This licence was amended on 23rd December 2013 under Section 82A(11) of the Environmental Protection Agency Acts 1992 as amended. The details of the Amendment must be read in conjunction with this licence. The amendment document is entitled "IED Amendment".

This licence was amended on 21st July 2014 under Section 96(1)(c) of the Environmental Protection Agency Acts, as amended. The details of Amendment A must be read in conjunction with this licence. The amendment document is entitled "Technical Amendment A".

This licence was amended on 2nd January 2015 under Section 96(1)(c) of the Environmental Protection Agency Act, as amended. The details of Amendment B must be read in conjunction with this licence. The amendment document is entitled "Technical Amendment B".

This licence was amended on 15th July 2015 under Section 96(1)(c) of the Environmental Protection Agency Acts, as amended. The details of Amendment C must be read in conjunction with this licence. The amendment document is entitled "Technical Amendment C".

This licence was amended on 28th October 2015 under Section 96(1)(c) of the Environmental Protection Agency Acts, as amended. The details of Amendment D must be read in conjunction with this licence. The amendment document is entitled "Technical Amendment D".

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

INTEGRATED POLLUTION PREVENTION & CONTROL LICENCE

Licence Register Number:	**P0207-04**
Company Register Number:	**902934**
Licensee:	**Intel Ireland Limited**
Location of Installation:	**Collinstown Industrial Park, Leixlip County Kildare**

ENVIRONMENTAL PROTECTION AGENCY ACT 1992 AS AMENDED

INTEGRATED POLLUTION PREVENTION AND CONTROL LICENCE

Decision of Agency, under Section 90(2) of the Environmental Protection Agency Act 1992 as amended.

Reference number in
Register of licences: P0207-04

Further to notice dated 19/06/2013 the Agency in exercise of the powers conferred on it by the Environmental Protection Agency Act 1992 as amended, for the reasons hereinafter set out, hereby grants a revised IPPC licence to Intel Ireland Limited, Collinstown Industrial Park, Leixlip, County Kildare, CRO number 902934

to carry on the following activities

-: the manufacture of integrated circuits and printed circuit boards;
and

the operation of combustion installations with a rated thermal input equal to or greater than 50MW;
and

the surface treatment of products using organic solvents, in particular for coating and/or cleaning, with a consumption capacity of more than 200 tonnes per year;

at Collinstown Industrial Park, Leixlip, County Kildare, subject to the conditions as set out.

GIVEN under the Seal of the Agency this 20th day of December 2013

PRESENT when the seal of the Agency
was affixed hereto:

Karen Creed

Dr Karen Creed, Authorised Person

INTRODUCTION

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

Intel Ireland Limited operates an installation that manufactures integrated circuits. The installation operates continuously 24 hours a day, 365 days per year.

This licence review is to facilitate changes to the technology used at the installation. The changes include new emissions to atmosphere and an increase in the emissions to sewer.

The licensee must manage and operate the installation to ensure that the activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results, and a wide range of reports on the operation and management of the installation to the Agency.

For the purposes of the EU Industrial Emissions Directive (2010/75/EU), this installation falls within the scope of the following Annex I categories:

Category 1.1: Combustion installations with a rated thermal input exceeding 50MW.
Category 6.7: Installations for the surface treatment of products using organic solvents, in particular for coating, cleaning, with a consumption capacity of more than 200 tonnes per year.

The licence sets out in detail the conditions under which Intel Ireland Limited will operate and manage this installation.

Table of Contents

Page No

Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Act 1992, as amended/ Waste Management Act 1996, as amended, 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).
CBOD	5 day Carbonaceous Biochemical Oxygen Demand (with nitrification suppression).
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Compliance Point	The point (location, depth) at which a compliance value should be met. Generally it is represented by a borehole or monitoring well from which representative groundwater samples can be obtained.
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 Number	Company Register 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	0700 hrs to 1900 hrs.
dB(A)	Decibels (A weighted).
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.
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.
Evening Time	1900 hrs to 2300 hrs.
Facility	Any site or premises used for the purpose of the recovery or 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.
HFO	Heavy Fuel Oil as defined in Council Directive 1999/32/EC and meeting the requirements of S.I. No. 119 of 2008.
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; (iv) any compliance value specified in this licence which is attained or exceeded; and, (v) any indication that environmental pollution has, or may have, taken place.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Act 1992, as amended 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.
$L_{Aeq,T}$	This is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period (T).
$L_{Ar,T}$	The Rated Noise Level, equal to the L_{Aeq} during a specified time interval (T), plus specified adjustments for tonal character and/or impulsiveness of the sound.
Licensee	Intel Ireland Limited, Collinstown Industrial Park, Leixlip, County Kildare, CRO Number (902934).

List I	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
Local Authority	Kildare 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	2300 hrs to 0700 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.
O.D.	Ordnance Datum.
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.
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	Kildare 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 Act 1992, as amended.

In reaching this decision the Environmental Protection Agency has considered the documentation relating to the current licence, Register Number: P0207-03, and the review application Register Number: P0207-04. This includes supporting documentation received from the applicant, all submissions received from other parties, the report of the Licensing Inspector, all objections, and the report of the Technical Committee addressing the objections to the Proposed Determination and the Environmental Impact Assessment (EIA) report contained therein.

It is considered that the Environmental Impact Assessment Report (as included in the Inspectors Report dated 22nd May 2013) contains a fair and reasonable assessment of the likely significant effects of the licensed activity on the environment. The assessment as reported is adopted as the assessment of the Agency. Having regard to this assessment, it is considered that the proposed activity, if managed, operated and controlled in accordance with the licence will not result in the contravention of any relevant environmental quality standards or cause environmental pollution.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on a European Site. In this context, particular attention was paid to the European site at Rye Water Valley/Carton Special Area of Conservation and the Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of the site as a European Site and that it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the activity, individually or in combination with other plans or projects, will have a significant effect on a European site and accordingly determined that an Appropriate Assessment of the activity is required due to the proximity of the installation to the Rye Water Valley/Carton Special Area of Conservation.

The Agency carried out an Appropriate Assessment and determined that, in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), pursuant to Article 6(3) of the Habitats Directive, the activity will not adversely affect the integrity of a European Sites in particular Rye Water Valley/Carton Special Area of Conservation, having regard to its conservation objectives and will not affect the preservation of that site at favourable conservation status.

In coming to this conclusion, the Agency is satisfied that it has identified all aspects of the activity which can, by themselves or in combination with other plans or projects, affect the conservation objectives of a European Site in particular the Rye Water Valley/Carton cSAC, and is certain, in the light of the best scientific knowledge in the field, that the activity will not, if carried out in accordance with this Licence and the conditions attached hereto, have lasting adverse effects on the integrity of that site, will not hinder the preservation of that site at a favourable conservation status, and will not hinder the lasting preservation of the constitutive characteristics of that site that are connected to the presence of the habitat types, flora and fauna, whose preservation was the objective justifying the designation of that site, will respect the strict protection of animal types and plant types listed in Annex IV of Council Directive 92/43/EEC, in particular the following animal and plant types, semi aquatic snails (*Vertigo angustior, V. moulinsiana)*, and will not cause any disturbance to those species or any deterioration in their conservation status. The Agency is satisfied that no reasonable scientific doubt remains as to the absence of such effects for the following reasons: there are no process emissions to water; uncontaminated surface water runoff is discharged to water via a surface water retention pond and oil interceptors, and there is monitoring upstream and downstream of the discharge point, air dispersion modelling has demonstrated that emissions from the installation will not cause breaches of relevant Air Quality Standards, *Schedule B.1* specifies limit values for emissions to air, and there are a number of air abatement systems, also ambient monitoring is required for NO_X and NO_2.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Environmental Protection Agency Act 1992, as amended, the Agency hereby grants this revised Integrated Pollution Prevention & Control licence to:

Intel Ireland Limited, Collinstown Industrial Park, Leixlip, County Kildare, CRO Number 902934.

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

the manufacture of integrated circuits and printed circuit boards;

and

the operation of combustion installations with a rated thermal input equal to or greater than 50MW;

and

the surface treatment of products using organic solvents, in particular for coating and/or cleaning, with a consumption capacity of more than 200 tonnes per year;

at Collinstown Industrial Park, Leixlip, County Kildare, 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 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 blue on Drawing No. A7-IS-12 (Intel Site Plan Location Map of Intel Site Boundary) received by the Agency 06 November 2012. Any reference in this licence to "installation" shall mean the area thus outlined in blue. 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 Act 1992, as amended, 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 December 2005 (Register No P0207-03). The previous IPPC licence (Reg. No. P0207-03) 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 suitably 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 and the prevention, reduction and minimisation of waste and shall include waste reduction targets, and a risk assessment approach to the inspection of drainage systems, flanges and valves on overground pipes. In particular, the following issues shall also be addressed:

(i) Investigate how the control parameters associated with the emissions to air abatement systems correlate with emission levels of fluorides and ammonia;

(ii) Investigate the use of the Facilities Management System to provide continuous and recorded flow data for emissions from the acid gas scrubbers.

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

12

The licensee shall establish 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 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 ongoing assessment, recording and reporting of matters affecting the environment.***

Condition 3. Infrastructure and Operation

3.1 The licensee shall establish and maintain, for each component of the installation, all infrastructure referred to in this licence in advance of the commencement of the licensed activities in that component, or as required by the conditions of this licence. Infrastructure specified in the application that relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.

3.2 Installation Notice Board

3.2.1 The licensee shall maintain 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.

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 install and maintain;

(i) Silt traps on all storm water discharges, other than from roofs, unless otherwise agreed by the Agency.

(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), unless otherwise agreed by the Agency.

3.9 Fire-water Retention

The licensee shall, within six months of date of grant of licence, undertake an updated risk assessment having regard to the Environmental Protection Agency Draft Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities. The licensee shall implement any mitigation measures identified by the risk assessment.

3.10 All pumps sumps, storage tanks, lagoons 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 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.

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

Condition 4. Interpretation

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

4.1.1 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.

4.1.2 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 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.

4.2 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:

4.2.1 From non-combustion sources:

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

4.2.2 From combustion sources:

Temperature 273K, Pressure 101.3 kPa, dry gas; 3% oxygen for liquid and gas fuels, 6% oxygen for solid fuels; 18% oxygen for thermal oxidisers.

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

4.3.1 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.

4.3.2 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.

4.3.3 Discrete Sampling

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

4.4 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.

4.5 Noise

Noise from the installation shall not give rise to sound pressure levels ($L_{Aeq, T}$) measured at the NSLs 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 Emissions to Sewer:

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

5.3.2 The licensee shall at no time discharge or permit to be discharged into the sewer any liquid, matter or thing which is or may be liable to set or congeal at average sewer temperature or is capable of giving off any inflammable or explosive gas or any acid, alkali or other substance in sufficient concentration to cause corrosion to sewer pipes, penstock and sewer fittings or the general integrity of the sewer.

5.3.3 The licensee shall ensure that the effluent discharge shall not contain petroleum spirits or organic solvents (including chlorinated organic solvents) which would give rise to flammable or explosive vapours in the sewer.

5.3.4 No substance shall be present in such concentrations as would constitute a danger to sewer maintenance personnel working in the sewerage system, or as would be damaging to the sewer fabric or as would interfere with the biological functioning of the downstream wastewater treatment works.

5.3.5 No emission to sewer shall take place which gives rise to any reaction within the sewer or to the liberation of by-products which may be of environmental significance.

5.3.6 Non-trade effluent (e.g. firewater, accidental spillage) which occurs on-site shall not be discharged to the sewer without the prior authorisation of the Water Services Authority.

5.3.7 The trade effluent discharge shall not contain any compounds which would give rise to odour problems at Leixlip Effluent Treatment Plant, if stripped out.

5.3.8 The licensee shall maintain a programme for the reduction of emissions of fluoride to sewer. The licensee shall agree the timeframes and reduction targets with the Agency annually.

5.4 Risk Phrase VOCs

Any substance or mixture, which because of its content of VOCs classified as carcinogens, mutagens or toxic to reproduction under Regulation (EC) No. 1272/2008, is assigned or needs to carry the hazard statements H340, H350, H350i, H360D or H360F or the risk phrases R45, R46, R49, R60 or R61 shall be replaced, as far as possible, by less harmful substances or mixtures within the shortest possible timeframe. Guidance on replacement given in Council Directive 2010/75/EU shall be observed. Measures for replacement of such substances or mixtures shall be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.2.2.2.

Reason: ***To provide for the protection of the environment by way of control and limitation of emissions and to provide for the requirements of the Water Services Authority in accordance with Section 99E of the EPA Act 1992, as amended.***

Condition 6. Control and Monitoring

6.1 Test Programme

6.1.1 The licensee shall prepare to the satisfaction of the Agency, a test programme for abatement equipment installed to abate emissions to atmosphere. This programme shall be submitted to the Agency in advance of implementation.

6.1.2 The programme, following agreement with the Agency, shall be completed within three months of the commencement of operation of the abatement equipment.

6.1.3 The criteria for the operation of the abatement equipment as determined by the test programme, shall be incorporated into the standard operating procedures.

6.1.4 The test programme shall as a minimum:

(i) establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in this licence; and

(ii) establish a Response Procedure, which shall be in accordance with the Agency Protocol for the Bypass of Air Emissions Abatement Equipment (September 2008);

(iii) assess the performance of any monitors on the abatement system and establish a maintenance and calibration programme for each monitor.

6.1.5 A report on the test programme shall be submitted to the Agency within one month of completion.

6.2 The licensee shall, within six months of the date of grant of this licence, agree with the Agency a set of criteria and procedures for the shutting down, as soon as practicable and in a manner consistent with safety and the protection of the environment, of affected processes where a failure of relevant emissions to air abatement equipment takes place and/or where a by-pass of emissions from an affected process takes place. The criteria shall be set having regard to the Agency Protocol for the Bypass of Air Emissions Abatement Equipment (September 2008). All emissions of contaminated exhaust air through a by-pass shall be recorded and where required notified to the Agency in accordance with the requirements of Condition 11 of this licence.

6.3 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.

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

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

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

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

6.4 The licensee shall ensure that:

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

(ii) 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.

6.5 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.

6.6 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).

6.7 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.

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

6.9 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.

6.10 Solvent Management Plan (SMP)

The licensee shall prepare and report a Solvent Management Plan (SMP) for the installation for each calendar year. The organic solvents to be included in the SMP shall be determined by reference to the definition of an organic solvent in Council Directive 2010/75/EU. The SMP shall be prepared in accordance with any relevant guidelines in Schedule 6 of the European Union (Installations and Activities using Organic Solvents) Regulations (S.I. No. 565 of 2012) or as issued by the Agency and shall be submitted as part of the AER. The licensee shall keep records of the data from which the reported information was derived and supporting documentation including a description of the methodology used for data collection.

6.11 Fugitive Emissions

6.11.1 Fugitive emission losses shall not exceed 15 % of total solvent input. Compliance with this fugitive emissions limit shall be reported annually in the SMP required under Condition 6.10.

6.11.2 The licensee shall maintain a fugitive emissions programme in order to achieve the limit specified in Condition 6.11.1. The programme shall be extended to include any new processes or functional areas as these come into operation. The programme shall

be reviewed annually in accordance with any relevant guidelines in Council Directive 2010/75/EU or as issued by the Agency and shall be submitted as part of the AER.

6.12 Thermal Oxidiser Operation

6.12.1 Waste solvent in the liquid phase shall not be used as a fuel for any thermal oxidiser on-site.

6.12.2 Chlorinated solvent vapours shall not be allowed to enter any thermal oxidiser on-site.

6.13 Thermal Oxidiser Shut-down

In the event of any of the following:

(a) the failure of any piece of control equipment related to the thermal oxidiser or failure of any continuous monitor related to operating parameters or emissions of the thermal oxidiser, where a contingency plan, previously agreed by the Agency, is not implemented;

(b) the failure of the thermal oxidiser to achieve the operating parameters and emission limit values given in *Schedule B.1 Emission Limits,* of this licence, and *Schedule C.1 Control & Monitoring*, of this licence; or

(c) where a by-pass is initiated;

the relevant processes shall, subject to Condition 6.1 and Condition 6.2 of this licence, be shut down as soon as practicable and in a manner consistent with safety and the protection of the environment. All emissions of contaminated exhaust air through the by-pass shall be notified to the Agency in accordance with the requirements of Condition 11 of this licence.

6.14 Use of gas oil as an emergency fuel

6.14.1 Gas oil may be used on-site as a boiler fuel only in the event of an unplanned interruption to the natural gas supply or for test purposes. Such use shall be restricted to a maximum of 12 boilers at a time for no more than 31 days per annum.

6.14.2 Gas oil shall not be used as an emergency fuel outside the constraints specified in Condition 6.14.1 without the prior written agreement of the Agency.

6.14.3 In the event of gas oil use on site as an emergency fuel for boilers, under Condition 6.14.1, ambient monitoring for nitrogen dioxide shall be carried out as per *Schedule C.6.1 Ambient Monitoring*, of this licence.

6.14.4 Records of the use of boilers on gas oil shall be maintained on site for review by the Agency.

6.15 On-site emergency electrical generators shall be used for emergency and test purposes only. The testing of generators shall be minimised as far as possible without comprising the need for emergency preparedness and shall be no more frequent than once every two weeks. Records of generator use shall be maintained on site for review by the Agency. The licensee shall maintain a testing programme for the generators as agreed by the Agency.

6.16 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.

6.17 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds, silt traps and oil separators shall be inspected weekly and desludged as necessary, unless otherwise agreed by the Agency having regard to the risk assessment under Condition 2.2.2.2. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, silt traps and oil interceptors shall be properly maintained at all times.

6.18 Process Effluent

6.18.1 Trade effluent from all FABs shall be discharged to a balance tank or a series of balance tanks with a capacity which corresponds to not less than two hours retention time at peak flow, prior to being discharged to the Kildare County Council foul sewer.

6.18.2 Any surface water arising from areas where barrels or containers are stored or washed shall be discharged to a sump. This effluent may be discharged to sewer if it does not exceed the emission limit values specified in *Schedule B.3 Emission Limits*, of this licence.

6.18.3 The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which trade effluent is being discharged. 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.

6.18.4 The licensee shall permit authorised persons of the Agency and the Water Services Authority to inspect, examine and test, at all reasonable times, any works and apparatus installed in connection with the trade effluent and to take samples of the trade effluent.

6.18.5 The acute toxicity of the undiluted final effluent to at least four 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, within three months of commencement of operations of the new technology at the installation, as described in Section D of the licence application.

6.18.6 Having identified the most sensitive species outlined in Condition 6.18.5, subsequent compliance toxicity monitoring on the two most sensitive species shall be carried out by the laboratory identified in Condition 6.18.5. 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.

6.18.7 A representative sample of effluent shall be screened for the presence of organic compounds. Such screening shall be repeated at intervals as requested by the Agency thereafter.

6.19 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, unless otherwise agreed by the Agency having regard to the risk assessment under Condition 2.2.2.2. A log of such inspections shall be maintained.

6.20 Storm Water

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

6.20.2 The licensee shall maintain procedures for the setting of suitable trigger levels for pH in storm water discharges. Discharges exceeding these levels will be diverted for retention and suitable disposal.

6.21 Ground Water

Within eighteen months of the date of this licence, 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 recent hydrogeological assessment report for the installation, 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.

6.22 Noise

6.22.1 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 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency.

6.23 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.

6.24 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.

6.25 The licensee shall maintain a log identifying the operational status of all acid gas scrubbers.

6.26 All details recorded by the Facilities Management System in relation to emissions to air and the operation of associated abatement systems, including operational status and flow rates of emission points, shall be made available for inspection by authorised officers of the Agency.

6.27 The licensee shall develop to the satisfaction of the Agency, a site specific protocol for monitoring emissions to air of fluorides within twelve months of the commencement of operations of the new technology at the installation, as described in Section D of the licence application. This work shall entail continuous monitoring of fluoride emissions over sufficient time, to allow for the development of the site specific protocol. The protocol should be in accordance with the Agency's *Air Emissions Monitoring Guidance Note #2 (AG2).* The site specific protocol shall form the basis for compliance assessment. The licensee shall notify the Agency when it plans to undertake monitoring of emissions to air of fluorides.

6.28 The licensee shall carry out a full ecological survey of wild and domesticated flora and fauna in the vicinity of the installation. The scope of the survey shall include sensitive receptors in the Rye Water Valley/Carton Special Area of Conservation. The licensee shall consult with the National Parks and Wildlife Service on the scope of the survey, before commencement of operations of the new technology at the installation, as described in Section D of the licence application. The survey shall be carried out within twelve months of commencement of operations of the new technology and annually thereafter, unless otherwise agreed by the Agency.

6.29 The licensee shall carry out an air dispersion model validation study in line with the Agency's *Air Dispersion Modelling from Industrial Installations Guidance Note (AG4).* The licensee shall agree with the Agency on the scope of the study and it shall be completed within 12 months of the date of commencement of operations of the new technology at the installation, as described in Section D of the licence application.

6.30 The licensee shall review the locations for vegetation sampling to be carried out in accordance with *Schedule C.6 Ambient Monitoring,* of this licence. The vegetation sampling programme shall support the air dispersion model validation study required by Condition 6.29 and the ecological survey required by Condition 6.28. The licensee shall agree the revised sampling locations with the Agency before commencement of operations of the new technology at the installation, as described in Section D of the licence application. The licensee shall review the sampling locations at a frequency as agreed by the Agency.

6.31 The licensee shall maintain a computerised combustion control system on all boilers in the main energy centres.

6.32 The licensee shall operate the acid gas scrubbers on each header in such a way that the volumetric flow rate at any one emission point is not more than 50% higher or lower than the average flow across all active emission points on the same header. Where there is a difference of greater than 20% the licensee shall carry out an investigation to determine the cause of the measured variation.

Reason: ***To provide for the protection of the environment by way of treatment and monitoring of emissions and to provide for the requirements of the Water Services Authority in accordance with Section 99E of the EPA Act 1992, as amended.***

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.

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 & Residuals Management Plan (DMRP)

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. This plan shall replace the Residuals Management Plan and shall be submitted to the Agency for agreement as part of the first AER after grant of this licence.

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 & Residuals 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 & Residuals 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 event of any incident which relates to discharges to sewer having taken place, the licensee shall notify the Local and Water Services Authority as soon as practicable after such an incident.

11.3 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.

11.4 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.

11.5 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.

11.6 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.

11.7 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 or EIS documentation referenced in this licence.

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

11.8 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.

11.9 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 waste management operations and practices at this site. This record shall be maintained on a monthly basis and 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.

11.10 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 €26,490.80, 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 Act 1992, as amended. 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 Act 1992, as amended, 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 Water Services Authority Charges

The licensee shall pay to the Water Services Authority 53 cent 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, the variation in effluent reception and treatment costs, and the cost of monitoring the trade effluent. Payment to be made annually on demand.

12.3 Environmental Liabilities

12.3.1 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.

12.3.2 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 DMRP. A report on this assessment shall be submitted to the Agency for agreement with the AER due March 2014. 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.

12.3.3 As part of the measures identified in Condition 12.3.1, 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 12.3.1.

12.3.4 The licensee shall revise the cost of closure annually and any adjustments shall be reflected in the financial provision made under Condition 12.3.3.

12.3.5 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 12.3.2 and 12.3.3 above.

Reason:	***To provide for adequate financing for monitoring and financial provisions for measures to protect the environment and to provide for the requirements of the Water Services Authority in accordance with Section 99E of the EPA Act, 1992 as amended.***

SCHEDULE A: Limitations

There are no limitations on the installation specified in the Schedule

SCHEDULE B: Emission Limits

B.1 Emissions to Air

B.1.1 Boiler Emissions

Emission Point Reference No.:	Location:	Minimum discharge height above ground:	Boiler rating:	Emission Limit Value [Note 1]
				Nitrogen oxides (as NO_2)
A01	FAB 10 Energy Centre	9 m	4.32 MW	180 mg/m^3
A03	FAB 10 Energy Centre	9 m	6.17 MW	180 mg/m^3
A04	FAB 10 Energy Centre	9 m	6.17 MW	180 mg/m^3
A05	FAB 10 Energy Centre	9 m	6.17 MW	180 mg/m^3
A06	FAB 10 Energy Centre	9 m	6.17 MW	180 mg/m^3
A101	FAB 14 Energy Centre	19 m	9 MW	170 mg/m^3
A102	FAB 14 Energy Centre	19 m	9 MW	170 mg/m^3
A103	FAB 14 Energy Centre	19 m	9 MW	170 mg/m^3
A104	FAB 14 Energy Centre	19 m	9 MW	170 mg/m^3
A201	FAB 24 Energy Centre	21 m	9.13 MW	150 mg/m^3
A202	FAB 24 Energy Centre	21 m	9.13 MW	150 mg/m^3
A203	FAB 24 Energy Centre	21 m	9.13 MW	150 mg/m^3
A204	FAB 24 Energy Centre	21 m	9.13 MW	150 mg/m^3
A205	FAB 24 Energy Centre	22 m	9.13 MW	150 mg/m^3
A248	FAB 24 Energy Centre	22 m	9.13 MW	150 mg/m^3
A253	FAB 24 Energy Centre	22 m	9.13 MW	150 mg/m^3

Note 1: These limits do not apply to the running of boilers on gas oil which is subject to Condition 6.14.

B.1.2 Acid Gas Scrubbers:

Emission Point Reference No's.: A07, A08, A14, A15, A16, A20.

Location: FAB 10 Header Scrubbers.

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value	
Total acids (as HCl)	0.202 kg/hr per stack	4 mg/m^3
Hydrofluoric acid (Gaseous) (as HF)	See tables 1 & 2 below for emission limit values	
Total Fluorides (as HF)	See tables 1 & 2 below for emission limit values	

Table 1: Emission Limit Values for hydrofluoric acid (Gaseous) and total fluorides for MaxFit scenario.

MaxFit scenario refers to the case where six scrubbers are installed on the Fab 10 header and four to six scrubbers are in operation.

Maximum rate per hour: 302,842 Nm^3/hr (combined flow from all active emission points)

Header volume flow rate (Nm^3/hr) Note 1	**Emission Limit Value** Note 2	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	**Total Fluorides** Note 4 (mg/Nm^3)
302,842	0.85	1.10
272,558	0.90	1.20
242,274	1.00	1.30
211,989	1.10	1.45
181,605	1.25	1.60
151,421	1.40	1.85
121,137	1.70	2.20
90,853	2.20	2.75
60,568	3.00	4.00
30,284	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points on header.
Note 2: The emission limit value shall be determined by the header volume flow rate. Compliance is determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to flow rate of each emission point), where the weighted concentration is compared to the emission limit value for the specified header volume flow. If the header volume flow rate falls between flow rate values specified in the table above, then the header volume flow rate which gives the lower emission limit value is used for compliance assessment.
Note 3: The emission concentration, at any emission point, shall not exceed 3 mg/m^3 under any circumstance.
Note 4: The emission concentration, at any emission point, shall not exceed 4 mg/m^3 under any circumstance.

Table 2: Emission Limit Values for hydrofluoric acid (Gaseous) and total fluorides for LowFit scenario.

LowFit scenario refers to the case where three scrubbers are installed on the Fab 10 header and one to three scrubbers are in operation.

Maximum rate per hour: 151,421 Nm^3/hr (combined flow from all active emission points)

Header volume flow rate (Nm^3/hr) Note 1	**Emission Limit Value** Note 2	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	**Total Fluorides** Note 4 (mg/Nm^3)
151,421	1.70	2.20
136,279	1.80	2.40
121,137	2.00	2.60
105,995	2.20	2.90
90,853	2.50	3.20
75,711	2.80	3.70
60,589	3.00	4.00
45,427	3.00	4.00
30,284	3.00	4.00
15,142	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points on header.

Note 2: The emission limit value shall be determined by the header volume flow rate. Compliance is determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to flow rate of each emission point), where the weighted concentration is compared to the emission limit value for the specified header volume flow. If the header volume flow rate falls between flow rate values specified in the table above, then the header volume flow rate which gives the lower emission limit value is used for compliance assessment.

Note 3: The emission concentration, at any emission point, shall not exceed 3 mg/m^3 under any circumstance.

Note 4: The emission concentration, at any emission point, shall not exceed 4 mg/m^3 under any circumstance.

Emission Point Reference No's.: A105, A106, A107, A109, A110 and A111.

Location: FAB 14 Header Scrubbers.

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value	
Total acids (as HCl)	0.234 kg/hr per stack	4 mg/m^3
Hydrofluoric acid (Gaseous) (as HF)	See table below for emission limit values	
Total Fluorides (as HF)	See table below for emission limit values	

Table: Emission Limit Values for hydrofluoric acid (Gaseous) and total fluorides

Maximum rate per hour: 350,660 Nm^3/hr (combined flow from all active emission points)

Header volume flow rate (Nm^3/hr) Note 1	**Emission Limit Value** Note 2	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	**Total Fluorides** Note 4 (mg/Nm^3)
350,660	0.85	1.10
315,594	0.90	1.20
280,528	1.00	1.30
245,462	1.10	1.45
210,396	1.25	1.60
175,330	1.40	1.85
140,264	1.70	2.20
105,198	2.20	2.75
70,132	3.00	4.00
35,066	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points on header.

Note 2: The emission limit value shall be determined by the header volume flow rate. Compliance is determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to flow rate of each emission point), where the weighted concentration is compared to the emission limit value for the specified header volume flow. If the header volume flow rate falls between flow rate values specified in the table above, then the header volume flow rate which gives the lower emission limit value is used for compliance assessment.

Note 3: The emission concentration, at any emission point, shall not exceed 3 mg/m^3 under any circumstance.

Note 4: The emission concentration, at any emission point, shall not exceed 4 mg/m^3 under any circumstance.

Emission Point Reference No's.: Main header: A206, A207, A208, A209.

Location: FAB 24 Main Header Scrubbers.

Minimum discharge height: 77 m O.D.

Parameter	Emission Limit Value	
Total acids (as HCl)	0.182 kg/hr per stack	4 mg/m^3
Hydrofluoric acid (Gaseous) (as HF)	See table below for emission limit values	
Total Fluorides (as HF)	See table below for emission limit values	

Table: Emission Limit Values for hydrofluoric acid (Gaseous) and total fluorides

Maximum rate per hour: 181,705 Nm^3/hr (combined flow from all active emission points)

Header volume flow rate (Nm^3/hr) Note 1	**Emission Limit Value** Note 2	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	**Total Fluorides** Note 4 (mg/Nm^3)
181,705	0.85	1.10
163,535	0.90	1.20
145,365	1.00	1.30
127,194	1.10	1.45
109,023	1.25	1.60
90,853	1.40	1.85
72,682	1.70	2.20
54,512	2.20	2.75
36,341	3.00	4.00
18,171	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points on header.

Note 2: The emission limit value shall be determined by the header volume flow rate. Compliance is determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to flow rate of each emission point), where the weighted concentration is compared to the emission limit value for the specified header volume flow. If the header volume flow rate falls between flow rate values specified in the table above, then the header volume flow rate which gives the lower emission limit value is used for compliance assessment.

Note 3: The emission concentration, at any emission point, shall not exceed 3 mg/m^3 under any circumstance.

Note 4: The emission concentration, at any emission point, shall not exceed 4 mg/m^3 under any circumstance.

Emission Point Reference No's.: Bridge header: A210, A211, A212, A213.

Location: FAB 24 Bridge Header Scrubbers.

Minimum discharge height: 77 m O.D.

Parameter	Emission Limit Value	
Total acids (as HCl)	0.182 kg/hr per stack	4 mg/m^3
Hydrofluoric acid (Gaseous) (as HF)	See table below for emission limit values	
Total Fluorides (as HF)	See table below for emission limit values	

Table: Emission Limit Values for hydrofluoric acid (Gaseous) and total fluorides

Maximum rate per hour: 181,705 Nm^3/hr (combined flow from all active emission points)

Header volume flow rate (Nm^3/hr) Note 1	**Emission Limit Value** Note 2	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	**Total Fluorides** Note 4 (mg/Nm^3)
181,705	0.85	1.10
163,535	0.90	1.20
145,365	1.00	1.30
127,194	1.10	1.45
109,023	1.25	1.60
90,853	1.40	1.85
72,682	1.70	2.20
54,512	2.20	2.75
36,341	3.00	4.00
18,171	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points on header.

Note 2: The emission limit value shall be determined by the header volume flow rate. Compliance is determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to flow rate of each emission point), where the weighted concentration is compared to the emission limit value for the specified header volume flow. If the header volume flow rate falls between flow rate values specified in the table above, then the header volume flow rate which gives the lower emission limit value is used for compliance assessment.

Note 3: The emission concentration, at any emission point, shall not exceed 3 mg/m^3 under any circumstance.

Note 4: The emission concentration, at any emission point, shall not exceed 4 mg/m^3 under any circumstance.

Emission Point Reference No's.: A249, A250, A251, A252.

Location: FAB 24-2 Header Scrubbers.

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value	
Total acids (as HCl)	0.213 kg/hr per stack	4 mg/m^3
Hydrofluoric acid (Gaseous) (as HF)	See table below for emission limit values	
Total Fluorides (as HF)	See table below for emission limit values	

Table: Emission Limit Values for hydrofluoric acid (Gaseous) and total fluorides

Maximum rate per hour: 159,391 Nm^3/hr (combined flow from all active emission points)

Header volume flow rate (Nm^3/hr) Note 1	**Emission Limit Value** Note 2	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	**Total Fluorides** Note 4 (mg/Nm^3)
159,391	0.85	1.10
143,452	0.90	1.20
127,513	1.00	1.30
111,574	1.10	1.45
95,635	1.25	1.60
79,696	1.40	1.85
63,756	1.70	2.20
47,817	2.20	2.75
31,878	3.00	4.00
15,939	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points on header.

Note 2: The emission limit value shall be determined by the header volume flow rate. Compliance is determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to flow rate of each emission point), where the weighted concentration is compared to the emission limit value for the specified header volume flow. If the header volume flow rate falls between flow rate values specified in the table above, then the header volume flow rate which gives the lower emission limit value is used for compliance assessment.

Note 3: The emission concentration, at any emission point, shall not exceed 3 mg/m^3 under any circumstance.

Note 4: The emission concentration, at any emission point, shall not exceed 4 mg/m^3 under any circumstance.

B.1.3 RCTOs

Emission Point Reference No's.: A61, A141, A142, A143, A144, A217, A260, A261, A262, A270, A263, A264, A265 and A266.

Location: RCTO Concentrator exhausts.

Emission Point Reference	Location	Volume to be emitted-maximum rate per hour (Nm^3)	Minimum discharge)	Emission Limit Values Note 1 (mg/m^3)		
				Organics Class I Note 2	Organics Class II Note 2	Total Organic Carbon (as C) Note 3
A61	FAB 10	120,000	34 m above ground	5	20	50
A141 Note 4	FAB 14	34,700	77 m O.D.	5	20	50
A142 Note 4	FAB 14	34,700	77 m O.D.	5	20	50
A143 Note 4	FAB 14	34,700	77 m O.D.	5	20	50
A144 Note 4	FAB 14	34,700	77 m O.D.	5	20	50
A260 Note 5	FAB 24	48,000	77 m O.D.	5	20	50
A261 Note 5	FAB 24	48,000	77 m O.D.	5	20	50
A262 Note 5	FAB 24	48,000	77 m O.D.	5	20	50
A270 Note 5	FAB 24	48,000	77 m O.D.	5	20	50
A217 Note 7	FAB 24	120,000	29.1 m above ground	5	20	50
A263 Note 6	FAB 24-2	34,700	82 m O.D.	5	20	50
A264 Note 6	FAB 24-2	34,700	82 m O.D.	5	20	50
A265 Note 6	FAB 24-2	34,700	82 m O.D.	5	20	50
A266 Note 6	FAB 24-2	34,700	82 m O.D.	5	20	50

Note 1: Where substances of more than one class are present, in addition to the above limit, the sum of Classes I & II shall not exceed the Class II limit.

Note 2: Organics Class I and Class II as defined in the Agency's guidance note on Best Available Techniques for the Manufacture of Integrated Circuits.

Note 3: Total organic carbon not including Class I and Class II organics.

Note 4: Where all four Fab 14 RCTO exhausts are in operation the combined volume shall not exceed 104,100Nm^3/hr.

Note 5: Where all four Fab 24 RCTO exhausts are in operation the combined volume shall not exceed 144,000Nm^3/hr.

Note 6: Where all four Fab 24-2 RCTO exhausts are in operation the combined volume shall not exceed 104,100Nm^3/hr.

Note 7: Emission point A217 shall cease operation on commencement of operation of any one of emission points A260, A261, A262 and A270, unless otherwise agreed by the Agency.

Emission Point Reference Nos.:	Location:	Minimum discharge height:	Volume to be emitted- maximum rate per hour (Nm^3)
A65, A66, A67	RCTO oxidiser exhausts in FAB 10	82 m O.D.	5,100 (each)
A155, A156, A157	RCTO oxidiser exhausts in FAB 14	82 m O.D.	4,000 (each)
A214, A215, A216, A287 Note 1	RCTO oxidiser exhausts in FAB 24	77 m O.D	4,000 (each)
A267, A268, A269	RCTO oxidiser exhausts in FAB 24-2	82 m O.D.	4,000 (each)

For the Emission Point Reference Nos. above, the following Emission Limit Values apply.

Parameter	Emission Limit Value
Organics Class I Note 2	5 mg/m^3
Total Organic Carbon (as C) Note 3	50 mg/m^3
Carbon monoxide	600 mg/m^3
Nitrogen oxides (as NO_2)	200 mg/m^3

Note 1: Where all four Fab 24 RCTO exhausts are in operation the combined volume shall not exceed 12,000Nm^3/hr.

Note 2: Organics Class I and Class II as defined in the Agency's guidance note on Best Available Techniques for the Manufacture of Integrated Circuits.

Note 3: Total organic carbon not including Class I and Class II organics.

B.1.5 Ammonia Exhausts

Emission Point Reference No.	Location:	Minimum discharge height:	Maximum Volume to be emitted (Nm^3/hr)
A158, A159, A160, A161 Note 1	FAB 14 Ammonia Exhausts	77 m O.D.	41,000 (each)
A220, A247	FAB 24 Bridge Ammonia Exhausts	76 m O.D.	24,500 (each)
A257, A258, A259, A273 Note 2	FAB 24-2 Ammonia Exhausts	82 m O.D.	56,000 (each)

Note 1: At any one time, no more than three of the Fab 14 ammonia exhausts shall be operational.

Note 2: At any one time, no more than three of the Fab 24-2 ammonia exhausts shall be operational.

For the Emission Point Reference Nos. above, the following Emission Limit Values apply.

Parameter	Emission Limit Value
Ammonia	5 mg/m^3 Note 1

Note 1: For the purposes of determining compliance with this emission limit value, emission levels across three emission points at FAB 14, three emission points at FAB 24-2, and two emission points at FAB 24 Bridge, may be averaged. No one emission point shall have an ammonia emission level greater than 15 mg/m^3 (FAB 14 and FAB 24-2 ammonia exhausts) and 10 mg/m^3 for FAB 24 Bridge ammonia exhausts).

B.1.6 Speciality Exhausts

Emission Point Reference No.: A152 and A153

Location: FAB 14 Speciality Exhaust.

Volume to be emitted: Maximum rate per hour (from either stack or both stacks combined): 24,500 Nm^3

Minimum discharge height: 77 m O.D.

Parameter	Emission Limit Value [Note 2]
Inorganic Dust Particles Class I [Note 1]	0.05 mg/m^3
Inorganic Dust Particles Class II [Note 1]	0.2 mg/m^3
Inorganic Dust Particles Class III [Note 1]	0.2 mg/m^3
Total Dusts	20 mg/m^3

Note 1: Inorganic dust particles Class I, Class II and Class III as defined in the Agency's guidance note on Best Available Techniques for the Manufacture of Integrated Circuits.

Note 2: Where substances of several classes are present, in addition to the above limit, the sum of Classes I & II shall not exceed the Class II limit and the sum of Classes I & III, II & III or I, II & III shall not exceed the Class III limit.

Emission Point Reference No.: A218 and A285

Location: FAB 24 Speciality Exhaust.

Volume to be emitted: Maximum rate per hour (from either stack or both stacks combined): 25,200 Nm^3

Minimum discharge height: 77 m O.D.

Parameter	Emission Limit Value [Note 2]
Inorganic Dust Particles Class I [Note 1]	0.05 mg/m^3
Inorganic Dust Particles Class II [Note 1]	0.2 mg/m^3
Inorganic Dust Particles Class III [Note 1]	0.2 mg/m^3
Total Dusts	20 mg/m^3

Note 1: Inorganic dust particles Class I, Class II and Class III as defined in the Agency's guidance note on Best Available Techniques for the Manufacture of Integrated Circuits.

Note 2: Where substances of several classes are present, in addition to the above limit, the sum of Classes I & II shall not exceed the Class II limit and the sum of Classes I & III, II & III or I, II & III shall not exceed the Class III limit.

B.1.7 Trimix Waste Treatment System Exhausts

Only one of the two configurations for the Trimix waste treatment system, detailed below, is permitted. The licensee shall notify the Agency which configuration has been installed, three months before being put into operation.

Configuration 1

Emission Point Reference No.: A256A [Note 1, Note 2]

Location: FAB 24

Volume to be emitted: Maximum rate per hour: 14,000 Nm^3

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value
Ammonia	80 mg/m^3
Oxides of nitrogen (as NO_2)	140 mg/m^3
Carbon Monoxide	600 mg/m^3

Note 1: Where the licencee chooses configuration 1, emission points A220 and A247 shall cease operation within six months of emission point A256A coming into operation.

Note 2: Start-up and shut-down events shall be logged including the maximum duration of start-up and shut-down events.

Configuration 2

Emission Point Reference No.: A256A and A256B [Note 3, Note 4]

Location: FAB 24

Volume to be emitted: Maximum rate per hour: 7,000 Nm^3 (each)

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value
Ammonia	60 mg/m^3
Oxides of nitrogen (as NO_2)	140 mg/m^3
Carbon Monoxide	600 mg/m^3

Note 3: Where the licencee chooses configuration 2, emission points A220 and A247 shall cease operation before emission points A256A and A256B come into operation.

Note 4: Start-up and shut-down events shall be logged including the maximum duration of start-up and shut-down events.

B.2 Emissions to Water

There shall be no emissions to water of environmental significance.

B.3 Emissions to Sewer

Emission Point Reference No:	SE1		
Name of Receiving Waters:	River Liffey		
Location:	298992E, 237128N		
Volume to be emitted:	Maximum in any one day:	23,000 m^3 Note 1	16,500 m^3
	Maximum rate per hour:	1,150 m^3 Note 1	720 m^3
	Maximum rate per second:	320 litres Note 1	200 litres

Parameter	Emission Limit Value	
Temperature	30 °C (max)	
pH	6 – 9.5	
	Daily mean concentration mg/l	Daily mean loading kg/day
BOD	Not applicable	3,800
COD	Not applicable	7,600
Inorganic Suspended Solids	Not applicable	2,700
Total Suspended Solids	Not applicable	4,125
Total Dissolved Solids	Not applicable	60,570
Total Nitrogen	Not applicable	590 Note 3 | 900 Note 4
Total Phosphorus (as P)	Not applicable	140
Fluoride (as F)	Not applicable	160
Cyanide (as CN)	0.1	1.35
Arsenic	0.1	1.35
Copper	0.3	4.05
Chromium	0.1	1.35
Nickel	0.2	2.7
Tin	0.4	5.4
Lead	0.4	1.6
Total Heavy Metals Note 2	Not applicable	13.5

Note 1: These flow limits only apply after the relevant infrastructure (new pipelines from the installation to the Municipal WWTP and associated pump house) have been installed.
Note 2: The sum of arsenic, copper, chromium, nickel, tin and lead.
Note 3: This emission limit value applies from the date of grant of licence.
Note 4: This emission limit value applies from the date of receipt of notification from the WSA of the completion of commissioning of the proposed Leixlip MWWTP upgrade.

B.4 Noise Emissions

Daytime dB $L_{Ar,T}$ (30 minutes)	Evening time dB $L_{Ar,T}$ (30 minutes)	Night-time dB $L_{Aeq,T}$ (15 minutes)
55	50	45 Note 1

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

SCHEDULE C: Control & Monitoring

C.1.1. Control of Emissions to Air

C.1.1.1 Acid gas scrubbers

Emission Point Reference No.'s:

Fab 10:-	A07, A08, A14, A15, A16, A20
Fab 14:-	A105, A106, A107, A109, A110, A111
Fab 24 Main:-	A206, A207, A208, A209
Fab 24 Bridge:-	A210, A211, A212, A213
Fab 24-2:-	A249, A250, A251

Description of Treatment: Acid gas scrubbers.

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH sensor and transmitter
Conductivity	Continuous	Conductivity sensor and transmitter

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

C.1.1.2 RCTOs

Emission Point Reference No.'s:

Fab 10 RCTO Concentrators:-	A61
Fab 10 RCTO Oxidisers:-	A65, A66, A67
Fab 14 RCTO Concentrators:-	A141, A142, A143, A144
Fab 14 RCTO Oxidisers:-	A155, A156, A157
Fab 24 RCTO Concentrators:-	A260, A261, A262, A270
Fab 24 RCTO Oxidisers:-	A214, A215, A216, A287
Fab 24-2 RCTO Concentrators:-	A263, A264, A265, A266
Fab 24-2 RCTO Oxidisers:-	A267, A268, A269

Description of Treatment: RCTO unit.

Control Parameter	Monitoring	Key Equipment [Note 1]
Airflow (inlet to concentrator and zeolite regeneration air)	Continuous	Differential pressure gauge
Oxidiser temperature	Continuous	Thermocouple/temperature probe
Desorption air temperature	Continuous	Thermocouple/temperature probe
Burner flame operation	Continuous	Flame rod
TOC concentration (on each RCTO oxidiser and on RCTO concentrator common header)	Continuous	Flame ionisation detector

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

C.1.1.3 Ammonia exhausts

Emission Point Reference No.'s: Fab 14:- A158, A159, A160, A161
Fab 24 Bridge:- A220, A247
Fab 24-2:- A257, A258, A259, A273

Description of Treatment: Ammonia scrubbers.

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH sensor and transmitter
Conductivity	Continuous	Conductivity sensor and transmitter

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

C.1.1.4 Speciality exhausts

Emission Point Reference No.'s: Fab 14:- A152, A153
Fab 24:- A218, A285

Description of Treatment: HEPA filters.

Control Parameter	Monitoring	Key Equipment [Note 1]
Pressure drop across pre-filters	Differential pressure	Manometer
Pressure drop across HEPA filters	Differential pressure	Manometer

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

C.1.1.5 Trimix Waste Treatment System

Emission Point Reference No.'s: Fab 24:- A256A, A256B

Description of Treatment: Catalytic oxidiser

Control Parameter	Monitoring	Key Equipment [Note 1]
Oxidiser temperature	Continuous	Temperature probe

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

C.1.2.1 Boilers

Emission Point Reference No.'s:

Fab 10:- A01, A02, A03, A04, A05, A06
Fab 14:- A101, A102, A103, A104
Fab 24:- A201, A202, A203, A204, A205, A248, A253

Parameter	Monitoring Frequency	Analysis Method/Technique
Nitrogen oxides (as NO_2)	Annually	Combustion gas analyser
Carbon monoxide	Annually	Combustion gas analyser

C.1.2.2 Acid gas scrubbers

Emission Point Reference No.'s:

Fab 10:- A07, A08, A14, A15, A16, A20
Fab 14:- A105, A106, A107, A109, A110, A111
Fab 24 Main:- A206, A207, A208, A209
Fab 24 Bridge:- A210, A211, A212, A213
Fab 24-2:- A249, A250, A251

Parameter	Monitoring Frequency	Analysis Method/Technique
Total Fluorides	Quarterly [Note 2]	ISO 15713 [Note 1]
Hydrofluoric acid (Gaseous) (as HF)	Quarterly [Note 2]	Standard Method [Note 1]
Total acids (as HCl)	Quarterly	EN 1911 [Note 1]
Flow	Quarterly	Standard Method [Note 1]

Note 1: Or other method agreed by the Agency.

Note 2: Monitoring of stack emissions across the same header shall be carried out in line with a site specific protocol to be agreed by the Agency under Condition 6.27. Where the site specific protocol developed under Condition 6.27 does not require simultaneous monitoring, the output from monitoring against the requirements of the site specific protocol shall be directly comparable against the emission limit values in *Schedule B.1.2 Acid Gas Scrubbers.*

C.1.2.3 RCTOs

Emission Point Reference No.'s:

Fab 10 RCTO Concentrators:- A61
Fab 14 RCTO Concentrators:- A141, A142, A143, A144
Fab 24 RCTO Concentrators:- A260, A261, A262, A270
Fab 24-2 RCTO Concentrators:- A263, A264, A265, A266

Parameter	Monitoring Frequency	Analysis Method/Technique
Total Organic Carbon (as C) [Note 1]	Continuous	Flame ionisation detector
Organics Class I [Note 2]	Quarterly	GC-MS
Organics Class II [Note 2]	Quarterly	GC-MS

Note 1: Total organic carbon not including Class I and Class II organics.

Note 2: Organics Class I and Class II as defined in the Agency's guidance note on Best Available Techniques for the Manufacture of Integrated Circuits.

Emission Point Reference No.'s:

Fab 10 RCTO oxidisers:- A65, A66, A67
Fab 14 RCTO oxidisers:- A155, A156, A157
Fab 24 RCTO oxidisers:- A214, A215, A216, A287
Fab 24-2 RCTO oxidisers:- A267, A268, A269

Parameter	Monitoring Frequency	Analysis Method/Technique
Total Organic Carbon (as C)	Continuous	Flame ionisation detector
Organics Class I [Note 1]	Quarterly	GC-MS
Oxides of Nitrogen (NOx)	Continuous	Infra-red analyser
Carbon Monoxide (CO)	Continuous	Infra-red analyser
Oxygen	Continuous	Electrochemical cell or paramagnetic analyser
Temperature	Continuous	Temperature probe

Note 1: Organics Class I as defined in the Agency's guidance note on Best Available Techniques for the Manufacture of Integrated Circuits.

C.1.2.4 Ammonia scrubber exhausts

Emission Point Reference No.'s:

Fab 14:- A158, A159, A160, A161 [Note 1]
Fab 24 Bridge:- A220, A247 [Note 1]
Fab 24-2:- A257, A258, A259, A273 [Note 1]

Parameter	Monitoring Frequency	Analysis Method/Technique
Ammonia	Bi-annually	Colorimetry

Note 1: Monitoring of stack emissions across the same header shall be carried out simultaneously.

C.1.2.5 Speciality exhausts

Emission Point Reference No.'s:

Fab 14:- A152, A153
Fab 24:- A218, A285

Parameter	Monitoring Frequency	Analysis Method/Technique
Inorganic Dusts (Class I, Class II and Class III) [Note 1]	Bi-annually	Gravimetric/ICP-AES
Total Dusts	Bi-annually	Gravimetric/ICP-AES

Note 1: Inorganic dust particles Class I, Class II and Class III as defined in the Agency's guidance note on Best Available Techniques for the Manufacture of Integrated Circuits.

C.1.2.6 Trimix Waste Treatment System

Emission Point Reference No.'s: Fab 24:- A256A, A256B

Parameter	Monitoring Frequency	Analysis Method/Technique
Oxides of nitrogen (NOx)	Quarterly	Combustion gas analyser
Ammonia	Quarterly	Colorimetry

C.2.1. Control of Emissions to Water

There shall be no emissions to water of environmental significance.

C.2.2. Monitoring of Emissions to Water

There shall be no emissions to water of environmental significance.

C.2.3. Monitoring of Storm Water Emissions

Emission Point Reference No: SW1

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Continuous	pH electrode/meter
Flow	Continuous	Flow meter
COD	Weekly [Note 1]	Standard method
TOC	Weekly [Note 1]	Standard method
Conductivity	Weekly [Note 1]	Standard method
Total heavy metals [Note 2]	Bi-annually [Note 1]	Standard method
Visual Inspection	Daily	Sample and examine for colour and odour.

Note 1: All samples shall be collected on a 24 hour flow proportional composite sampling basis.
Note 2: The sum of arsenic, chromium, copper, nickel, lead, tin and cobalt.

C.3.1. Control of Emissions to Sewer

Emission Point Reference No: SE1
Description of Treatment: Wastewater Treatment – Acid Waste Neutralisation (AWN) System
Equipment: pH Balancing Tanks

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH probe, acid/alkali dosing pumps
Flow	Continuous	Flow meter

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.: SE-1

Description of Treatment: Waste Water Treatment – Fluoride Treatment System (HFW)

Equipment: Reaction tanks and filter presses

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH probe and meter
Fluoride	Continuous	On-line analyser

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.: SE-1

Description of Treatment: Waste Water Treatment: Dilute metal waste (DMW) treatment system

Equipment: Ion exchange columns

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH probe and controller
Copper	Continuous/Sequential	Colorimeter analyser

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.: SE-1

Description of Treatment: Waste Water Treatment: Slurry copper waste (SCW) treatment system

Equipment: Carbon Beds and Ion Exchange Resins

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH probe and controller
Temperature	Continuous	Temperature probe
Flow	Continuous	Flow meter
Pressure drop	As agreed by the Agency	Manometer
Copper	Continuous/Sequential	Colorimeter analyser

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.: SE-1

Description of Treatment: Waste Water Treatment: Concentrated copper waste (CCW) recovery system

Equipment: Electro-winning units, plate out tanks and ion exchange resins

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH probe and controller
Copper	Continuous/Sequential	Colorimeter analyser

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.: SE-1

Description of Treatment: Waste Water Treatment - Ammonia wastewater (NH4W) treatment system

Equipment: Strippers and scrubbers

Control Parameter	Monitoring	Key Equipment [Note 1]
pH	Continuous	pH probe and controller
Temperature	Continuous	Temperature probe
Differential pressure across scrubber media	Daily	Manometer
Scrubber liquor flow rate	Continuous	Flow indicator and sight glass
Ammonia	Continuous	Online analyser
Ammonium sulphate	Continuous	Density meter

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.'s: SE1

Description of Treatment: Wastewater Treatment Trimix Waste Treatment (TMXW)

Equipment Stripper

Control Parameter	Monitoring	Key Equipment [Note 1]
Ammonia	Continuous	On-line analyser

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

C.3.2. Monitoring of Emissions to Sewer

Emission Point Reference No.: SE-1

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow	Continuous	On-line flow meter with recorder
Temperature	Continuous	On-line temperature meter with recorder
pH	Continuous	pH electrode/meter and recorder
Biochemical Oxygen Demand	Weekly [Note 1]	Standard Method
Chemical Oxygen Demand	Weekly [Note 1]	Standard Method
Inorganic Suspended Solids	Weekly [Note 1]	Standard Method
Total Suspended Solids	Weekly [Note 1]	Standard Method
Total Dissolved Solids	Weekly [Note 1]	Standard Method
Sulphates	Weekly [Note 1]	Standard Method
Nitrates (as N)	Weekly [Note 1]	Standard Method
Ammonia (as N)	Weekly [Note 1]	Standard Method
Total Nitrogen (as N)	Weekly [Note 1]	Standard Method
Total Phosphorus (as P)	Weekly [Note 1]	Standard Method
Fluoride	Weekly [Note 1]	Standard Method
Cyanide	Weekly [Note 1]	Standard Method
Arsenic	Weekly [Note 1]	Atomic Absorption/ICP
Copper	Weekly [Note 1]	Atomic Absorption/ICP
Chromium	Weekly [Note 1]	Atomic Absorption/ICP
Nickel	Weekly [Note 1]	Atomic Absorption/ICP
Tin	Weekly [Note 1]	Atomic Absorption/ICP
Lead	Weekly [Note 1]	Atomic Absorption/ICP
Cobalt	Monthly [Note 1]	Atomic Absorption/ICP
Total Heavy Metals [Note 2]	Weekly [Note 1]	Atomic Absorption/ICP
Toxicity [Note 3, Note 4]	Annually	To be agreed by the Agency
Organic Compounds [Note 5]	Within 12 months of the date of grant of licence and thereafter as agreed by the Agency	GC-FID or GC-MS

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

Note 2: The sum of arsenic, chromium, copper, nickel, lead and tin.

Note 3: 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.

Note 4: With the agreement of the Water Services Authority toxicity testing may be replaced by a Respirometry Assessment. The scope of the assessment shall be agreed by the Agency and the Water Services Authority.

Note 5: Screening for priority pollutant list substances. (such as US EPA volatile and/or semi-volatile compounds). This analysis shall include those organic solvents in use in the process, which are likely through normal process operations to be diverted to the waste water streams.

C.4 Waste Monitoring

Waste Class	Frequency	Parameter	Method
Mixed liquid solvent waste	Per shipment	Major components	Gas chromatography/ material usage records
Concentrated copper waste	Per shipment	Copper concentration	Ion-selective chromatography
Concentrated metal waste [Note 1]	Per shipment	Lead concentration	Ion-selective chromatography
Other [Note 2]			

Note 1: Until phase out of lead is completed.
Note 2: 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

C.6.1 Air Monitoring

Location: WS1 (Effluent Balance Tank)

Parameter	Monitoring Frequency	Analysis Method/Technique
Oxides of nitrogen	Continuous	Chemiluminescence analyser

Location: L1, L2, L3, L4, L5

Parameter	Monitoring Frequency	Analysis Method/Technique
Nitrogen Dioxide	Bi-annual	Diffusion tubes

C.6.2 Vegetation Monitoring

Location: V1, V2, V3, V4, V5, V6, V7, V8 or other locations agreed under Condition 6.30.

Parameter	Monitoring Frequency	Analysis Method/Technique
Fluoride	Quarterly	Visual assessment Ion-selective electrode [Note 1]

Note 1: Or other method agreed by the Agency.

C.6.3 Groundwater Monitoring

Location: MW1 – MW5 and MW7 – MW20

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Biannually	pH electrode/meter
COD	Biannually	Standard Method
Total Ammonia	Biannually	Standard Method
Total Nitrogen	Biannually	Standard Method
Conductivity	Biannually	Standard Method
Major anions	Biannually	Standard Method
Major cations	Biannually	Standard Method
Heavy metals	Biannually	Standard Method
Organohalogens [Note 1]	Biannually	GC-MS

Note 1: Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds).

C.6.4 Receiving Water Monitoring

Location: RW1, RW2, RW3, RW4, RW5

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Bi-annually	pH electrode/meter
Conductivity	Bi-annually	Conductivity meter
Temperature	Bi-annually	Thermometer
DO	Bi-annually	Standard Method
BOD	Bi-annually	Standard Method
Suspended solids	Bi-annually	Standard Method
Nitrate	Bi-annually	Standard Method
Nitrite	Bi-annually	Standard Method
Ammonium	Bi-annually	Standard Method
Chloride	Bi-annually	Standard Method
Fluoride	Bi-annually	Ion-selective electrode
Total Phosphorous	Bi-annually	Standard Method
Heavy metals [Note 1]	Bi-annually	Atomic absorption/ICP

Note 1: The sum of arsenic, chromium, copper, nickel, lead, tin and cobalt.

C.6.5 Ambient Water Monitoring

Location: Mineral spring at Louisa Bridge

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Annually	pH electrode/meter
Conductivity	Annually	Conductivity meter
Temperature	Annually	Thermometer
TOC	Annually	Standard Method
Major anions: nitrate, nitrite, chloride, sulphate, fluoride	Annually	Standard Method
Major cations: calcium, magnesium, sodium, potassium, ammonia	Annually	Standard Method
Heavy metals: iron, manganese, copper, tin, chromium, lead, nickel, cobalt	Annually	Atomic absorption/ICP

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.
Solvent Management Plan.
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.
Reports on financial provision made under this licence, management and staffing structure of the installation, and a programme for public information.
Review of decommissioning and residuals 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.

Sealed by the seal of the Agency on this the 20th day of December 2013.

PRESENT when the seal of the Agency
Was affixed hereto:

Dr Karen Creed, Authorised Person