its agreement.

11.2.4 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under Condition 11.2.2, forward to the Agency written proof of such indemnity.

11.3. Sewerage charges

11.3.1 Sewerage charges as determined by the Sanitary Authority or Shannon Development shall be paid to the appropriate body. Charges are subject to price variation in the future as may be ordered by the Sanitary Authority or Shannon Development.

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

SCHEDULE A Waste Activities

Activities authorised by the licence shall be restricted to those described below.

Waste Management Act, 1996: Third Schedule ^{Note 1}	
Class 6.	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. Of this Schedule: This activity is limited to the processing of liquid waste by biological means; specifically, operation of the biological waste water treatment facilities.
Class 7.	Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule: This activity is limited to the processing of waste by physical or chemical means; specifically the treatment of waste by such processes as neutralisation, reduction, oxidation, electrolysis, leaching, separation, precipitation, pressing and physical destruction.
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 blending and mixing of waste prior to submission to other disposal activities.
Class 12.	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule. This activity is limited to the preparation of waste prior to disposal at the facility or removal from the facility.
Class 13.	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced. This activity is limited to the storage of waste pending disposal.

Note 1: Any reference to an activity Class is to be taken as being from the Third Schedule of the Waste Management Act, 1996, unless otherwise stated.

Waste Management Act, 1996: Fourth Schedule ^{Note 1}

Class 2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):

This activity is limited to the recovery of organic substances which are not used as solvents.

Class 3. Recycling or reclamation of metals and metal compounds:

This activity is limited to the recycling or reclamation of silver and other metals.

Class 4. Recycling or reclamation of other inorganic materials:

This activity is limited to the recycling or reclamation of other inorganic materials.

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

This activity is limited to the separation of oil and water mixtures and the subsequent removal of the waste oil from the facility for further recovery.

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

This activity is limited to the storage of waste pending recovery.

Note 1: Any reference to an activity Class is to be taken as being from the Fourth Schedule of the Waste Management Act, 1996, unless otherwise stated.



SCHEDULE B Content of the Environmental Management Programme

Environmental Management Programme

Details of Operator

Name and Address of operator and site. Included should be contact names in respect of persons with managerial responsibility for site operations, including the facility manager. Relevant telephone numbers should also be given. All relevant drawings should be included in the EMP.

Types of Waste Accepted

A detailed description of the types of waste that can be accepted at the facility.

Quantity of Wastes Accepted

Details should be given on the annual quantity of waste taken into the facility.

Engineering Details

Details of all significant site engineering works should be included. Where applicable the information should cover:

- fencing, gates and other security
- site access roads and secondary site roads
- offices, fuel stores etc.
- site infrastructure etc.

Operational Matters

These should include:

- description of the operations
- measures for the control of environmental nuisances
- measures for the control of emissions
- site opening and operating times
- access control
- waste acceptance procedures
- waste storage scheme
- waste segregation procedure (including implementation of the International Maritime Dangerous Goods Code or other alternative code which may be agreed with the Agency)
- procedure for dealing with unacceptable wastes (including designation of quarantine area)
- procedure for handling leaking or otherwise ruptured containers
- equipment to be utilised
- site personnel, including qualifications, duties and responsibilities
- monitoring and maintenance procedures
- procedure for the establishment and monitoring of trigger levels for the replacement of scrubber media
- procedure for the representative sampling of sludges generated at the facility
- trigger levels for emissions
- operational and safety rules (including safety statement)
- emergency procedures

Objectives and Targets

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

Designation of Responsibility for Achieving Targets and Objectives Other items specified by the Agency
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SCHEDULE C Content of the Annual Environmental Report

Annual Environmental Report Content

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.

Summary report on emissions.

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

Resource and energy consumption summary.

Proposed development of the site and timescale of such development.

Report on development works undertaken during the reporting period and those proposed during the coming year.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

Environmental Management Programme - Report and Proposal.

Environmental Objectives and Targets for the Forthcoming Year - Report and Proposal.

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

Tank, pipeline and bund testing and inspection report.

Reported incidents and complaints summary.

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

Boiler efficiency test results.

Monitoring of emissions.

Any other items specified by the Agency.

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SCHEDULE D Recording and Reporting to the Agency

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	Twelve 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.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Bund, tank and container integrity assessment	Every 3 years	Six months from the date of grant of licence and one month after end of the three year period being reported on.
Underground pipe and tank integrity assessment	Every 5 years	Six months from the date of grant of licence and one month after end of the five year period being reported on.
Noise Monitoring	Annually	One month after end of the year being reported on.
Monitoring of air emissions	Quarterly	14 days after end of the period being reported on.
Monitoring of sewer emissions	Monthly	14 days after end of the period being reported on.
Monitoring of groundwater quality	Quarterly	14 days after end of the period being reported on.

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

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SCHEDULE E Specified Engineering Works

Table E.1 Specified Engineering Works

Specified Engineering Works
Development of waste storage areas.
Development of waste processing capacity.
Installation of waste processing or other equipment.
Installation of sumps or other drainage controls.
Installation of emissions control and/or monitoring systems.
Enclosure of the biological wastewater treatment processes.
Other construction works and/or site modifications and improvements.
Any other works notified in writing by the Agency.

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SCHEDULE F Monitoring

Monitoring to be carried out as specified below. All monitoring and analyses shall be carried out by competent practitioners and in competent laboratories to be agreed with the Agency in advance.

F.1: Monitoring of noise

Noise Monitoring Point Reference Numbers: **N1, N2, N3, N4, N5, N6, N7, N8, N9** and **N10**.

Table F.1.1 Noise monitoring locations

STATION	REF. NUMBER	EASTING	NORTHING
Noise monitoring location 1	N1	140884	163322
Noise monitoring location 2	N2	140877	163266
Noise monitoring location 3	N3	140835	163335
Noise monitoring location 4	N4	140842	163247
Noise monitoring location 5	N5	140806	163314
Noise monitoring location 6	N6	140781	163226
Noise monitoring location 7	N7	140871	163220
Noise monitoring location 8	N8	140905	163353
Noise monitoring location 9	N9	140789	163380
Noise monitoring location 10	N10	140990	163271

Table F.1.2 Noise monitoring

Parameter	Monitoring frequency	Analysis method or technique
L(A)_{EQ} [30 minutes]	Annually	Standard method ^{Note 1}
L(A)₁₀ [30 minutes]	Annually	Standard method ^{Note 1}
L(A)₉₀ [30 minutes]	Annually	Standard method ^{Note 1}
Frequency analysis (1/3 octave band analysis)	Annually	Standard method ^{Note 1}

Note 1: International Standards Organisation. ISO 1996. Acoustics - Description and Measurement of Environmental Noise. Parts 1, 2 and 3.

F.2: Monitoring of emissions to air

Air Monitoring Point Reference Number: **X2 (Drawing 41-1-M8 dated 12/7/99)**.

Table F.2.1 Air monitoring locations

STATION	REF. NUMBER	EASTING	NORTHING
Three stage scrubber	X2	163271	140850

Table F.2.2 Monitoring of emissions to air at monitoring point X2

Parameter	Monitoring frequency	Analysis method or technique^{note 1}
Volumetric flowrate	monthly ^{note 2}	Pitot tube
Temperature	monthly ^{note 2}	Standard method
T.A. Luft Organics Class I	monthly ^{note 2}	GCFID / MS
T.A. Luft Organics Class II	monthly ^{note 2}	GCFID / MS
T.A. Luft Organics Class III	monthly ^{note 2}	GCFID / MS
Chlorides (as HCl)	monthly ^{note 2}	Standard method
Sulphur oxides (as SO₂)	monthly ^{note 2}	Standard method
Nitrogen oxides (as NO₂)	monthly ^{note 2}	Standard method

Note 1: Sampling and analytical techniques must be based on standard methods which have been demonstrated as suitable for the measurement of the target substances.

Note 2: Monitoring must occur during periods of maximum discharge. Production records should be available to demonstrate that gas sampling took place during periods of maximum loading.

F.3: Monitoring of groundwater

Groundwater Monitoring Point Reference Numbers: **MW3**, **MW4** and **MW5**.

Table F.3.1 Groundwater monitoring locations

STATION	REF. NUMBER	EASTING	NORTHING
Monitoring well 3	MW3	to be advised by the licensee as per Condition 9.7	
Monitoring well 4	MW4		
Monitoring well 5	MW5		

Table F.3.2 Monitoring of groundwater at MW3, MW4 and MW5

All units are mg/l except where otherwise stated.

Parameter	Monitoring frequency	Analysis method or technique ^{note 1}
Water level (mOD)	Quarterly	-
PH	Quarterly	Standard method
Temperature (°C)	Quarterly	Standard method
Conductivity (µS/cm)	Quarterly	Standard method
Ammoniacal nitrogen	Quarterly	Standard method
Dissolved oxygen as O₂	Quarterly	Standard method
Total organic carbon	Quarterly	Standard method
Cyclohexane extractable matter	Quarterly	Standard method
Organic solvents^{note 2}	Quarterly	Standard method
Diesel range organics	Quarterly	Standard method
Petrol range organics	Quarterly	Standard method
Total petroleum hydrocarbons	Quarterly	Standard method
Chloride	Quarterly	Standard method
Odour and appearance	Quarterly	Standard method
Total oxidised nitrogen	Quarterly ^{note 3}	Standard method

Parameter	Monitoring frequency	Analysis method or technique^{note 1}
Sulphate	Quarterly ^{note 3}	Standard method
Potassium	Quarterly ^{note 3}	Standard method
Sodium	Quarterly ^{note 3}	Standard method
Phosphate	Annually	Standard method
Total alkalinity	Annually	Standard method
Calcium	Annually	Standard method
Cyanide	Annually	Standard method
Cadmium	Annually	Standard method
Chromium	Annually	Standard method
Copper	Annually	Standard method
Iron	Annually	Standard method
Lead	Annually	Standard method
Magnesium	Annually	Standard method
Manganese	Annually	Standard method
Mercury	Annually	Standard method
Nickel	Annually	Standard method
Arsenic	Annually	Standard method
List I/II organic substances	Annually	Standard method
Residue at 180°C	Annually	Standard method

Note 1: Sampling and analytical techniques must be based on standard methods which have been demonstrated as suitable for the measurement of the target substances.

Note 2: Screening for priority pollutant list substances. The analysis shall include those organic solvents accepted as waste or used at the facility.

Note 3: May be reduced to annual analysis if evidence of stable conditions.

F.4: Monitoring of emissions to sewer

Sewer Discharge Monitoring Point Reference Number: **X1 (Drawing 41-1-M8 dated 12/7/99)**.

Table F.4.1 Sewer discharge monitoring locations

STATION	REF. NUMBER	EASTING	NORTHING
Effluent sampling point	X1	163242	140851
Stormwater sampling points	To be agreed with the Agency as per condition 9.11		

Table F.4.2 Monitoring of emissions to sewer at X1

Parameter	Monitoring frequency	Analysis method or technique^{note 1}
Flow	Daily	Flowmeter
Temperature	Daily	Continuous monitor
pH	Daily	Continuous monitor
COD	Daily	Standard method
Ammonia (total)	3 times weekly	Standard method
Phosphorous (as P)	3 times weekly	Standard method
Suspended Solids	3 times weekly	Standard method
BOD	Monthly	Standard method
Sulphides (as S)	Monthly	Standard method
Sulphates (as SO₄)	Monthly	Standard method
Detergents	Monthly	Standard method
Phenols	Monthly	Standard method
Nitrates	Monthly	Standard method
Silver	Monthly	Standard method
Aluminium	Monthly	Standard method
Cadmium	Monthly	Standard method
Cobalt	Monthly	Standard method
Chrome (total)	Monthly	Standard method

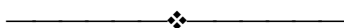
Parameter	Monitoring frequency	Analysis method or technique ^{note 1}
Copper	Monthly	Standard method
Mercury	Monthly	Standard method
Iron	Monthly	Standard method
Nickel	Monthly	Standard method
Lead	Monthly	Standard method
Tin	Monthly	Standard method
Zinc	Monthly	Standard method
Arsenic	Monthly	Standard method
Cyanide	Monthly	Standard method
Chlorides	Monthly	Standard method
Fluoride	Monthly	Standard method
Organohalogens	Monthly	Standard method
Colour	Monthly	Standard method
Fats, oil and grease	Monthly	Standard method
Toxicity	Biannually	Standard method
Volatile organic compounds and characterisation	Annually	Standard method

Note 1: Sampling and analytical techniques must be based on standard methods which have been demonstrated as suitable for the measurement of the target substances.

Table F.4.3 Monitoring of discharges to stormwater sewer

Parameter	Monitoring frequency	Analysis method or technique ^{note 1}
pH	Quarterly	Standard Method
COD	Quarterly	Standard Method
Conductivity	Quarterly	Standard Method

Note 1: Sampling and analytical techniques must be based on standard methods which have been demonstrated as suitable for the measurement of the target substances.



SCHEDULE G Emission Limits

G.1 Emissions to Air

Emission point:	X2
Volume to be emitted:	
Maximum per hour:	800 m ³

Table G.1 Emission limit values for emissions to air at emission point X2

Parameter	Emission limit value
T.A. Luft Organics Class I ^{note 1}	20 mg/m ³ (for mass emissions > 0.1 kg/h of these compounds)
T.A. Luft Organics Class II ^{note 1}	100 mg/m ³ (for mass emissions > 2 kg/h of these compounds)
T.A. Luft Organics Class III ^{note 1}	150 mg/m ³ (for mass emissions > 3 kg/h of these compounds)
Hydrogen chloride (as HCl)	10 mg/m ³ (for mass emissions > 0.3 kg/h)
Sulphur oxides (as SO ₂)	300 mg/m ³ (for mass emissions > 3 kg/h)
Nitrogen oxides (as NO ₂)	300 mg/m ³ (for mass emissions > 3 kg/h)

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

G.2 Emissions to Sewer

Emission point: X1

Volume to be emitted:

Maximum in any one day: 150 m³

Maximum per hour: 20 m³

Table G.2 Emission limit values for emissions to sewer at emission point X1

All units in mg/l except for temperature, pH, colour and toxicity

Parameter	Column 1	Column 2
	Emission limit value until 1 September 2000 <small>note 1</small>	Emission limit value from 2 September 2000 <small>note 1</small>
Temperature	43°C	43°C
pH	6-10	6-9
COD	3,000	1,500
Ammonia (total)	100	50
Phosphorous (as P)	20	20
Suspended Solids	400	400
BOD	2,000	1,000
Sulphides (as S)	10	10
Sulphates (as SO ₄)	1,000	1,000
Detergents	80	80
Phenols	0.5	0.5
Nitrates	70	70
Silver	0.1	0.1
Aluminium	1	1
Cadmium	0.5	0.5
Cobalt	1	1
Chrome (total)	1	1

Parameter	Column 1	Column 2
	Emission limit value until 1 September 2000 <small>note 1</small>	Emission limit value from 2 September 2000 <small>note 1</small>
Copper	5	3
Mercury	0.05	0.005
Iron	10	10
Nickel	5	3
Lead	0.5	0.5
Tin	2	1
Zinc	5	3
Arsenic	0.5	0.5
Cyanide	0.5	0.5
Chlorides	1,500	1,000
Fluoride	10	10
Organohalogenes	0.1	0.1
Colour	Neutral	Neutral
Fats, oil and grease	200	200
Toxicity ^{note 2}	10 toxic units	10 toxic units

Note 1: Except as otherwise agreed with the Agency.

$$\text{Note 2: Toxic unit (tu) = } \frac{100}{48 \text{ hour EC}_{50}}$$

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SCHEDULE H Waste Types and Quantities

Table H.1 Waste Categories and Quantities

WASTE TYPE	MAXIMUM TONNES PER ANNUM
Hazardous waste as listed in Table E.1.2 of the application	20,000
Non-hazardous waste	14,000
TOTAL	34,000

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Sealed by the seal of the Agency on this 5th day of May, 2000

**PRESENT when the seal
Was affixed hereto:**

Anne Butler Director/Authorised Person