Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters
P.O. Box 3000
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County Wexford
Ireland

INTEGRATED POLLUTION PREVENTION & CONTROL LICENCE
Recommended Determination

Licence Register Number:	**P0015-05**
CRO No.:	**113077**
Licensee:	**Schering-Plough (Ireland) Company, trading as Schering Plough (Avondale) Company**
Location of Facility:	**Rathdrum, County Wicklow.**

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

Schering-Plough (Ireland) Company, trading as Schering Plough (Avondale) Company, operate a pharmaceutical plant on a 24 hectare (approx.) site at Rathdrum, Country Wicklow. The installation was granted an IPPC licence in 1995, and subsequently revised licences in 1997, 2000 and 2007.

Manufacturing activities at the installation are based on chemical synthesis of a range of bulk pharmaceutical active ingredients.

Treated effluent from the installation's wastewater treatment plant (WWTP) and uncontaminated surface water run-off is discharged from the site to the Avonmore River (Water Framework Directive Code: IE_EA_010_1477).

The installation is also licensed for the burning of waste liquid solvents generated on-site as a support fuel in the liquid vapour incinerator (LVI), subject to compliance with the requirements of Council Directive 2000/76/EC on the incineration of waste. The LVI's flue gas scrubbing system gives rise to wastewater discharges, which are subsequently treated in the installation's WWTP. As required by this Directive, separate ELVs and monitoring of aqueous emissions from the incineration activity are included in the licence.

The licence sets out in detail the conditions under which Schering-Plough (Ireland) Company, trading as Schering Plough (Avondale) Company, will operate and manage this installation.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 to 2011 / Waste Management Acts 1996 to 2011, unless otherwise defined in the section.

Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	All or part of a period of twelve consecutive months.
Application	The application by the licensee for 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 this licence application.
BAT	Best Available Techniques.
Biannually	At approximately six – monthly intervals.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand (without nitrification suppression).
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Compliance Value	**The concentration of a substance and associated compliance regime that, when not exceeded at the compliance point will prevent pollution and/or achieve water quality objectives at the receptor.**
Containment boom	A boom that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
CRO No.	**Licensee's Company Registration Number**
Daily	During all days of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.

Daytime	0800 hrs to 2200 hrs.
dB(A)	Decibels (A weighted).
Dioxins & Furans	As defined in Council Directive 2000/76/EC on the incineration of waste.
DO	Dissolved oxygen.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EMCA	Excavated Material Containment Area.
Emission limits	Those limits, including concentration limits and deposition rates, established in *Schedule B: Emission Limits,* of this licence.
EMP	Environmental Management Programme.
Environmental damage	As defined in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste 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.
Facility	Any site or premises used for the purpose of the recovery of disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
Gas Oil	**Gas Oil as defined in Council Directive 1999/32/EC and meeting the requirements of S.I. No. 119 of 2008.**
GC/MS	Gas chromatography/mass spectroscopy.
ha	Hectare.
Heavy metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.

Hours of operation	The hours during which the installation is authorised to be operational.
ICP	Inductively coupled plasma spectroscopy.
Incident	The following shall constitute as incident for the purposes of this licence: (i) an emergency; (ii) any emission which does not comply with the requirements of this licence; (iii) any trigger level specified in this licence which is attained or exceeded; and, (iv) any indication that environmental pollution has, or may have, taken place.
Incineration Plant	As defined in Council Directive 2000/76/EC on the incineration of waste.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 to 2011 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilopascals.
L_{eq}	Equivalent continuous sound level.
Licensee	Schering-Plough (Ireland) Company, Trading as Schering Plough (Avondale) Company, Rathdrum, County Wicklow, **CRO No.: 113077**
Liquid waste	Any waste in liquid form and containing less than 2% dry matter.
Local Authority	Wicklow County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.
Mass flow limit	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
Mass flow threshold	A mass flow rate above which a concentration limit applies.

Monthly	A minimum of 12 times per year, at intervals of approximately one month.
Night-time	2200 hrs to 0800 hrs.
Noise-sensitive location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Nominal Capacity	As defined in Council Directive 2000/76/EC on the incineration of waste.
Oil separator	**Device installed according to the International Standard I.S. EN 858-2:2003 (Separator system for light liquids, (e.g. oil and petrol) – Part 2: Selection of normal size, installation, operation and maintenance).**
PRTR	Pollutant Release and Transfer Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Sample(s)	Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.
Sanitary effluent	Wastewater from installation toilet, washroom and canteen facilities.
SOP	Standard operating procedure.
Specified emissions	Those emissions listed in *Schedule B: Emission Limits,* of this licence.
Standard method	A National, European or internationally recognised procedure (e.g. I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.
Storm water	Rain water run-off from roof and non-process areas.
The Agency	Environmental Protection Agency.
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 (BGBI. I p 721). Federal Ministry for Environment, Bonn 1986, including the amendment for Classification of Organic Substances according to section 3.1.7 TA. Luft, published in July 1997.
TOC	Total organic carbon.

Trade effluent	Trade effluent has the meaning given in the Water Services Act, 2007.
Trigger level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Water Services Authority	**Wicklow County Council.**
Weekly	During all weeks of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
WWTP	Waste water treatment plant.

Decision & Reasons for the Decision

The Environmental Protection 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 will not contravene any of the requirements of Section 83(5) of the Environmental Protection Agency Acts 1992 to 2011.

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

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Environmental Protection Agency Acts 1992 to 2011, the Agency proposes to determine the review of the existing licence (Reg. No. P0015-04) granted to:

Schering-Plough (Ireland) Company, trading as Schering Plough (Avondale) Company, Rathdrum, County Wicklow, **CRO No.: 113077,**

under Section 90(2) of the said Acts to carry on the following activities:

:- the use of a chemical or biological process for the production of basic pharmaceutical products

and

:- the recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required,

at Rathdrum, County Wicklow subject to the following twelve Conditions, with the reasons therefor and associated schedules attached thereto.

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

1.1 **IPPC activities at this installation shall be restricted to those listed and described in *Part I Schedule of Activities Licensed*, and shall be as set out in the licence application for P0015-04 or as modified under Condition 1.4 of this licence and subject to the conditions of this licence.**

1.2 Activities at this installation shall be limited as set out in *Schedule A: Limitations,* of this licence.

1.3 For the purposes of this licence, the installation authorised by this licence is the area of land outlined in red on **Drawing No. ACC-SP-1187 (Rev 2) of the review form for P0015-05 submitted to the Agency on the 19th January 2012.** Any reference in this licence to "installation" shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.

1.4 No alteration to, or reconstruction in respect of, the activity, or any part thereof, that would, or is likely to, result in

(i) 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, intermediates, products or wastes generated, or

(ii) any changes in:

- site management, infrastructure or control with adverse environmental significance;

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

1.5 The installation shall be controlled, operated and maintained, and emissions shall take place as set out in the licence. All programmes required to be carried out under the terms of this licence become part of this licence.

1.6 This licence is for the purpose of IPPC licensing under the EPA Acts 1992 to 2011 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

1.7 This licence has been granted in substitution for the licence granted to the licensee on 21 May 2011 (Register No **P0015-04).** The previous IPPC licence **(Reg No. P0015-04)** is superseded by this revised licence.

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

Condition 2. Management of the Installation

2.1 Installation Management

2.1.1 The licensee shall employ a suitable qualified and experienced installation manager who shall be designated as the person in charge. The installation manager or a nominated, suitably qualified and experienced deputy shall be present on the installation at all times during its operation or as otherwise required by the Agency.

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 Environmental Management System (EMS)

2.2.1 The licensee shall **maintain** an Environmental Management System (EMS). The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include, as a minimum, the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall **maintain** a Schedule of Environmental Objectives and Targets. The schedule shall, as a minimum, provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, production related carbon footprint, and the prevention, reduction and minimisation of waste and shall include waste reduction targets. The schedule shall include time frames for the achievement of set targets and shall address a five-year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall **maintain** an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be **maintained** by the licensee. It shall include:

- designation of responsibility for targets;
- the means by which they may be achieved;
- the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

(i) The licensee shall **maintain** an environmental management documentation system which shall be to the satisfaction of the Agency.

(ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall **maintain** procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall **maintain** procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall **maintain** a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the installation, at all reasonable times, concerning the environmental performance of the installation.

2.2.2.8 Maintenance Programme

The licensee shall **maintain** a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.9 Efficient Process Control

The licensee shall **maintain** a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

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

Condition 3. Infrastructure and Operation

3.1 The licensee shall **maintain, for each component of the installation,** all infrastructure referred to in this licence as required by the conditions of this licence.

3.2 Installation Notice Board

3.2.1 The licensee shall provide an Installation Notice Board on the installation so that it is legible to persons outside the main entrance to the installation. The minimum dimensions of the board shall be 1200 mm by 750 mm. The notice board shall be maintained thereafter.

3.2.2 The board shall clearly show:

(i) the name and telephone number of the installation;

(ii) the normal hours of operation;

(iii) the name of the licence holder;

(iv) an emergency out of hours contact telephone number;

(v) the licence reference number; and

(vi) where environmental information relating to the installation can be obtained.

3.3 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.

3.4 In the case of composite sampling of aqueous emissions from the operation of the installation, a separate composite sample or homogeneous sub-sample (of sufficient volume as advised) shall be refrigerated immediately after collection and retained as required for EPA use.

3.5 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. **The requirement with regard to off-site points is subject to the prior agreement of the landowner(s) concerned.**

3.6 Tank, Container and Drum Storage Areas

3.6.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).

3.6.2 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:

(i) 110% of the capacity of the largest tank or drum within the bunded area; or

(ii) 25% of the total volume of substance that could be stored within the bunded area.

3.6.3 All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.

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

3.6.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.

3.7 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 installation. Once used, the absorbent material shall be disposed of at an appropriate facility.

3.8 Silt Traps and Oil Separators

The licensee shall, where appropriate and within a timeframe to be agreed by the Agency, install and maintain silt traps and oil separators at the installation:

(i) Silt traps to ensure that all storm water discharges, other than from roofs, from the installation pass through a silt trap in advance of discharge;

(ii) An oil separator on the storm water discharge from yard areas. The separator shall be a Class I full retention separator, unless otherwise agreed by the Agency.

The silt traps and separator shall be in accordance with I.S. EN-858-2: 2003 (separator systems for light liquids)

3.9 Fire-water Retention

3.9.1 In the event of a fire or a spillage to storm water, the site storm water shall be diverted to the containment pond.

3.9.2 The licensee shall have regard to the Environmental Protection Agency Draft Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities **when implementing Condition 3.9.1 above.**

3.10 All pumps sumps, storage tanks, or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, shall be fitted with high liquid level alarms (or oil detectors as appropriate).

3.11 The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a Schedule of Environmental Objectives and Targets set out in Condition 2. of this licence for the reduction in fugitive emissions.

3.12 All wellheads, as shown on Drawing No. ACC-SP-1114 of the licence **application for P0015-04** shall be adequately protected to prevent contamination or physical damage.

3.13 The licensee shall **maintain** 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.

3.14 Natural gas **or biodiesel meeting CEN standard EN14214** shall be used in the boilers on site. In the event of an interruption to the supply of natural gas **or biodiesel**, an alternative fuel such as gas oil **(sulphur content not exceeding 0.1% by mass)** may be used with the prior written agreement of the Agency.

3.15 Liquid Vapour Incinerator Operation

3.15.1 The Incinerator, when in operation, shall achieve a level of incineration such that the total organic carbon (TOC) content of the slag and bottom ashes is less than 3% or their loss on ignition is less than 5% of the dry weight of the material.

3.15.2 Even under the most unfavourable of conditions, the Incinerator shall be operated in such a way that, after the last injection of combustion air, the gas resulting from the process is raised, in a controlled and homogeneous fashion, for a duration of two seconds to a temperature of 850°C as measured near the inner wall or at another representative point of the combustion chamber as authorised by the Agency. If hazardous wastes or waste gas with a content of more than 1% of halogenated organic substances, expressed as chlorine, are incinerated the temperature shall be raised to 1100°C for a duration of at least two seconds. Waste liquids or gases shall be charged into the incinerator only when these operating conditions are being complied with and when the continuous monitoring shows that the emission limit values are not being exceeded.

3.15.3 The Incinerator shall be equipped with at least one auxiliary burner. The burner must be switched on automatically when the temperature of the combustion gases after the last injection of combustion air falls below 850°C or 1100°C as appropriate. The auxiliary burner shall also be used during plant start-up and shut-down operations in order to ensure the temperature of 850°C or 1100°C as appropriate is maintained at all times during the operations and as long as unburned waste is in the combustion chamber.

3.15.4 During start up or shut down or when the temperature of the combustion gas falls below 850°C or 1100°C as appropriate, the auxiliary burner shall not be fed with fuels which may cause higher emissions than those resulting from the burning of gas oil, as defined in Council Directive 75/716/EEC, liquefied gas or natural gas.

3.15.5 The Incinerator shall have and operate an automatic system to prevent waste gas or liquid feed:

(i) At start-up, until the temperature of 850°C or 1100°C as appropriate, has been reached;

(ii) Whenever the temperature of 850°C or 1100°C as appropriate is not maintained;

(iii) Whenever the continuous measurements show that any emission limit value is exceeded due to disturbances or failures of the purification devices;

(iv) Whenever stoppages, disturbances, or failure of the purification devices or the measurement devices may result in the exceedance of the emissions limit values.

3.16 Incinerator Shut-down

3.16.1 In the event of:

Failure of any piece of control equipment related to the incinerator, or failure of any continuous monitor related to operating parameters or emissions of the incinerator, where a contingency system, which must have been previously agreed by the Agency, is not implemented;

or

Failure of the incinerator to achieve the operating parameters and emission limit values shown in *Schedule B: Emission Limits*,

the incinerator shall be shut down as soon as practicable in a manner consistent with safety and the protection of the environment

3.16.2 In the event of any bypass of the incinerator in excess of twenty minutes duration or a mass emission of 50 kg TOC/hr, the licensee shall initiate shut down of relevant processes as soon as practicable and in a manner consistent with safety and protection of the environment.

3.17 Heat generated by the incineration process shall be recovered as far as practicable. Heat recovery shall be included in the EMP and reported in the AER.

Reason: ***To provide for appropriate operation of the installation to ensure protection of the environment.***

Condition 4. Interpretation

4.1 Emission limits for emissions to atmosphere from the Liquid Vapour Incinerator (Vnt-4) shall be interpreted in the following way:

4.1.1 For continuous monitoring of parameters other than carbon monoxide:

(i) No valid daily mean value shall exceed the emission limit value;

(ii) For Column A – all 30 minute mean values taken continuously over an annual period shall not exceed the emission limit value;

(iii) For Column B – 97% of the validated 30 minute mean values taken continuously over an annual period shall not exceed the emission limit.

4.1.2 For continuous monitoring of carbon monoxide:

(i) 95% of all measurements determined as 10 minute average values shall not exceed the emission limit value;

(ii) No 30 minute average value shall exceed the emission limit value;

(iii) 97% of the validated daily average values taken continuously over an annual period shall not exceed the emission limit value.

4.1.3 The half-hourly average values and the 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-off periods if no waste is being incinerated) from the measured values after having subtracted the value of the confidence interval specified at 4.1.4 below. The daily average values shall be determined from those validated average values.

4.1.4 At the daily emission limit value level, the values of the 95% confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

Carbon monoxide:	10%
Sulphur dioxide:	20%
Nitrogen dioxide:	20%
Total dust:	30%
Total organic carbon:	30%
Hydrogen chloride:	40%
Hydrogen fluoride:	40%

4.1.5 To obtain a valid daily average value no more than five half hourly average values in any day shall be discarded due to malfunction or maintenance of the continuous measurement system. No more than ten daily average values per year shall be discarded due to malfunction or maintenance of the continuous measurement system.

4.1.6 Non-Continuous Monitoring

4.1.6.1 For periodic measurements, compliance shall be determined from the measured value after having subtracted the uncertainty error for the selected method of sampling and analysis for each relevant pollutant.

4.1.6.2 For any parameter where, due to sampling/analytical limitations, a 30 minute sampling period is inappropriate, a suitable period between 30 minutes and 8 hours should be employed and the value obtained therein shall not exceed the emission limit value.

4.1.6.3 For all other parameters, no 30 minute mean value shall exceed the emission limit value.

4.1.6.4 For flow, no hourly or daily mean value shall exceed the emission limit value.

4.2 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:

4.2.1 Continuous Monitoring

(i) No 24 hour mean value shall exceed the emission limit value.

(ii) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.

(iii) No 30 minute mean value shall exceed twice the emission limit value.

4.2.2 Non-Continuous Monitoring

(i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.

(ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.

(iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.

(iv) 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).

(v) 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.

4.3 The concentration and volume flow 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:

4.3.1 From non-combustion sources:

Temperature 273K, Pressure 101.3 kPa (no correction for oxygen or water content).

4.3.2 From combustion sources:

Temperature 273K, Pressure 101.3 kPa, dry gas; 3% oxygen for liquid and gas fuels.

4.3.3 In the case of waste incineration:

Temperature 273K, Pressure 101.3 kPa, dry gas; 11% oxygen

4.4 Emission limit values for emissions to sewer/waters in this licence shall be interpreted in the following way:

4.4.1 Continuous Monitoring

(i) No flow value shall exceed the specific limit.

(ii) No pH value shall deviate from the specified range.

(iii) No temperature value shall exceed the limit value.

4.4.2 Composite Sampling

(i) No pH value shall deviate from the specified range.

(ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual results similarly calculated shall exceed 1.2 times the emission limit value.

4.4.3 Discrete Sampling

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

4.5 For waste water from the cleaning of exhaust gases from incineration activities, the following criteria shall apply to the emission limit values specified in *Schedule B.2: Emissions to Water.*

4.5.1 For total suspended solids, none of the values shall exceed the emission limit values set out in column B, and 95% of the values shall not exceed the emission limit values set out in column A.

4.5.2 For parameters other than total suspended solids the measured value shall not exceed the emission limit value.

4.5.3 For heavy metals, no more than one measurement per year shall exceed the emission limit value. If more than twenty samples per year are taken, 95% of all measurements shall not exceed the emission limit value.

4.5.4 For dioxins and furans, no measured value shall exceed the emission limit value.

4.6 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.

4.7 Noise

Noise from the installation shall not give rise to sound pressure levels (Leq, T) measured at the noise sensitive locations of the installation which exceed the limit value(s).

Reason: ***To clarify the interpretation of limit values fixed under the licence.***

Condition 5. Emissions

5.1 No specified emission from the installation shall exceed the emission limit values set out in *Schedule B: Emission Limits,* of this licence. There shall be no other emissions of environmental significance.

5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.

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

5.4 The licensee shall ensure that all or any of the following:

- Vermin

- Birds
- Flies
- Mud
- Dust
- Litter

associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the installation/facility or beyond the installation/facility boundary or any other legitimate uses of the environment beyond the installation/facility boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution.

Reason: ***To provide for the protection of the environment by way of control and limitation of emissions.***

Condition 6. Control and Monitoring

6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring,* of this licence.

6.1.1 Analyses shall be undertaken by competent staff in accordance with documented operating procedures.

6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.

6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.

6.1.4 Where any analysis is sub-contracted it shall be to a competent laboratory.

6.2 The licensee shall ensure that:

(iii) sampling and analysis for all parameters listed in the Schedules to this licence; and

(iv) any reference measurements for the calibration of automated measurement systems;

shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.

6.3 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. The use of alternative equipment, other than in emergency situations, shall be as agreed by the Agency.

6.4 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission/discharge **(or ambient conditions where that is the monitoring objective).**

6.5 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.

6.6 All treatment/abatement and emission control equipment shall be calibrated and maintained in accordance with the instructions issued by the manufacturer/supplier or installer.

6.7 Subject to compliance with the requirements of Article 11 of Council Directive 2000/76/EC on the incineration of waste, the frequency, methods and scope of monitoring, sampling and

analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.

6.8 The licensee shall maintain a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.

6.9 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

6.10 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) bunds, **and any silt traps or oil separators,** shall be inspected weekly and desludged as necessary. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, **and any silt traps or oil interceptors,** shall be properly maintained at all times.

6.11 Process Effluent

The acute toxicity of the undiluted final effluent to two aquatic species from different trophic levels shall be determined by standardised and internationally accepted procedures and carried out by a competent laboratory. The name of the laboratory and the scope of testing to be undertaken shall be submitted, in writing, to the Agency annually. The Agency shall decide when this testing is to be carried out and copies of the complete reports shall be submitted by the licensee to the Agency within six weeks of completion of the testing.

6.12 An Inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly. A log of such inspections shall be maintained.

6.13 Storm Water

6.13.1 A visual examination of the storm water discharges shall be carried out daily. A log of such inspections, shall be maintained.

6.13.2 The licensee shall operate continuous pH and TOC monitors on the surface water discharge point. The licensee shall divert surface water discharges to the firewater pond when approved action levels for TOC and pH for uncontaminated surface waters are breached.

6.13.3 The licensee shall assess continuous monitoring data for pH and TOC having regard to the *Guidance on the setting of trigger values for storm water discharges to off-site surface waters at EPA IPPC and Waste Licensed Facilities* published by the Office of Environmental Enforcement and where necessary and with the agreement of the Agency, revise the trigger levels.

6.14 Ground Water

6.14.1 The licensee shall maintain groundwater monitoring wells at the following locations: MW-4D, MW-10D, MW11-D, MW-5S and EMCA Ground Well, as shown on Drawing No. ACC-SP-1114 of the licence application **for P0015-04.**

6.14.2 All groundwater monitoring points shall be included in the site's maintenance programme.

6.14.3 Within eighteen months of the date of this technical amendment, the licensee shall, in line with the criteria set out in the Guidance on the Authorisation of Discharges to Groundwater, published by the Environmental Protection Agency, review the most relevant hydrogeological assessment report for the installation or where relevant, arrange for an assessment of the installation, by an appropriately qualified consultant/professional, to demonstrate compliance with the European Communities Environmental Objectives (Groundwater)

Regulations 2010, S.I. No 9 of 2010. A report on the review or assessment report with recommendations shall be included in the next AER. Further to the hydrogeological review or assessment, any actions (including the setting of groundwater compliance values, if appropriate) required to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, shall be implemented before 22nd December 2015.

6.15 Noise

The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.

6.16 Pollutant Release and Transfer Register (PRTR)

The licensee shall prepare and report a PRTR for the site. The substance and/or wastes to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulations No. 166/2006 concerning the establishment of the European Pollutant Release and Transfer Register. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

6.17 The licensee shall **maintain** a Data Management System for collation, archiving, assessing and graphically presenting the monitoring data generated as a result of this licence.

6.18 **The licensee shall review the relevant Pollution Reduction Plan for the reduction of pollution from priority substances or the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances, established in accordance with Part V of the European Communities Environmental Objectives (Surface Waters) Regulations S.I No. 272 of 2009 and implement applicable measures or controls and submit a measures report as part of the Annual Environmental Report (AER).**

Reason: ***To provide for the protection of the environment by way of treatment and monitoring of emissions.***

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The audit shall be carried out in accordance with the guidance published by the Agency, "Guidance Note on Energy Efficiency Auditing". The energy efficiency audit shall be repeated at intervals as required by the Agency.

7.2 The audit shall identify all practicable opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

7.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.

7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: ***To provide for the efficient use of resources and energy in all site operations.***

Condition 8. Materials Handling

8.1 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.

8.3 The licensee shall ensure that, in advance of transfer to another person, waste shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.

8.4 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.

8.5 Waste shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste shall be clearly labelled and appropriately segregated.

8.6 No waste classified as green list waste in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended) shall be consigned for recovery without the agreement of the Agency.

8.7 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring,* of this licence.

8.8 Unless approved in writing, in advance, by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.

8.9 The licensee shall neither import waste into the State nor export waste out of the State except in accordance with the relevant provisions of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14th June 2006 on shipments of waste and associated national regulations.

8.10 Incineration of waste

8.10.1 Only those liquid wastes and vapours generated from the activity and specified in *Schedule A: Limitations, Table A.2 Waste Categories and Quantities for Disposal in the on-site Incinerator*, shall be incinerated on-site.

8.10.2 The licensee shall maintain a procedure for the blending, preparation and analysis of waste solvent, prior to use in the Liquid Vapour Incinerator.

8.10.3 The licensee shall maintain a log on-site detailing the quantity, origin and times of combustion of liquid waste.

8.11 Excavated Material Containment Area (EMCA)

8.11.1 The EMCA shall only be used for the temporary storage of contaminated soil arising on-site and otherwise as agreed by the Agency.

8.11.2 When the EMCA is in use, any leachate generated shall drain to the on-site wastewater treatment plant.

Reason: ***To provide for the appropriate handling of material and the protection of the environment.***

Condition 9. Accident Prevention and Emergency Response

9.1 The licensee shall ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

9.2 The licensee shall ensure that a documented Emergency Response Procedure is in place, that addresses any emergency situation which may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.

9.3 Incidents

9.3.1 In the event of an incident the licensee shall immediately:

(i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;

(ii) isolate the source of any such emission;

(iii) evaluate the environmental pollution, if any, caused by the incident;

(iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;

(v) identify the date, time and place of the incident;

(vi) notify the Agency and other relevant authorities.

9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency, to:

(i) identify and put in place measures to avoid recurrence of the incident; and

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

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

Condition 10. Decommissioning & Residuals Management

10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery any soil, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

10.2 **Decommissioning** Management Plan (DMP)

10.2.1 The licensee shall prepare, to the satisfaction of the Agency, a fully detailed and costed plan for the decommissioning or closure of the site or part thereof.

10.2.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the agreement of the Agency.

10.2.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Condition 10.2.1 above.

10.3 The **Decommissioning** Management Plan shall include, as a minimum, the following:

(i) a scope statement for the plan;

(ii) the criteria that define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment;

(iii) a programme to achieve the stated criteria;

(iv) where relevant, a test programme to demonstrate the successful implementation of the decommissioning plan; and

(v) details of the costings for the plan and the financial provisions to underwrite those costs.

10.4 A final validation report to include a certificate of completion for the **Decommissioning** Management Plan, for all or part of the site as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: ***To make provision for the proper closure of the activity ensuring protection of the environment.***

Condition 11. Notification, Records and Reports

11.1 The licence shall notify the Agency by both telephone and facsimile, if available, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:

(i) any release of environmental significance to atmosphere from any potential emissions point including bypasses;

(ii) any emission that does not comply with the requirements of this licence;

(iii) any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control and Monitoring,* of this licence which is likely to lead to loss of control of the abatement system; and

(iv) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environment threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

11.2 In the case of any incident relating to discharges to water, the licensee shall notify the Local and **Water Services Authority and Inland Fisheries Ireland** as soon as practicable after such an incident.

11.3 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall, as soon as practicable following incident notification, submit to the Agency the incident record.

11.4 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.

11.5 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation.

11.6 The licensee shall as a minimum keep the following documents at the site:

(i) the licences relating to the installation;

(ii) the current EMS for the installation;

(iii) the previous year's AER for the installation;

(iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation;

(v) relevant correspondence with the Agency;

(vi) up-to-date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;

(vii) up-to-date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;

(viii) any elements of the licence application for P0015-04 or EIS documentation referenced in this licence.

This documentation shall be available to the Agency for inspection at all reasonable times.

11.7 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report,* of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.

11.8 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall as a minimum contain details of the following:

(i) the tonnages and EWC Code for the waste materials sent off-site for disposal/recovery;

(ii) the names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number);

(iii) details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required;

(iv) written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site;

(v) details of all waste consigned abroad for Recovery and classified as 'Green' in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended). The rationale for the classification must form part of the record;

(vi) details of any rejected consignments;

(vii) details of any approved waste mixing;

(viii) the results of any waste analyses required under *Schedule C: Control & Monitoring,* of this licence; and

(ix) the tonnage and EWC Code for the waste materials recovered/disposed on-site.

11.9 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the incineration operations and practices on-site. This record shall as a minimum contain details of the following:

(i) The operating parameters of the incinerator; and

(ii) The date, time and duration of incineration operation.

A summary of this record shall be submitted to the Agency as part of the AER for the site.

11.10 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.

11.11 All reports shall be certified accurate and representative by the installation manager or a nominated, suitably qualified and experienced deputy.

Reason: ***To provide for the collection and reporting of adequate information on the activity.***

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of **€24,739.83** or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Environmental Protection Agency Acts 1992 to 2011. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of grant of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Environmental Protection Agency Acts 1992 to 2011, and all such payments shall be made within one month of the date upon which demanded by the Agency.

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 defray its costs in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER, provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents/incidents, as may be associated with the carrying on of the activity.

12.2.2 The licensee shall arrange for the completion, by an independent and appropriate qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the DMP. A report on this assessment shall be submitted to the Agency for agreement. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement. Review results are to be notified as part of the AER.

12.2.3 As part of the measures identified in Condition 12.2.1, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with the operation (including closure) The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'Statement of Measures' report identified in Condition 12.2.1.

12.2.4 The licensee shall revise the cost of closure annually and any adjustments shall be reflected in the financial provision made under Condition 12.2.3.

12.2.5 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Conditions 12.2.2 and 12.2.3 above.

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

SCHEDULE A: Limitations

A.1
The following waste related processes are authorised:

i. Incineration of waste as specified in Table A.2 below; and
ii. Temporary storage of contaminated soil arising on-site (see Condition **8.11**).

A.2 Waste Acceptance

Table A.1 Waste Incineration Capacity

TYPE	WASTE TYPE	MAXIMUM CAPACITY	NOMINAL CAPACITY
Liquid Vapour Incinerator	Hazardous liquid solvent waste	500 kg / hour	5 MW
	Off–gases and vapours	8,300 m^3/hour	

Table A.2 Waste Categories and Quantities for Disposal in the on-site Incinerator

EWC Code	Waste Material Description Notes 1, 2	Method of Disposal	Calorific values range kJ//kg
07 05 04*	Other organic solvents, washing liquids and mother liquors	Liquid Vapour Incinerator Notes 1,2	10,000 – 50,000
	Gaseous wastes containing organic and inorganic gases	Liquid Vapour Incinerator Note 1	-

Note 1: Subject to the requirements of Condition **3.15.**

Note 2: Waste for input to the incinerator shall be limited to that generated on site and a limit of 150 kg/hr Dichloromethane or equivalent halogenated solvent.

SCHEDULE B: Emission Limits

Emission Point Reference No.: Vnt-1

Location: Boiler House

Minimum discharge height: 27 m above ground

Parameter	Emission Limit Value
Oxides of sulphur	300 mg/m^3
Nitrogen oxides (as NO_2)	300 mg/m^3
Carbon monoxide	170 mg/m^3

Emission Point Reference No.: Vnt-2

Location: Odour Scrubber at WWTP

Volume to be emitted: Maximum in any one day: 168,000 m^3

Maximum rate per hour: 7,000 m^3

Minimum discharge height: 11.7 m above ground

Parameter	Emission Limit Value (kg/hr)
Xylene	2
Toluene	3
Tetrahydrofuran (THF)	3
Dichloromethane	2
Acetone	4
Isopropyl Acetate	3
Isopropanol	3
Methanol	3
Methyl iso butyl ketone (MIBK)	2
Maximum TOC	7

Emission Point Reference No.:	Vnt-3	
Location:	HF Scrubber, P3 Extension	
Volume to be emitted:	Maximum in any one day:	132,000 m^3
	Maximum rate per hour:	5,500 m^3
Minimum discharge height:	12.8 m above ground	

Parameter	Emission Limit Value
TA Luft Organics Class I Note 1	20 mg/m^3 (at mass flows >0.1 kg/h)
TA Luft Organics Class II Note 1	100 mg/m^3 (at mass flows >2 kg/h)
TA Luft Organics Class III Note 1	150 mg/m^3 (at mass flows >3 kg/h)
TA Luft Inorganic Vapours Class I	1 mg/m^3 (at mass flows >10 g/h)
TA Luft Inorganic Vapours Class II	5 mg/m^3 (at mass flows >50 g/h)
TA Luft Inorganic Vapours Class III	30 mg/m^3 (at mass flows >0.3 kg/h)

Note 1: Where organic substances of several classes are emitted simultaneously, in addition to the above individual limits, the sum of the concentrations of Classes I, II and III shall not exceed the Class III limit.

Emission Point Reference No.: Vnt-4

Location: Liquid Vapour Incinerator

Volume to be emitted: Maximum in any one day: 384,000 m^3

Maximum rate per hour: 16,000 m^3

Minimum discharge height: 27 m above ground

Parameter	Units	Half Hour Average		Daily Average	10 minute average
Carbon monoxide (CO) [Note 1]	mg/m^3	100		50	150
		A	B		
Total dust	mg/m^3	30	10	10	-
Volatile organic compounds expressed as total organic carbon	mg/m^3	20	10	10	-
Hydrogen chloride (HCl)	mg/m^3	60	10	10	-
Hydrogen fluoride (HF)	mg/m^3	4	2	1	-
Sulphur dioxide (SO_2)	mg/m^3	200	50	50	-
Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	mg/m^3	-	-	400	-

Parameter	Emission Limit Value	
Cadmium (as Cd) + thallium (as Tl), and their compounds [Note 2]	30 minute – 8 hour sample	Total 0.05 mg/m^3
Mercury (as Hg) and its compounds [Note 2]	30 minute – 8 hour sample	0.05 mg/m^3
Antimony (as Sb), arsenic (as As), lead (as Pb), chromium (as Cr), cobalt (as Co), copper (as Cu), manganese (as Mn), nickel (as Ni), and vanadium (as V) and their compounds [Note 2]	30 minute – 8 hour sample	Total 0.5 mg/m^3
Dioxins/furans (TEQ) [Note 3]	6 – 8 hour sample	0.1 ng/m^3

Note 1: The emission limit values of carbon monoxide (CO) concentrations shall not be exceeded in the combustion gases (excluding the start-up and shut-down phase).

Note 2: Metals include both gaseous, vapour and solid phases as well as their compounds (expressed as the metal or total as specified).

Note 3: The emission limit value refers to the total concentration of dioxins and furans calculated using the concept of toxic equivalence in accordance with Annex I of Directive 2000/76/EC

Dioxin Toxic Equivalents

For the determination of the TEQ value stated as an emission limit the mass concentrations of the following dioxins and furans have to be multiplied with their equivalence factors before summing.

	Equivalence Factor
2,3,7,8-Tetrachlorodibenzodioxin (TCDD)	1
1,2,3,7,8-Pentachlorodibenzodioxin (PeCDD)	0.5
1,2,3,4,7,8-Hexachlorodibenzodioxin (HxCDD)	0.1
1,2,3,6,7,8-Hexachlorodibenzodioxin (HxCDD)	0.1
1,2,3,7,8,9-Hexachlorodibenzodioxin (HxCDD)	0.1
1,2,3,4,6,7,8-Heptachlorodibenzodioxin (HpCDD)	0.01
Octachlorodibenzodioxin (OCDD)	0.001
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.1
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.5
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	0.05
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	0.1
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.01
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.01
Octachlorodibenzofuran (OCDF)	0.001

B.2 Emissions to Water

Emission Point Reference No.: W1-1 **Grid Reference: 718109E, 690254N**

Name of Receiving Waters: Avonmore River

Location: Post inclusion of incinerator effluent and prior to discharge of treated effluent to Avonmore River

Volume to be emitted:
Maximum in any one day: 700 m^3
Maximum rate per hour: 30 m^3

Parameter	Emission Limit Value
Temperature	35°C (max.)
pH	6-9
Toxicity	10 TU
	mg/l Note 1
BOD	75
COD	**250**
Suspended Solids	100
Nitrates (as N)	100
Ammonia	10
Total Phosphorus (as P)	**2**
Phenols (as C_6H_5OH)	0.02
Oils, Fats, Grease	10
Chloride	1,000
Sulphate (as SO_4)	1,000

Note 1: The concentration limit may be increased pro-rata for effluent flows from the WWTP below 700 m^3/d and 30 m^3/h with the agreement of the Agency.

Emission Point Reference No.: W1-2 **Grid Reference: 718016E, 690421N**

Location: Wastewater from incineration activities prior to mixing with other on-site effluent - location to be agreed by the Agency.

Volume to be emitted: Maximum in any one day: 20 m^3

Parameter	Emission Limit Value Note 1	
	A	B
Total suspended solids Note 2	30mg/l	45mg/l
Mercury and its compounds, expressed as mercury (Hg)	0.03mg/l	
Cadmium and its compounds, expressed as cadmium (Cd)	0.05mg/l	
Thallium and its compounds, expressed as thallium (Tl)	0.05mg/l	
Arsenic and its compounds, expressed as arsenic (As)	0.15mg/l	
Lead and its compounds, expressed as lead (Pb)	0.2mg/l	
Chromium and its compounds, expressed as chromium (Cr)	0.5mg/l	
Copper and its compounds expressed as copper (Cu)	0.5 mg/l	
Nickel and its compounds, expressed as Nickel (Ni)	0.5 mg/l	
Zinc and its compounds expressed as zinc (Zn)	1.5 mg/l	
Dioxins/furans (TEQ as specified in Schedule B of this licence) Note 3	0.3 ng/l	

Note 1: Emission limit values are expressed in mass concentration for unfiltered samples.
Note 2: TSS as defined by Directive 91/271/EEC.
Note 3: Defined as the sum of the individual dioxins and furans evaluated in accordance with Annex I of Directive 2000/76/EC.

B.3 Emissions to Sewer

There shall be no process effluent emissions to sewer.

B.4 Noise Emissions

Daytime dB(A) L_{Aeq} (30 minutes)	Night-time dB(A) L_{Aeq} (30 minutes)
55 Note 1	45 Note 1

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity of any noise-sensitive location.

SCHEDULE C: Control & Monitoring

C.1.1. Control of Emissions to Air

Emission Point Reference No.: Vnt-2

Description of Treatment: Odour scrubber (caustic/sodium hypochlorite)

Control Parameter	Monitoring	Key Equipment[Note 1]
pH	Continuous	pH probe and recorder
Redox	Continuous	Redox probe and recorder
Liquid circulation	Continuous	Circulation pump
Air Flow	Continuous	Fan

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No.: Vnt-3

Description of Treatment: HF scrubber

Control Parameter	Monitoring	Key Equipment[Note 1]
Liquid circulation	Continuous	Circulation pump

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No.: Vnt-4

Description of Treatment: Incineration followed by quenching, caustic scrubbing and NO_x reduction

Control Parameter	Monitoring	Key Equipment[Note 1]
Combustion	Combustion chamber temperature [Note 2]	Temperature Probe
Exhaust gas	% O_2 in exhaust gas	O_2 analyser
Exhaust gas	Exhaust gas pressure	Pressure monitor
Exhaust gas	Exhaust gas temperature	Temperature Probe
Exhaust gas	Water vapour content [Note 3]	Standard method
Combustion air	Combustion airflow	Flow meter/pressure sensor
Liquid Input	Liquid Input flow	Flow meter
Vapour Input	Vapour Input flow	Flow meter
Quench Liquid	Quench Liquid flow	Flow meter
Scrubber liquid	Scrubber Liquid flow and pH	Flow meter and pH meter

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.
Note 2: Near the inner wall of the combustion chamber (or other representative location agreed by the Agency).
Note 3: Not necessary if gases are dried prior to analysis.

Emission Point Reference No.'s: Vnt-1027, Vnt-9007, Vnt-2063, Vnt-3041, Vnt-3038, Vnt-3040, Vnt-5003, Vnt-5013, Vnt-5016, Vnt-5002, Vnt-7085, Vnt-11008, Vnt-11009, Vnt-11014, Vnt-11015, Vnt-11016, Vnt-11019, Vnt-11020.

Description of Treatment: Dust Filters

Control Parameter	Monitoring	Key Equipment[Note 1]
Pressure Drop	Continuous	Pressure sensor and alarm

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.1.2. Monitoring of Emissions to Air

Emission Point Reference No.: Vnt-1

Parameter	Monitoring Frequency	Analysis Method/Technique
Sulphur Dioxide	Annually	Flue gas analyser
Nitrogen Oxides (as NOx)	Annually	Flue gas analyser
Carbon monoxide	Annually	Carbon monoxide sensor
Oxygen	Continuous	Oxygen sensor

Emission Point Reference No.: Vnt-2

Parameter	Monitoring Frequency	Analysis Method/Technique
Xylene	Quarterly	Adsorption with GC/MS analysis
Toluene	Quarterly	Adsorption with GC/MS analysis
Tetrahydrofuran (THF)	Quarterly	Adsorption with GC/MS analysis
Dichloromethane	Quarterly	Adsorption with GC/MS analysis
Acetone	Quarterly	Adsorption with GC/MS analysis
Isopropyl Acetate	Quarterly	Adsorption with GC/MS analysis
Isopropanol	Quarterly	Adsorption with GC/MS analysis
Methanol	Quarterly	Adsorption with GC/MS analysis
Methyl iso butyl ketone (MIBK)	Quarterly	Adsorption with GC/MS analysis
TOC (as C)	Quarterly	Adsorption with GC/MS analysis

Emission Point Reference No.: Vnt-3

Parameter	Monitoring Frequency	Analysis Method/Technique
Hydrogen Fluoride	Continuous	Electrochemical Cell and Recorder

Emission Point Reference No.: Vnt-4

Parameter	Monitoring Frequency	Analysis Method/Technique
VOC	Continuous	Flame ionisation detector
Total particulates	Continuous	Photometric
Carbon monoxide	Continuous	Infra-red analyser
Hydrogen chloride	Continuous	Infra-red analyser
Nitrogen oxides (as NO_2)	Continuous	Infra-red analyser
Oxides of sulphur	Continuous	Infra-red analyser
Hydrogen fluoride	Quarterly	Impinger and Ion Chromatography (or ISE)
Metals	Quarterly for first 12 months, Biannually thereafter	US EPA Method 29 or as updated by CEN standard
Dioxins (TEQ as specified in Schedule B of this licence)	Quarterly for first 12 months, Biannually thereafter	IS EN 1948;1997 or as updated by CEN standard

C.2.1. Control of Emissions to Water

Emission Point Reference No.: W1-1

Description of Treatment: Wastewater Treatment

Control Parameter	Monitoring	Key Equipment[Note 1]
Equalisation / Neutralisation		Forward feed pump
Inlet & outlet flows	Continuous	Flow meter / recorder
COD	**5 times per week**	Standard probe
pH	Continuous	Caustic Dosing Pump
		Agitator
Aeration Tank		
Dissolved Oxygen	Continuous	Forward feed pump
Mixed Liquor Suspended Solids	**5 times per week**	Fixed DO meter
Sludge Volume Index	**5 times per week**	Submerged flight mixers
		Agitator
Sludge Dewatering		Filtration (Pumps x2) Poly-electrolyte
Final Effluent		
Flow	Continuous	Flow meter / recorder
pH	Continuous	pH meter / recorder

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.2.2. Monitoring of Emissions to Water

Emission Point Reference No.: W1-1

Parameter	Monitoring Frequency [Note 1]	Analysis Method/Technique
Flow	Continuous [Note 2]	On-line flow meter with recorder
pH	Continuous	pH electrode/meter and recorder
Temperature	Daily	On-line temperature probe with recorder
Chemical Oxygen Demand	Daily	Standard Method
Suspended Solids	Daily	Gravimetric
Ammonia (as N)	Daily	Ion selective electrode
Biochemical Oxygen Demand	**Monthly**	Standard Method
Nitrates (as N)	Weekly	Standard Method
Total Phosphorus (as P)	Weekly	Standard Method
Flouride	Monthly	Standard Method
Phenols (as C_6H_5OH)	Monthly	Standard Method
Sulphate (as SO_4)	Monthly	Standard Method
Chloride	Monthly	Standard Method
Oils, fats and greases	Annually	Standard Method
Priority Substances [Note 3]	Bi-annually	Gas Chromatography
Toxicity [Note 4]	As may be required	To be agreed by the Agency

Note 1: All samples shall be collected on a 24 hour flow proportional composite sampling basis.

Note 2: Total effluent volume discharged over the 24 hour period in which the composite sample is collected shall be recorded.

Note 3: **The relevant priority substances or pollutants for monitoring shall be identified by the licensee by undertaking a risk based assessment. The Licensee shall have regard to *"Guidance on the Screening for Priority Substances for Waste Water Discharge Licences"* issued by the Agency. Monitoring for the identified priority substances or pollutants shall be carried out at least annually, unless a case for less frequent monitoring is agreed by the Agency.**

Note 4: The number of toxic units (Tu) = 100/x hour EC/LC_{50} in percentage vol/vol so that higher Tu values reflect greater levels of toxicity. For test regimes where species death is not easily detected, immobilisation is considered equivalent to death.

Emission Point Reference No.: W1-2 [Note 1]

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow	Continuous [Note 3]	On-line flow meter with recorder
pH	Continuous	pH electrode/meter and recorder
Temperature	Continuous	On-line temperature probe with recorder
Total Suspended Solids	Daily [Note 2]	Standard Method
Metals (Hg, Cd, Tl, As, Pb, Cr, Cu, Ni, Zn)	Monthly [Note 2]	Atomic Absorption/ICP
Dioxins (TEQ as specified in Schedule B of this licence)	Quarterly for first 12 months, Biannually thereafter	ISO 18073:2004 or otherwise agreed by the Agency

Note 1: Monitoring to be carried out prior to mixing with other on-site effluent.

Note 2: Measurements shall be based on a flow proportional representative sample over a period of 24 hours.

Note 3: Total effluent volume discharged over the 24 hour period in which the composite sample is collected shall be recorded

C.2.3. Monitoring of Storm Water Emissions

Emission Point Reference No.: SW1

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Continuous	pH electrode/meter
TOC	Continuous	TOC Meter
Visual Inspection	Twice Weekly	Sample and examine for colour and odour

C.3.1. Control of Emissions to Sewer

There shall be no process effluent emissions to sewer.

C.3.2. Monitoring of Emissions to Sewer

There shall be no process effluent emissions to Sewer.

C.4 Waste Monitoring

Waste Class	Frequency	Parameter	Method
Solvents/aqueous waste for on-site incineration	Per disposal batch	Individual Organic solvents % halogen Calorific Value Water Content	As agreed by the Agency
Bulk Solvents for disposal/recovery off-site	Per disposal batch	Solvents	As agreed by the Agency
Drummed Solvents	Per disposal batch	Solvents	As agreed by the Agency
Distillation residues	Per disposal batch	Solvents	As agreed by the Agency
Acetonitrile	Per disposal batch	Solvents	As agreed by the Agency
Rejected finished goods/intermediates	Per disposal batch	As agreed by Agency	As agreed by the Agency
Laboratory wastes	Per disposal batch	As agreed by Agency	As agreed by the Agency
Gaseous input to Liquid Vapour Incinerator	Monthly	Individual organic solvents % halogen Calorific Value Water Content	As agreed by the Agency
WWTP sludge	Annually	Heavy metals (individual) Organic matter Water content Organic Compounds	As agreed by the Agency
Other [Note 1]			

Note 1: Analytical requirements to be determined on a case by case basis.

C.5 Noise Monitoring

No additional noise monitoring is required in this schedule.

C.6 Ambient Monitoring

Groundwater Monitoring

Locations: MW-4D, MW-10D, MW-11D, MW-5S, EMCA Ground Well

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Biannually	pH electrode/meter
COD	Biannually	Standard Method
Nitrate	Biannually	Standard Method
Total Ammonia	Biannually	Standard Method
Conductivity	Biannually	Standard Method
Chloride	Biannually	Standard Method
Fluoride	Biannually	Standard Method
Priority Substances Note 1	Annually	Standard Method

Note 1: **The relevant priority substances or pollutants for monitoring shall be identified by the licensee by undertaking a risk based assessment. Monitoring for the identified priority substances or pollutants shall be carried out at least annually, unless a case for less frequent monitoring is agreed by the Agency.**

Receiving Water Monitoring

Location: Avonmore River

Parameter	Monitoring Frequency Note 1	Analysis Method/Technique
Biological Quality (Q) Rating/Q Index	Every three years	To be agreed by the Agency

Note 1: Monitoring period - June to September.

SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content [Note 1]
Emissions from the installation.
Waste management record.
Resource consumption summary.
Complaints summary.
Schedule of Environmental Objectives and Targets.
Environmental management programme – report for previous year.
Environmental management programme – proposal for current year.
Pollutant Release and Transfer Register – report for previous year.
Pollutant Release and transfer Register – proposal for current year.
Noise monitoring report summary.
Ambient monitoring summary.
Tank and pipeline testing and inspection report.
Pollution Reduction Plan review summary.
Groundwater Regulations compliance report.
Reported incidents summary.
Energy efficiency audit report summary.
Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.
Report on progress made and proposals being developed to minimise water demand and the volume of trade effluent discharges.
Development/Infrastructural works summary (completed in previous year or prepared for current year).
Reports on financial provision made under this licence, management and staffing structure of the installation/facility, and a programme for public information.
Review of **decommissioning** management plan
Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).
Environmental Liabilities Risk Assessment Review (every three years or more frequently as dictated by relevant on-site change including financial provisions.
Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.

Sign off for Proposed Determinations/Decisions

Signed on behalf of the said Agency _____
On the xx day of xxxxx, 200X xxxxxxxxxxxx **Authorised Person**

Sign Off for Final Licences/Decisions
Sealed by the seal of the Agency on this the ** day of ** 201*.

PRESENT when the seal of the Agency
Was affixed hereto:

_____

XXXX Director/Authorised Person