## LICENCE REG No. W0190-01 HAS BEEN SURRENDERED.

Please note that Reg No. W0190-01 was Surrendered on 03/11/2008.



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

## WASTE LICENCE

190-1

Waste Licence Register Number: Licensee:

Bord Gais Eireann

**Location of Facility:** 

Waterford Gasworks, Waterside, Johnstown Business Park, Waterford City.

# **INTRODUCTION**

This licence is for activities involving the remediation of hazardous contaminated soil and groundwater at a facility in Waterford City to be developed for commercial and residential use. The facility lies within the Johnstown Business Park as a fenced square area of 1 hectare. The site is derelict and vacant with no buildings or above ground structures remaining, and is surrounded by buildings on three sides, of which the north and east sides are terrace residential. The St. John's River lies on the immediate north side.

Coal based gas manufacture started at the site in 1826 and carried on up to the 1960s. A surface-site clearance contract was carried out in 1993. However, a number of buried underground tar tanks and gasholder basins remain, some containing hazardous sludge. The entire compound now consists of open ground awaiting a waste licence for soil and groundwater remediation and excavation of tanks. The intended period of the waste licence is one year, after which time long-term operations and monitoring will be undertaken in accordance with the aftercare management plan provided for in Condition 4.

It is estimated that the total quantity of soils and made ground to be excavated and classified at the facility is 60,000 tonnes; of which 18,000T will be construction and demolition material crushed and re-used on site; 10,000T will be soils re-used on site; and 32,000T will be exported via road to port as contaminated soils requiring treatment overseas. Site activities will necessitate the building of a temporary bridge across the St. John's River and the opening of a new site entrance on the north side adjacent to the residential area of Waterside.

It is estimated that 15,000m<sup>3</sup> of Groundwater will be discharged to sewer arising from dewatering of the facility to enable excavations.

The licence sets out in detail the conditions under which Bord Gais Eireann will operate and manage this facility.

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# **DECISION & REASONS FOR THE DECISION**

# **Reasons for the Decision**

On the basis of the information before it, the Environmental Protection Agency is satisfied that the waste activity, or activities, licensed hereunder in Part I will comply with the requirements of Section 40(4) of the Waste Management Act, 1996.

In reaching this decision the Environmental Protection Agency has considered the application and supporting documentation received from the applicant, all objections received and the reports of its inspectors.

# **INTERPRETATION**

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Act, 1996 (the Act), unless otherwise defined in this section.

| Aerosol                           | A suspension of solid or liquid particles in a gaseous medium.  |  |  |  |
|-----------------------------------|---|--|--|--|
| Adequate lighting                 | 20 lux measured at ground level.  |  |  |  |
| Agreement                         | Agreement in writing.   |  |  |  |
| Annually                          | At approximately twelve monthly intervals.  |  |  |  |
| Attachment                        | Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.  |  |  |  |
| Application                       | The application by the licensee for this waste licence.   |  |  |  |
| Appropriate facility              | A waste management facility, duly authorised under relevant law and technically suitable.   |  |  |  |
| BAT                               | Best Available Technology.  |  |  |  |
| <b>Bi-annually</b>                | All or part of a period of six consecutive months.  |  |  |  |
| Biodegradable<br>waste            | Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.  |  |  |  |
| CEN                               | Comité Européen De Normalisation – European Committee for Standardisation.  |  |  |  |
| Condition                         | A condition of this licence.  |  |  |  |
| Consignment Note                  | All movements of hazardous waste within Ireland must be accompanied by a "C1" consignment note issued by a local authority under the Waste Management (Movement of Hazardous Waste) Regulations (SI No. 147 of 1998). Transfrontier shipment notification and movement/tracking form numbers are required for all exports of waste from, into or through the state under the Waste Management (Transfrontier Shipment of Waste) Regulations (SI No. 149 of 1998). |  |  |  |
| Construction and Demolition Waste | All wastes which arise from construction, renovation and demolition activities.   |  |  |  |
| Containment boom                  | A boom which can contain spillages and prevent them from entering drains or watercourses.   |  |  |  |

| 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<br>number contained in the application, unless otherwise specified in this licence.  |  |  |  |
| Emergency                         | Those occurrences defined in Condition 9.4.  |  |  |  |
| Emission Limits                   | Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , of this licence.  |  |  |  |
| European Waste<br>Catalogue (EWC) | A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.   |  |  |  |
| Foul water                        | Treated effluent, and drainage from wheelwash, truck wash, ramp, weighbridges vehicle cleaning and in other areas e.g. run-off from hardstanding areas associated with waste processing.   |  |  |  |
| Green waste                       | Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.  |  |  |  |
| Hours of Operation                | The hours during which the facility is authorised to be operational. The hours<br>of operation of a facility are usually longer than the hours of waste acceptance<br>to facilitate preparatory and completion works, such as the removal and laying<br>of daily cover. Different activities within the facility, such as the civic waste<br>facility, may have different hours of waste acceptance.   |  |  |  |
| Hours of Waste<br>Acceptance      | The hours during which the facility is authorised to accept waste. Different activities within the facility, such as the civic waste facility, may have different hours of waste acceptance.   |  |  |  |
| Incident                          | The following shall constitute an incident for the purposes of this licence:   |  |  |  |
|                                   | a) an emergency;   |  |  |  |
|                                   | b) any emission which does not comply with the requirements of this licence;   |  |  |  |
|                                   | c) any exceedence of the daily duty capacity of the waste handling equipment;  |  |  |  |
|                                   | d) any trigger level specified in this licence which is attained or exceeded; and  |  |  |  |
|                                   | e) any indication that environmental pollution has, or may have, taken place.  |  |  |  |
| Industrial 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. |  |  |  |
|                                   | and the ecotoxicity of the leachate must be insignificant, and in particular not   |  |  |  |
| Landfill Directive                | and the ecotoxicity of the leachate must be insignificant, and in particular not   |  |  |  |

| Licensee                          | Bord Gais Eireann.  |  |
|-----------------------------------|---|--|
| Liquid Waste                      | Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.  |  |
| Maintain                          | Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.   |  |
| Mobile Plant                      | Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.   |  |
| Monthly                           | A minimum of 12 times per year, at approximately monthly intervals.   |  |
| Municipal waste                   | As defined in Section $5(1)$ of the Act.  |  |
| Night-time                        | 10.00 p.m. to 8.00 a.m.   |  |
| Noise Sensitive<br>Location (NSL) | Any dwelling house, hotel or hostel, health building, educational<br>establishment, place of worship or entertainment, or any other facility or area<br>of high amenity which for its proper enjoyment requires the absence of noise<br>at nuisance levels. |  |
| Oil Separator                     | Device installed according to the draft European Standard prEN 858 (Installations for the separation of light liquids, e.g. oil and petrol).  |  |
| Recyclable<br>Materials           | Those waste types, such as cardboard, batteries, gas cylinders, etc, which may be recycled.   |  |
| Quarterly                         | At approximately three monthly intervals.   |  |
| Sanitary Authority                | Waterford City Council  |  |
| Sample(s)                         | Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.   |  |
| SOP                               | Standard Operating Procedure.   |  |
| Specified Emissions               | Those emissions listed in Schedule C: Emission Limits of this licence.  |  |
| Specified<br>Engineering Works    | Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> of this licence.   |  |
| тос                               | Total Organic Carbon.   |  |
| Trigger Level                     | A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.  |  |
| Weekly                            | During all weeks of plant operation, and in the case of emissions, when<br>emissions are taking place; with no more than one measurement in any one<br>week.  |  |
| EPA Working Day                   | Refers to the following hours; 9.00 a.m. to 5.30 p.m. Monday to Friday inclusive.   |  |

# Part I Schedule of 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 Bord Gais Eireann to carry on the waste activities listed below at Waterford Gasworks, Waterside, Johnstown Business Park, Waterford City subject to 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 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 treatment of hazardous contaminated soil and sludges by mixing on site with made-ground prior to their export off-site for disposal at a licensed 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 materials prior to their export 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 the excavation and processing of materials contaminated with organic substances.  |  |  |  |  |
| Class 3.  | Recycling or reclamation of metals and metal compounds:   |  |  |  |  |
|           | This activity is limited to the reclamation of metals excavated from the facility during remediation.   |  |  |  |  |
| Class 4.  | Recycling or reclamation of other inorganic materials:  |  |  |  |  |
|           | This activity is limited to the recovery of inorganic construction and demolition waste excavated from the site during remediation.   |  |  |  |  |
| 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 materials prior to their export off-site for recovery.   |  |  |  |  |

# PART II CONDITIONS

## CONDITION 1 SCOPE OF THE LICENCE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and authorised by this licence.
- 1.2. For the purposes of this licence, the facility is the area of land outlined in red on Drawing No. 25836/B/101 of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. This licence is for the purposes of waste licensing under the Waste Management Act, 1996 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.4. The maximum tonnage of waste to be handled at the facility shall not exceed 60,000 tonnes per annum as specified in *Schedule A: Waste Handling*, of this licence unless otherwise agreed by the Agency.
- 1.5. Waste Handling Hours and Hours of Operation
  - 1.5.1 Waste shall be exported from the facility only between the hours of 0800 and 1800 Monday to Saturday inclusive, and between the hours of 1100 and 1700 on Sundays unless otherwise agreed by Agency.
  - 1.5.2 The facility shall be operated only during the hours of 0800 and 1800 Monday to Saturday inclusive unless otherwise agreed by Agency.
  - 1.5.3 The facility shall not be operated on Sundays unless otherwise agreed by the Agency.
- 1.6 Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any Condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.

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

## CONDITION 2 MANAGEMENT OF THE FACILITY

- 2.1 Facility Management
  - 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation.
  - 2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence.

#### 2.2 Management Structure

- 2.2.1 Prior to the commencement of waste activities the licensee shall submit written details of the management structure of the facility to the Agency. Any proposed replacement in the management structure shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information.
  - a) the names of all persons who are to provide the management and supervision of the waste activities authorised by the licence, in particular the name of the facility manager and any nominated deputies;
  - b) details of the responsibilities for each individual named under a) above; and
  - c) details of the relevant education, training and experience held by each of the persons nominated under a) above.
- 2.3 Environmental Management System (EMS)
  - 2.3.1 The licensee shall submit to the Agency for its agreement an Environmental Management System (EMS) for the facility within one month of commencement of waste activities. The EMS shall be updated as required with amendments being submitted to the Agency for its agreement.
  - 2.3.2 The EMS shall include as a minimum the following elements:
    - 2.3.2.1 Environmental Management Plan (EMP)

The EMP shall include any items required by written guidance issued by the Agency.

2.3.2.2 Corrective Action Procedures

The Corrective Action Procedures shall detail the corrective actions to be taken should any of the procedures detailed in the EMS not be followed.

2.3.2.3 Awareness and Training Programme

The Awareness and Training Programme shall identify training needs, for personnel who work in or have responsibility for the licensed facility.

#### 2.4 Communications Programme

- 2.4.1 The licensee shall establish and maintain a Communications Programme to ensure members of the public can obtain information about the facility at all reasonable times, concerning the environmental performance of the facility. The communications programme shall reflect the level of activity on-site and shall be established within one month of the date of grant of this licence and shall be made available on-site one month prior to the commencement of waste activities.
- 2.4.2 The licensee shall establish and maintain liaison with a Stakeholders Group composed of representatives of the local community. The licensee shall convene monthly meetings in order to update the Stakeholders Group on works at the facility including progress, Agency correspondence, and any nuisance/emissions issues with particular emphasis on how they are addressed.

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

## CONDITION 3 FACILITY INFRASTRUCTURE

- 3.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as required by the conditions of this licence.
- 3.2 Specified Engineering Works
  - 3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: Specified Engineering Works* of this licence, to the Agency for its agreement at least one month prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
  - 3.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.
  - 3.2.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall include the following information:
    - a) a description of the works;
    - b) as-built drawings of the works;
    - c) records and results of all tests carried out (including failures);
    - d) drawings and sections showing the location of all samples and tests carried out;
    - e) daily record sheets/diary;
    - f) name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
    - g) name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
    - h) records of any problems and the remedial works carried out to resolve those problems; and
    - i) any other information requested in writing by the Agency.
- 3.3 Facility Notice Board
  - 3.3.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.
  - 3.3.2 The board shall clearly show:
    - a) the name and telephone number of the facility;
    - b) the normal hours of opening;
    - c) the name of the licence holder;
    - d) an emergency out of hours contact telephone number;
    - e) the licence reference number; and
    - f) where environmental information relating to the facility can be obtained.
- 3.4 Facility Security
  - 3.4.1 Security hoarding, fencing, and gates shall be installed and maintained to a height of 2.4m.
  - 3.4.2 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.
- 3.5 Facility Office
  - 3.5.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.
  - 3.5.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.
- 3.6 Weighbridge and Wheel Cleaning
  - 3.6.1 The licensee shall provide and maintain a wheel cleaner at the facility and shall arrange for the recording of the weight of materials taken off-site and on-site to the satisfaction of the Agency.
  - 3.6.2 The wheel cleaner shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to sewer/waste water treatment plant.
- 3.7 Wastewater Treatment Plant
  - 3.7.1 Prior to the commencement of waste activities at the facility, the licensee shall install and maintain a groundwater and wastewater treatment plant on the facility to the the remediation specification Clause C 200 set out in the report listed in Condition 5.1.1 (c) of this licence, to treat any rainwater, groundwater or surface water arising from the remediation works.
- 3.8 Tank and Drum Storage Areas
  - 3.8.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
  - 3.8.2 All 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.
  - 3.8.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
  - 3.8.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
  - 3.8.5 The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency following its installation and prior to its use as a storage area.
- 3.9 Surface Water Management
  - 3.9.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:
    - a) the prevention of contaminated water and leachate discharges into surface water drains and courses; and
    - b) the collection/diversion of run off arising from capped and restored areas.

- 3.10 Groundwater Management
  - 3.10.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:
    - a) the protection of the underlying bedrock aquifer from pollution by the waste activities; and
    - b) the protection of buildings from any adverse effects caused by groundwater flow changes or groundwater contamination arising at the facility.
- 3.11 Monitoring Infrastructure
  - 3.11.1 Monitoring infrastructure which is damaged or proves to be unsuitable for its purpose shall be replaced within one week of it being damaged or recognised as being unsuitable.
  - 3.11.2 All monitoring wells, other than those specified in *Schedule D: Monitoring*, of this licence shall be decommissioned according to the UK Environment Agency guidelines 'Decomissioning Redundant Boreholes and Wells' within two months of the date of grant of this licence.

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

## CONDITION 4 RESTORATION AND AFTERCARE

- 4.1. At least three months prior to the cessation of waste activities at the facility, the licensee shall submit a detailed decommissioning plan to the Agency for its agreement.
- 4.2. The final height of the finished restored site shall not be less than 2.2mOD Malin Head or as otherwise agreed in writing with the Agency and Waterford City Council.
- 4.3. The finished restored site shall have hardstanding across 95% of the facility unless otherwise agreed by the Agency.
- 4.4. Reprocessed construction and demolition material and inert waste may be used in the restoration works. The licensee shall submit evidence to the Agency that the reprocessed waste is fit for the intended purpose of reuse. Reference should be made to any specific reference standards (BS, CEN, DETR) or any guidance produced by the Agency. Following agreement with the Agency, this reprocessed waste material may be used in the restoration works.

**REASON**: To provide for the restoration of the facility.

## CONDITION 5 FACILITY OPERATIONS

- 5.1 Remediation of the Facility
  - 5.1.1 The remediation of the facility shall be in accordance with the following reports submitted as part of the application:
    - a) Quantitative Risk Assessment Report (Parkman Report No. 25836/R/23);

- b) Attachment D 2 (Facility Operation) of the application; and
- c) Waterford Gasworks Remediation Specification (Volume 2) (Parkman Report No. 25836/R/102B).

Any variations to these specifications must be agreed in advance by the Agency.

- 5.2 Operational Controls
  - 5.2.1 Remediated areas of the site shall be profiled so that no depressions exist in which water may accumulate.
  - 5.2.2 Scavenging shall not be permitted at the facility.
  - 5.2.3 Gates shall be locked shut when the facility is unsupervised.
  - 5.2.4 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
  - 5.2.5 Fuels shall only be stored at appropriately bunded locations on the facility.
  - 5.2.6 All tanks and drums shall be labelled to clearly indicate their contents.
  - 5.2.7 No smoking shall be allowed on the facility.
  - 5.2.8 The odour abatement plan and contingency measures shall be in accordance with the remediation specification clauses A870 and A871 set out in the report listed in Condition 5.1.1 (c) of this licence.
  - 5.2.9 The dust abatement plan and contingency measures shall be in accordance with the remediation specification clauses A860 and A861 set out in the report listed in Condition 5.1.1 (c) of this licence.
  - 5.2.10 The noise abatement plan and contingency measures shall be in accordance with the remediation specification clauses A840 and A841 set out in the report listed in Condition 5.1.1 (c) of this licence.
- 5.3 Waste Handling
  - 5.3.1 Asbestos Waste
    - 5.3.1.1 The identification of the presence of asbestos and the handling of any asbestos on the facility shall be in accordance with Health and Safety Authority Regulations. Disposal of asbestos material must be to a licensed facility.
  - 5.3.2 Decommissioned Tanks
    - 5.3.2.1 Prior to the commencement of waste activities at the facility the licensee shall submit a report to the Agency on the identification, handling and removal of any tanks or containers, or their contents, on or from the facility. This should be done in combination with Condition 5.1.1.
- 5.4 Off-site Disposal and Recovery
  - 5.4.1 All wastes, other than those recovered in accordance with Condition 5.3.1.1, shall be exported from the facility and disposed of or recovered at an appropriate facility or facilities to be agreed in advance by the Agency.

#### 5.5 Maintenance

- 5.5.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.
- 5.5.2 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.5.3 The wheel-wash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash.

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

## CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule C: Emission Limits* of this licence. There shall be no other emissions of environmental significance.
- 6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 6.3. Emission limits for emissions to atmosphere in this licence shall be interpreted in the following way.
  - 6.3.1. Non-Continuous Monitoring
    - (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value;
    - (ii) For all other parameters, no 30 minute mean value shall exceed the emission limit value; and
    - (iii) For flow, no hourly or daily mean value shall exceed the emission limit value.
- 6.4. There shall be no direct emissions to groundwater.
- 6.5. There shall be no clearly audible tonal component or impulsive component in the noise emissions from the activity at the noise sensitive locations.
- 6.6. Disposal of Foul Water
  - 6.6.1. No foul water shall be discharged to surface water.
- 6.7. Emissions to Sewer

Unless otherwise agreed in advance by the Agency and the Sanitary Authority, the following shall apply for the discharge of foul water. There shall be no other discharge or emission to sewer of environmental significance.

6.7.1. Non-hazardous wastewater runoff and leachate arising from areas where wastes are stored or washed shall be discharged to the wastewater treatment plant. Treated effluent may be discharged to sewer if emission limits specified in *Schedule C.3 Emission Limits for Foul Water Emissions to Sewer*, of this licence are complied with.

- 6.7.2. No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to sewer maintenance personnel working in the sewerage system, or as would be damaging to the fabric of the sewer, or as would interfere with the biological functioning of a downstream wastewater treatment works.
- 6.7.3. The licensee shall permit authorised persons of the Agency and the Sanitary Authority to inspect, examine and test, at all reasonable times, any works and apparatus installed, in connection with the discharge or emission, and to take samples of the discharge or emission.
- 6.7.4. Hazardous wastes may not be discharged to sewer. Free phase product consisting of light non-aqueous phase liquids and dense non-aqueous phase liquids shall not be discharged to sewer.
- 6.7.5. The licensee shall ensure that the discharge shall not contain dissolved methane, petroleum spirits or organic solvents (including chlorinated organic solvents), at concentrations which would give rise to flammable or explosive vapours in the sewer.
- 6.7.6. Non-trade effluent wastewater (e.g. firewater, accidental spillage) which occurs on-site shall not be discharged to the sewer without the prior authorisation of the Sanitary Authority.
- 6.7.7. The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which a discharge or emission is being made. Each such inspection chamber or manhole shall be constructed and maintained by the licensee so as to permit the taking of samples of the discharge.
- 6.7.8. The licensee shall submit monitoring results to the Sanitary Authority on a monthly basis.
- 6.7.9. A flowmeter shall be installed at the point of discharge to sewer.

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

## CONDITION 7 NUISANCE CONTROL

- 7.1 The licensee shall ensure that 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.
- 7.2 The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.
- 7.3 Litter Control
  - 7.3.1 All loose litter or other waste placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00 a.m. of the next working day after such waste is discovered.
  - 7.3.2 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 7.4 Dust Control
  - 7.4.1 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

- 7.5 Prior to exiting the facility, all waste vehicles shall use the wheelwash.
- 7.6 Odour Control
  - 7.6.1 The covering of highly odorous surfaces at the work face and at stockpiles should be carried out progressively, and at a minimum at the end of each working day.
  - 7.6.2 The maximum height of contaminated soil stockpiles is to be limited to below the level of the boundary fence. Stockpiles shall be covered with tarpaulins or an impermeable geotextile at the end of each working day.
  - 7.6.3 An odour suppression spray, as agreed by the Agency, shall be applied every two hours to uncovered soil stockpiles during the working day.

**REASON:** To provide for the control of nuisances.

# CONDITION 8 MONITORING

- 8.1. The licensee shall carry out such monitoring of noise, atmospheric and foul water emissions at such locations and frequencies as set out in *Schedule D: Monitoring*, of this licence upon commencement of waste activities. Groundwater monitoring (as set out in Schedule D.5) shall commence no later than two months after the date of grant of this licence.
- 8.2. The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
- 8.3. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.
- 8.4. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 8.5. The licensee shall maintain all sampling and monitoring points, and clearly label and name all sampling and monitoring locations, so that they may be used for representative sampling and monitoring.
- 8.6. The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 8.7. Within one month of the date of grant of this licence, the following information shall be submitted to the Agency for its agreement: the names, qualifications and a summary of relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring. Any proposed changes to the above shall be submitted in writing to the Agency for its agreement.
- 8.8. 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.

- 8.9. Noise Monitoring
  - 8.9.1. The licensee shall carry out noise monitoring at the locations set out in *Schedule D: Monitoring* of this licence.
- 8.10. Groundwater Monitoring
  - 8.10.1. Groundwater monitoring shall be undertaken as set out in *Schedule D: Monitoring* of this licence.
- 8.11. Foul Water Monitoring
  - 8.11.1. Foul water monitoring shall be undertaken as set out in *Schedule D: Monitoring* of this licence.
- 8.12. Emissions to Atmosphere & Air Quality Monitoring
  - 8.12.1. Emissions to Atmosphere & Air Quality Monitoring shall be undertaken as set out in *Schedule D: Monitoring* of this licence.
  - 8.12.2. The licensee shall carry out such odour monitoring as may be specified by the Agency.
- 8.13. Nuisance Monitoring
  - 8.13.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours.

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

## CONDITION 9 CONTINGENCY ARRANGEMENTS

- 9.1. In the event of an incident the licensee shall immediately:
  - a) identify the date, time and place of the incident;
  - b) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
  - c) isolate the source of any such emission;
  - d) evaluate the environmental pollution, if any, caused by the incident;
  - e) identify and execute measures to minimise the emissions/malfunction and the effects thereof; and
  - f) provide a proposal to the Agency for its agreement within one month of the incident occurring to:
    - i) identify and put in place measures to avoid reoccurrence of the incident; and
    - ii) identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall, prior to commencement of waste activities, submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any

emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.

- 9.3. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 9.4. Emergencies
  - 9.4.1. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
  - 9.4.2. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.
  - 9.4.3. In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.

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

## CONDITION 10 RECORDS

- 10.1 The licensee shall keep the following documents at the facility office:
  - a) the current waste licence relating to the facility;
  - b) the current EMS for the facility;
  - c) the AER for the facility; and
  - d) all written procedures produced by the licensee which relate to the licensed activities.
- 10.2 The licensee shall maintain a written record for each load of waste arriving at and departing from the 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;
  - 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; and
  - j) where applicable a consignment note number (including transfrontier shipment notification and movement/tracking form numbers, as appropriate).

#### 10.3 Written Records

The following written records shall be maintained by the licensee:-

- a) the types and quantities of waste recovered at the facility. These records shall include the relevant EWC Codes;
- b) all training undertaken by facility staff;
- c) results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
- d) details of all nuisance inspections; and
- e) the names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
- 10.4 The licensee shall maintain a written record of all complaints relating to the operation of the 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 keeping of proper records of the operation of the facility.

## **CONDITION 11 REPORTS AND NOTIFICATIONS**

- 11.1 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in:
  - a) A material change or increase in:
    - The nature or quantity of any emission;
    - The abatement/treatment or recovery systems;
    - The range of processes to be carried out;
    - The fuels, raw materials, products or wastes to be generated or accepted, or
  - b) Any changes in:
    - The site management and control with adverse environmental significance,

shall be carried out or commenced without prior notice to, and without the prior written agreement of, the Agency.

- 11.2 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:
  - a) be sent to the Agency's Headquarters;
  - b) comprise one original and two copies unless additional copies are required;
  - c) be formatted in accordance with any written instruction or guidance issued by the Agency;
  - d) include whatever information as is specified in writing by the Agency;

- e) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
- f) be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
- g) be transferred electronically to the Agency's computer system if required by the Agency.
- 11.3 In the event of an incident occurring on the facility, the licensee shall:
  - a) notify the Agency as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident;
  - b) submit a written record of the incident, including all aspects described in Condition 9.1(ae), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident;
  - c) in the event of any incident which relates to discharges to surface/sewer water, notify Waterford City Council as soon as practicable and in any case not later than 10:00am on the following working day after such an incident; and
  - d) Should any further actions be taken as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.
- 11.4 Monitoring Locations
  - 11.4.1 Not later than four weeks prior to the commencement of waste activities on-site the licensee shall submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence. The drawing(s) shall include the reference code of each monitoring point.
- 11.5 Annual Environmental Report
  - 11.5.1 The licensee shall submit to the Agency for its agreement an Annual Environmental Report (AER) in combination with the validation and surrender report specified in *Schedule B: Specified Engineering Works*, of this licence.
  - 11.5.2 The AER shall include as a minimum the information specified in *Schedule F: Content of Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.

**REASON:** To provide for proper reporting and notification of the Agency.

## CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

- 12.1 Agency Charges
  - 12.1.1 The licensee shall pay to the Agency an annual contribution of €20,458 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 2005 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 2004, the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> December. This amount shall be paid to the Agency within one month of the date of grant of this licence.

- 12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs in regard to items not covered by the said annual contribution.
- 12.2 Financial Provision for Closure, Restoration and Aftercare
  - 12.2.1 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. A report on this assessment shall be submitted to the Agency for its agreement within three months of date of grant of this licence.
  - 12.2.2 Prior to the commencement of waste activities on the facility, 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. Such provision shall be maintained by the licensee unless otherwise agreed by the Agency.
  - 12.2.3 The amount of financial provision, held under Condition 12.2.2 shall be reviewed and revised as necessary. Any proposal for such a revision shall be submitted to the Agency for its agreement.
  - 12.2.4 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under Condition 12.2.2, forward to the Agency written proof of such indemnity.
  - 12.2.5 Unless otherwise agreed any revision to the fund shall be computed using the following formula:

$$Cost = (ECOST \times WPI) + CiCC$$

Where:

| Cost  | = Revised restoration and aftercare cost.   |
|-------|---|
| ECOST | = Existing restoration and aftercare cost.  |
| WPI   | = Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision. |

- CiCC = Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.
- 12.3 Sanitary Authority Charges.
  - 12.3.1 The licensee shall pay to the Sanitary Authority a six monthly charge of 5.6 cents per cubic metre of trade effluent discharged to the foul sewer or such sum as may be determined from time to time, having regard to the variations in the cost of providing drainage and the variation in effluent reception and treatment costs. This amount shall be paid to the Sanitary Authority within one month of the date of grant of this licence and six monthly thereafter.
  - 12.3.2 The licensee shall pay to the Sanitary Authority a six monthly charge of 1,092 euro or such sum as may be determined from time to time, towards the cost of monitoring the discharge of trade effluent. This amount shall be paid to the Sanitary Authority within one month of the date of grant of this licence and six monthly thereafter.

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

# SCHEDULE A : Waste Handling

## A.1 Waste Handling

Table A.1 Waste Categories and Quantities

| WASTE TYPE      | MAXIMUM (TONNES<br>PER ANNUM) <sup>Note 1</sup> |
|-----------------|---|
| Hazardous Waste | 32,000  |
| Waste Soil      | 10,000  |
| Inert Waste     | 18,000  |
| TOTAL           | 60,000  |

Note 1: The quantities of the individual waste types may be adjusted, only with the agreement of the Agency, subject to the total waste quantity remaining the same.

# SCHEDULE B : Specified Engineering Works

#### **Specified Engineering Works**

Installation of Wheel Cleaning.

Design and engineering aspects of the soil/sludge/aggregate mixing gasholder basin T13, as listed in specification clauses A870 & A871 of the application. The proposal shall provide odour abatement controls, and if necessary introduce innovative technologies at the mixing zone or abatement zone. Treatment of arising leachate from the base of the lined gasholder shall also be specified.

Design, construction and operational procedures of the groundwater and wastewater treatment plant.

Japanese Knotweed Eradication shall follow the UK Environment Agency Code of Practice for the management, destruction and disposal of any Japanese Knotweed.

Bunding of fuel and oil storage areas.

Validation & Surrender Report to include:

- Validation report required to describe final condition of the site
- Recap on remediation strategy
- Recap on Remediation Target Values (RTVs)
- Diary of excavations based on a grid system
- Summary table of wastes exported
- Summary of waste processing & recovery
- Restoration works described
- Environmental monitoring statement

Any other works notified in writing by the Agency.

# **SCHEDULE C : Emission Limits**

C.1 Noise Emissions: (Measured at the monitoring points indicated in <u>Table D.1.1</u>).

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

## C.2 Dust Deposition Limits: (Measured at the monitoring points indicated in <u>Table D.1.1</u>).

| Level (mg/m <sup>2</sup> /day) <sup>Note 1</sup> |      |    |   |        |    |         |  |
|--|------|----|---|--------|----|---------|--|
|  |      |    |   | 350    |    |         |  |
|  | 20.1 | •. | 1 | 1.4 .4 | 1. | ( 2 ( 1 |  |

Note 1: 30 day composite sample with the results expressed as  $mg/m^2/day$ .

## C.3 Emission Limits for Foul Water Emissions to Sewer

| Emission Point Reference N<br>Volume to be emitted: | No. Sewer No. 2 at Wat<br>Maximum in any or<br>Maximum rate per 1 | ne day: $100\text{m}^3$                             |
|---|---|---|
|   | Parameter   | Emission<br>Limit Value<br>Grab<br>Sample<br>(mg/l) |
|   | BOD   | 50  |
|   | COD   | 300   |
|   | Sulphates (as SO <sub>4</sub> )                                   | 1,000   |
|   | Nitrates (as N)   | 10  |
|   | РН  | 6 to 10   |
|   | Temperature   | 25 °C   |
|   | PAH's (Total of 16)   | 0.2   |
|   | Phenols (as C <sub>6</sub> H <sub>5</sub> O <sub>5</sub> )        | 3   |
|   | Mineral Oils  | 50  |
|   | Cyanide (Total Free)  | 3   |
|   | Arsenic (mg/l As)   | 0.6   |
|   | Cadmium (mg/l Cd)   | 0.05  |
|   | Chromium (mg/l Cr)  | 0.5   |
|   | Lead (mg/l Pb)  | 0.5   |
|   | Copper (as Cu)  | 5   |
|   | Zinc (as Zn)  | 10  |
|   |   |   |

# **SCHEDULE D : Monitoring**

Monitoring to be carried out as specified below.

## **D.1** Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1 and Drawing No. 25836/B/108 of the application.

#### Table D.1.1Noise and foul water Monitoring Locations

| Noise  | Foul Water               | Groundwater                                  |
|--|--------------------------|--|
| Stations   | Stations                 | Stations                                     |
| Four noise sensitive<br>locations shall be agreed<br>by the Agency within one<br>month of the date of grant<br>of licence. | Sewer No. 2 at Waterside | W5D, W5S<br>W1D, W1S<br>W2D, W2S<br>W4D, W4S |

#### Table D.1.2 Emissions to Atmosphere Monitoring Locations

| Dust   | Odour/Air                   |
|--|-----------------------------|
|  | Quality                     |
| Stations   | Stations                    |
| D1, D2, D3, D4, D5, D6   | Emission point grid         |
| <i>D</i> 1, <i>D</i> 2, <i>D</i> 3, <i>D</i> 1, <i>D</i> 3, <i>D</i> 0 | references (12 digit) to be |
|  | submitted to the Agency     |
|  | subsequent to agreement.    |

#### D.2 Dust

#### Table D.2.1Dust 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.

#### D.3 Noise

#### Table D.3.1 **Noise Monitoring Frequency and Technique**

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

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

## **D.4** Foulwater Emissions

#### Foul water Monitoring Frequency and Techniques Table D.4.1

| Parameter                                     | Monitoring Frequency | Analysis Method/Technique          |
|---|----------------------|------------------------------------|
| Flow to sewer                                 | Monthly              | Grab                               |
| СОД   | Monthly              | Standard Methods <sup>Note 1</sup> |
| Sulphates (as SO <sub>4</sub> )               | Monthly              | Standard Methods <sup>Note 1</sup> |
| РН  | Monthly              | Standard Methods <sup>Note 1</sup> |
| Temperature                                   | Monthly              | Standard Methods <sup>Note 1</sup> |
| Additional Parameters (as per<br>Schedule C3) | Monthly              | Standard Methods <sup>Note 1</sup> |

"Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 20th Ed., American Public Health Association, 1015 Fifteenth Street, Washington DC 20005, USA. Note 1:

## D.5 Groundwater

| Parameter Note 1                    | GROUNDWATER             |
|-------------------------------------|-------------------------|
|                                     | Monitoring<br>Frequency |
| Visual Inspection/Odour Note 2      | Monthly                 |
| Groundwater Level Note 3            | Monthly                 |
| Ammoniacal Nitrogen                 | Quarterly               |
| Chloride                            | Quarterly               |
| Dissolved Oxygen                    | Annually                |
| Electrical Conductivity Note 3      | Monthly                 |
| PH Note 3                           | Monthly                 |
| Temperature Note 3                  | Monthly                 |
| Cadmium                             | Annually                |
| Chromium (Total)                    | Annually                |
| Copper                              | Annually                |
| Cyanide (Total)                     | Annually                |
| Iron                                | Quarterly               |
| Lead                                | Annually                |
| List I/II organic substances Note 4 | Monthly                 |
| Mineral Oil                         | Monthly                 |
| BTEX                                | Monthly                 |
| РАН                                 | Monthly                 |
| Magnesium                           | Annually                |
| Manganese                           | Annually                |
| Mercury                             | Annually                |
| Total Alkalinity                    | Annually                |
| Total Organic Carbon                | Monthly                 |
| Residue on evaporation              | Annually                |
| Zinc                                | Annually                |
| Phenols                             | Monthly                 |

Table D.5.1 Groundwater - Parameters /Frequency

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: Where there is evident gross contamination of groundwater, additional samples should be analysed.

Note 3: These parameters should be measured on-site with a portable electronic meter.

Note 4: 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).

# SCHEDULE E : Recording and Reporting to the Agency

| Report  | <b>Reporting</b><br>Frequency <sup>Note1</sup> | Report Submission Date                               |
|---|--|--|
| Annual Environment Report (AER)               | Once off                                       | To be included with Validation & Surrender Report.   |
| Record of incidents                           | As they occur                                  | Within five days of the incident.                    |
| Bund, tank and container integrity assessment | Once off                                       | Prior to the works commencing.                       |
| Specified Engineering Works reports           | As they arise                                  | Prior to the works commencing.                       |
| 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 Foul water                      | Quarterly                                      | Ten days after end of the quarter being reported on. |
| Dust Monitoring                               | Quarterly                                      | Ten days after the period being reported on.         |
| Noise Monitoring                              | Quarterly                                      | Ten days after the 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 F : Content of the Annual Environmental Report

#### **Annual Environmental Report Content**

Reporting Period.

Waste activities carried out at the facility.

Quantity and composition of waste handled during the reporting period and each previous year (relevant EWC codes to be used).

Summary report on emissions.

Summary of results and interpretations of environmental monitoring, including a location plan of all monitoring locations.

Resource and energy consumption summary. Energy Efficiency Report.

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

Tank, drum, 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.

Volume of foul water produced and volume of foul water transported off-site.

Any other items specified by the Agency.

Sealed by the seal of the Agency on this the 29<sup>th</sup> day of July, 2004

PRESENT when the seal of the Agency was affixed hereto:

Padraic Larkin, Director/Authorised Person