This licence was amended on 5th June 2024 under Section 96(1)(c) of the Environmental Protection Agency Act 1992, as amended. The details of Amendment A must be read in conjunction with this licence. The amendment document is entitled "Technical Amendment A".

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

INDUSTRIAL EMISSIONS LICENCE

Licence Register Number:	**P0207-05**
Company Register Number:	**902934**
Licensee:	**Intel Ireland Limited**
Location of Installation:	**Collinstown Industrial Park Leixlip County Kildare**

ENVIRONMENTAL PROTECTION AGENCY ACT 1992 AS AMENDED

INDUSTRIAL EMISSIONS LICENCE

Decision of Agency, under Section 90(2) of the EPA Act 1992 as amended in respect of licence

Reference number in Register of licences: P0207-05

Further to notice dated 11/02/21, 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 an Industrial Emissions review 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 day of 17 day of November 2022.

PRESENT when the seal of the Agency
was affixed hereto:

Tara Gillen

Tara Gillen, 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 an increase in the production capacity at the installation. The changes include new emissions to atmosphere and an increase in the emission volumes discharged 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 report 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, unless otherwise defined in the glossary.

Accident	For the purpose of this licence an accident means an unplanned event that may result in pollution.
Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Approval	Approval in writing/electronically.
Annual Mean	The average calculated from the daily averages obtained by continuous measurements during one year.
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 or installation, duly authorised under relevant law and technically suitable.
Article 59(5) Substances	VOCs which fall within the scope of Article 59(5) of the Industrial Emissions Directive.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
BAT	Best Available Techniques.
BAT conclusions	A document containing the parts of a BAT reference document laying down the conclusions on best available techniques, their description, information to assess their applicability, the emission levels associated with the best available techniques, associated monitoring, associated consumption levels and, where appropriate, relevant site remediation measures.

BAT reference document	A document drawn up by the Commission of the European Union in accordance with Article 13 of the Industrial Emissions Directive, resulting from the exchange of information in accordance with that Article of that Directive and describing, in particular, applied techniques, present emissions and consumption levels, techniques considered for the determination of best available techniques as well as BAT conclusions and any emerging techniques.
Biannually	At approximately six – monthly intervals.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand (without nitrification suppression).
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
Consumption (in the context of Chapter V IED 2010/75/EU)	Shall mean the total input of organic solvents into an installation per calendar year, or any other 12-month period, less any volatile organic compounds that are recovered for reuse.
Contained conditions (in the context of Chapter V IED 2010/75/EU)	Shall mean conditions under which an installation is operated so that the volatile organic compounds released from the activity are collected and discharged in a controlled way either via a stack or abatement equipment and are, therefore, not entirely fugitive.
COD	Chemical Oxygen Demand.
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).
Fugitive Emissions	Fugitive emissions shall mean any emissions not in waste gases of volatile organic compounds into air, soil and water as well as, solvents contained in any products, unless otherwise stated in Part 2 of Annex VII of the Industrial Emissions Directive 2010/75/EU).
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.
EMS	Environment Management System. The aspect of the organisation's overall management structure that addresses immediate and long-term impacts of its products, services and processes on the environment.
End User Agreement	An agreement between the licensee and Irish Water which provides for the contractual conditions and arrangements (outside the terms and conditions set out in this licence) relating to the acceptance of, and treatment by, Irish Water of the licensee's trade effluent and wastewater.
Environmental damage	As defined in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
Evening Time	1900hrs to 2300hrs.
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	As defined in DIRECTIVE (EU) 2016/802 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels.

GC/MS	Gas chromatography/mass spectroscopy.
Groundwater	Has the meaning assigned to it by Regulation 3 of the European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9 of 2010), as amended.
ha	Hectare.
Hazardous Substances	Substances or mixtures as defined in Article 3 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures.
Heavy metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.
Hours of operation	The hours during which the installation is authorised to be operational.
ICP	Inductively coupled plasma spectroscopy.
IE	Industrial Emissions.
Incident	The following shall constitute an 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 malfunction or breakdown of key environmental abatement, control or monitoring equipment; (iv) any trigger level specified in this licence which is attained or exceeded; (v) any indication that environmental pollution has, or may have, taken place.
Input (in the context of Chapter V IED 2010/75/EU)	Shall mean the quantity of organic solvents and their quantity in mixtures used when carrying out an activity, including the solvents recycled inside and outside the installation, and which are counted every time they are used to carry out the activity.
Industrial Emissions Directive	Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (Recast).

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.
Irish Water	Irish Water, Colvill House, 24/26 Talbot Street, Dublin 1.
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.
Local Authority	Kildare County Council.
List of Wastes (LoW)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU, as amended by any subsequent amendment published in the Official Journal of the European Community.
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.

Odour-sensitive location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other premises or area of high amenity which for its proper enjoyment requires the absence of odour at nuisance levels.
Organic Compound	Shall mean any compound containing at least the element carbon and one or more of hydrogen, halogens, oxygen, sulphur, phosphorus, silicon or nitrogen, with the exception of carbon oxides and inorganic carbonates and bicarbonates.
Potential emissions	Emissions which take place only under abnormal operating conditions. Examples include emissions from overpressure valves, bursting discs, and emergency generators.
Organic Solvent	As defined in Council Directive 2010/75/EU.
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.
Relevant Hazardous Substances	Those substances or mixtures defined within Article 3 of Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) which, as a result of their hazardousness, mobility, persistence and biodegradability (as well as other characteristics), are capable of contaminating soil or groundwater and are used, produced and/or released by the installation.
REMF Fab	The development associated with the expansion of the installation provided for in this revised licence. REMF stands for "Revised and Extended Manufacturing Facility (REMF). 'Fab' is in reference to 'Wafer Fabrication', i.e. the manufacture of integrated circuits.
SAC	Special Area of Conservation designated under the Habitats Directive, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
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.
Soil	The top layer of the Earth's crust situated between the bedrock and the surface. The soil is composed of mineral particles, organic matter, water, air and living organisms.

SPA	Special Protection Area designated under the Birds Directive, Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
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.
Start-up and shut-down operations (in the context of Chapter V of the IED 2010/75/EU)	Shall mean operations excluding regularly oscillating activity phases whilst bringing an activity, an equipment item or a tank into or out of service or into or out of an idling state.
Storage	Includes holding of waste.
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.
Volatile Organic Compound (VOC)	Shall mean any organic compound as well as the fraction of creosote, having at 293,15K a vapour pressure of 0,01kPa or more, or having a corresponding volatility under the particular conditions of use.
Waste	Any substance or object which the holder discards or intends or is required to discard.
Waste Gases (in the context of Chapter V of the IED 2010/75/EU)	Shall mean the final gaseous discharge containing volatile organic compounds or other pollutants, from a stack or abatement equipment into air.

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.

The Agency also considers that the activities will not adversely affect the integrity of any European Site, and has decided to impose conditions for the purposes of ensuring they do not do so. It has determined that the activities, if managed, operated and controlled in accordance with the licence, will not have any adverse effect on the integrity of any of those sites.

The Agency has applied the Commission Implementing Decision of 2017/1442/EU establishing Best Available Techniques (BAT) Conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for Large Combustion Plant as a reference when setting licence conditions.

The Agency has accordingly decided to grant a licence to Intel Ireland Limited to carry on the activities listed in *Part I, Schedule of Activities Licensed*, subject to the conditions set out in *Part II, Conditions*, such licence to take effect in lieu of Licence Register Number: P0207-04.

In reaching this decision the Agency has considered the documentation relating to: the existing licence, Register Number P0207-04; the review application, Register Number: P0207-05 and the supporting documentation received from the applicant; the consent received from Irish Water under Section 99 of the EPA Act, 1992 (as amended); one third party submission received; the Inspector's Report dated 17th November 2020 and addendum report dated 14th January 2021; the proposed determination dated 11th February 2021; the objection received from the Applicant; the objection and submission on the objection received from other parties; the Technical Committee Report dated 4th October 2022 on the objections to the proposed determination and on the related submissions on objections received; the Regulation 28 response; and the submission on the Regulation 28 response and has carried out an Environmental Impact Assessment (EIA) and an Appropriate Assessment of the likely significant effects of the activities on European Sites.

It is considered that the Inspector's Report and the inspector's Addendum Report, the Technical Committee Rerport contain a fair and reasonable examination, evaluation and analysis of the likely significant effects of the activities on the environment, and adequately and accurately identifies, describes and assesses those effects. The assessment as reported in those documents is adopted as the assessment of the Agency. Having regard to this assessment, it is considered that the activities, 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.

Having regard to the examination of environmental information in the Inspector's Report, and in particular to the content of the Environmental Impact Assessment Report (EIAR) and supplementary information provided by the applicant, and the submission from any other third parties in the course of the application, it is considered that the potential significant direct and indirect effects of the activities on the environment are as follows:

- discharge of effluent to sewer;
- emissions to air;
- noise emissions; and
- accidental leakages or spills.

Having assessed those potential effects, the Agency has concluded as follows:

- discharge of effluent will be mitigated through: operation of abatement equipment; imposing emission limit values and implementing monitoring, maintenance and control measures;

- emissions to air will be mitigated through: operation of abatement; imposing emission limit values to ensure compliance with air quality standards and implementing monitoring, maintenance and control measures;
- noise emissions will be mitigated through: imposing daytime, evening-time and night-time noise limits at noise-sensitive locations; and implementing monitoring, maintenance and control measures; and
- accidental leakages or spills will be mitigated through inspection and maintenance of bunds and tanks; and accident and emergency requirements specified in the licence.

Having regard to the effects (and interactions) identified, described and assessed throughout the Inspector's Report, it is considered that the monitoring, mitigation and preventative measures proposed will enable the activities to operate without causing environmental pollution, subject to compliance with the licence. The conditions of the licence and the mitigation measures will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activities, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at Rye Water Valley/Carton SAC (001398), South Dublin Bay SAC (000210), North Dublin Bay SAC (000206), South Dublin Bay and River Tolka Estuary SPA (004024), North Bull Island SPA (004006).

The activities are not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it cannot be excluded, on the basis of objective information, that the activities, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the activities was required, and for this reason determined to require the applicant to submit a Natura Impact Statement.

The Agency has completed the Appropriate Assessment of potential impacts on these sites and has made certain, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the activities, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular Rye Water Valley/Carton SAC (001398), Glenasmole Valley SAC (001209), Wicklow Mountains Valley SAC (002122), Ballynafagh Bog SAC (000391), South Dublin Bay and River Tolka Estuary SPA (004024), Ballynafagh Lake SAC (001387), Red Bog, Kildare SAC (000397), South Dublin Bay SAC (000210), Wicklow Mountains SPA (004040), Poulaphouca Reservoir SPA (004063), North Dublin Bay SAC (000206), and North Bull Island SPA (004006), having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this licence and the conditions attached hereto for the following reasons:

- The licence specifies emission limit values for main emissions to air from the installation, and air dispersion modelling has demonstrated that emissions which comply with these limits will not cause breaches of relevant air quality standards or critical levels for ammonia. Therefore, air emissions will not have a significant effect on the qualifying interests of any European site;
- All process effluent from the installation is discharged to sewer and ultimately treated in accordance with an EPA waste water discharge licence;
- The licence specifies noise emission limit values at any noise sensitive locations, and the noise modelling assessment demonstrated that these limits can be complied with to avoid disturbance of qualifying interest species;

- While there is potential for accidents and unplanned releases from the installation, it is considered that the conditions of the licence in relation to bunding and the protection of surface water and groundwater, are sufficient to ensure that accidental emissions from the activity will not impact on the qualifying interests of any of the European sites identified above, particularly in light of the nature of the potential accidental emissions.

The Agency is satisfied that no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of these European Sites.

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 Industrial Emissions licence granted 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 Conditions

Condition 1. Scope

1.1 Industrial Emissions Directive 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 The licensee shall carry on the licensed activities in accordance with the limitations set out in *Schedule A: Limitations,* of this licence.

1.3 For the purposes of this licence, the installation authorised by this licence is the area of land outlined in red on the updated Drawing No. IE-S01.1 entitled 'Location Map and Ownership Plan' of the application Reg. No. P0207-05, received on 11th September 2020. Any reference in this licence to "installation" shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.

1.4 All activities which are directly associated with, and technically connected to the licensed activity, whether operated by the licensee or by another party, shall be subject to the conditions of this licence, and the licensee shall bear full responsibility for any breach of these conditions.

1.5 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 approval of, the Agency.

1.6 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.

1.7 This licence is for the purpose of 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.

1.8 This licence shall have effect in lieu of the licence granted on 20th December 2013 (Register No. P0207-04).

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 and implement an Environmental Management System (EMS), which shall incorporate energy efficiency management. The EMS shall be reviewed by senior management for suitability, adequacy and effectiveness and updated on an annual basis.

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

2.2.2.1 Commitment of management, including senior management.

2.2.2.2 An environmental policy, defined by management, that includes a commitment to continuous improvement of the environmental performance of the installation.

2.2.2.3 Management and Reporting Structure and responsibility.

2.2.2.4 The necessary procedures, objectives and targets, in conjunction with financial planning and investment.

2.2.2.5 Procedures for ensuring compliance with environmental legislation.

2.2.2.6 A procedure for checking performance by sectoral benchmarking on a regular basis including energy efficiency.

2.2.2.7 Schedule of Environmental Objectives and Targets

The licensee shall maintain and implement 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

(i) energy and resource efficiency;

(ii) the reduction in water consumption;

(iii) the reduction in effluent generation;

(iv) the use of cleaner technology, cleaner production;

(v) the prevention, reduction and minimisation of waste including waste reduction targets,

(vi) the impacts from eventual decommissioning of the installation.

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.

2.2.2.8 Environmental Management Programme (EMP)

The licensee shall maintain and implement an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.7 above. The EMP shall include:

- designation of responsibility for targets;

- the means by which they may be achieved; and
- the time within which they may be achieved.

The EMP shall be reviewed annually.

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.

2.2.2.9 Documentation

(i) The licensee shall maintain and implement an environmental management documentation system.

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

2.2.2.10 Corrective and Preventative Action

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

(ii) Where a breach of one or more of the conditions of this licence occurs, the licensee shall without delay take measures to restore compliance with the conditions of this licence in the shortest possible time and initiate any feasible preventative actions to prevent recurrence of the breach.

(iii) All corrective and preventative actions shall be documented.

2.2.2.11 Internal Audits

The licensee shall maintain and implement a programme for independent internal audits of the EMS. Such audits shall be carried out at least once every three years. The audit programme shall determine whether or not the EMS is being implemented and maintained properly, and in accordance with the requirements of the licence. Audit reports and records of the resultant corrective and preventative actions shall be maintained as part of the EMS in accordance with Condition 2.2.2.9.

2.2.2.12 Awareness, Training and Competence

The licensee shall maintain and implement procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment to ensure awareness and competence in their work area. Appropriate records of training shall be maintained.

2.2.2.13 Communications Programme

The licensee shall maintain and implement 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.

2.2.2.14 Maintenance Programme

The licensee shall maintain and implement 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). The maintenance programme shall use appropriate techniques and measures to ensure the optimisation of energy efficiency in plant and equipment.

2.2.2.15 Efficient Process Control

The licensee shall maintain and implement 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 ensure, following commissioning, that all infrastructure and all equipment required under this licence is maintained in full working order.

3.2 Where any condition or schedule of this licence specifies any later deadline for installation of any piece of infrastructure or equipment, condition number 3.1 shall apply as and from the deadline specified.

3.3 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.

3.4 The licensee shall have regard to the following when choosing and/or designing any new plant/infrastructure:

(i) Energy efficiency, and

(ii) The environmental impact of eventual decommissioning.

3.5 Installation Notice Board

(i) 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. The notice board shall be maintained thereafter.

(ii) 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.

3.6 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

3.7 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.

3.8 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.

3.9 Tank, Container and Drum Storage Areas

3.9.1 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).

3.9.2 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.

3.9.3 All drainage from bunded areas shall be treated as contaminated unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal, unless it can be deemed uncontaminated and does not exceed the trigger levels set for storm water emissions under Condition 6.19.

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

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

3.9.6 All bunds shall be uniquely identified and labelled at the bund.

3.10 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.

3.11 Silt Traps and Oil Separators

The licensee shall, prior to commencement of operations at the REMF Fab, install and maintain silt traps and oil separators at the installation:

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

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

3.12 Fire-water Retention

The licensee shall maintain facilities for the safe and efficient interception and treatment of firewater, as may arise on the site. The licensee shall have regard to any guidelines issued by the Agency with regard to firewater retention.

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

3.14 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.

3.15 All wellheads at the installation shall be adequately protected to prevent contamination or physical damage.

3.16 The licensee shall maintain in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.

3.17 The hours of operation of each emergency generator shall not exceed 500 hours annually. The licensee shall record the hours of operation of each generator to the satisfaction of the Agency.

3.18 The licensee shall provide annual verification of the total annualised load factor for the operation of the boilers, to the satisfaction of the Agency.

3.19 The licensee shall provide an annual estimate, based on measured emissions data, of the total annual ammonia emissions to air from the main emissions at the installation. This estimate is for comparison with the emission limits for ammonia specified in *Schedule B.1 Emissions to Air,* of this licence, and shall be prepared to the satisfaction of the Agency.

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

For TOC (as C) concentration limits, the emission limit values shall be considered to be complied with if:

(i) None of the arithmetic averages of any valid readings taken during any 24-hour period of operation of an installation or activity, except start up and shut down operations and maintenance of equipment, exceeds the emission limit value(s).

(ii) None of the hourly averages exceeds the emission limit value(s) by more than a factor of 1.5.

For all other parameters:

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

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

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

(vi) No annual mean value shall exceed 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 TOC (as C) concentration limits:

- For monitoring exercises greater than 60 minutes duration, no average value shall exceed the emission limit value(s), and the highest 60-minute average value within one monitoring exercise shall not exceed 1.5 times the emission limit value(s);
- For monitoring exercises of 60 minutes duration or less, no average value shall exceed 1.5 times the emission limit value(s);
- At least three consecutive readings shall be obtained in each monitoring exercise.

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

(v) Mass flow emissions 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.

(vi) No annual mean value shall exceed the emission 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, 18% oxygen for thermal oxidisers.

4.3 Emission limit values for emissions to sewer/waters in this licence shall be achieved without the introduction of dilution, and 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 measured at noise-sensitive locations (NSLs) which exceed the limit value(s).

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

Condition 5. Emissions

5.1 Emissions may be made from the specified emission points set out in *Schedule B: Emission Limits,* of this licence, subject to compliance with the Emission Limit Values specified in that Schedule.

5.1.1 Uncontaminated storm water may be discharged to surface water.

5.1.2 Uncontaminated storm water may be emitted to groundwater or to soil.

5.1.3 Minor, fugitive and potential emissions may be emitted to air as specified in the application, or as approved by the Agency under Condition 1 of this licence.

5.2 Notwithstanding the requirements of Condition 5.1, there shall be no other emissions from the installation.

5.3 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.

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

5.5 All appropriate precautions shall be taken to minimise emissions of volatile organic compounds during start-up and shut-down operations.

5.6 Risk Phrase VOCs

5.6.1 Any substance or mixture in use in any process at the installation which is an activity under Chapter V of 2010/75/EU, 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, 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 2.2.2.7.

5.7 Emissions to Sewer:

5.7.1 Other than the trade effluent authorised to be discharged under this licence, the licensee shall at no time discharge or cause or permit to be discharged into the sewer trade effluent or any other matter unless authorised in writing by Irish Water.

5.7.2 The licensee shall conclude an end user agreement with Irish Water.

5.7.3 The licensee shall ensure that any trade effluent generated from canteen activities shall pass through appropriate grease removal equipment prior to discharge to sewer.

5.7.4 A summary report of volumes of trade effluent and other matter discharged to the sewer along with monitoring and analysis data as specified in *Schedule B.3: Emissions to Sewer*, of this licence, and *Schedule C: Control & Monitoring*, of this licence, shall be forwarded to both Irish Water and the Local Authority in a manner and timeframe as may be specified by Irish Water.

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

- Vermin
- Birds
- Flies
- Mud
- Litter

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

Reason: ***To provide for the protection of the environment by way of control and limitation of emissions and to provide for the requirements of Irish Water 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 a test programme for abatement equipment installed to abate emissions to atmosphere.

6.1.2 The programme 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) 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 maintain, to the satisfaction of 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 Sampling and analysis shall be undertaken by competent staff in accordance with documented operating procedures. Unless otherwise approved by the Agency, sampling and analysis of emissions to atmosphere shall be carried out by ISO 17025 accredited persons/organisations, with accreditation for the relevant scope of sampling and analysis, and in accordance with the Agency's air monitoring policy.

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 appropriate control standards with evaluation of test responses.

6.3.4 Where any analysis is sub-contracted it shall be outsourced 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 which 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 approved 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 approved by the Agency.

6.6 Monitoring and analysis equipment shall be installed, operated and maintained as necessary so that all monitoring results accurately reflect any emission, discharge or parameter specified in this licence.

6.7 The licensee shall ensure that groundwater monitoring well sampling equipment is available or installed on-site at the installation 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 as required or approved by the Agency following evaluation of test results.

6.10 Solvent Management Plan

The licensee shall maintain and implement a Solvent Management Plan (SMP) for the installation for each calendar year. The substances 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. 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. The licensee shall report annually on the implementation of the SMP.

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 oxidisers or failure of any continuous monitor related to operating parameters or emissions of the thermal oxidisers, where a contingency plan, previously agreed by the Agency, is not implemented;

(b) the failure of the thermal oxidisers to achieve the operating parameters and emission limit values given in *Schedule B.1.3 Rotary Concentrator Thermal Oxidisers (RCTOs),* of this licence, and *Schedule C.1.2.3 RCTOs,* 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 approval 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 Air 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. The licensee shall maintain a testing programme for the generators as approved by the Agency.

6.16 The integrity and water tightness of all tanks, bunding structures, containers and underground pipes and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee (prior to use in the case of new structures). 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 storm water drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be required by the Agency), bunds, silt traps and oil separators shall be inspected weekly unless otherwise approved by the Agency. It shall be desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal. The licensee shall maintain a drainage map on site. The drainage map shall be reviewed annually and updated as necessary.

6.18 Process Effluent

6.18.1 Trade effluent from all FABs shall be discharged to balance tanks with a combined 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 Emissions to Sewer*, 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 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 Storm Water

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

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

6.20 Noise

The licensee shall carry out a noise survey of the site operations as required by the Agency. 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.

6.21 Pollutant Release and Transfer Register (PRTR)

The licensee shall submit a PRTR data report for the site. The pollutants and/or wastes to be included in the PRTR shall be determined by reference to EC Regulations No. 166/2006 concerning the establishment of a European Pollutant Release and Transfer Register. The PRTR shall be prepared in accordance with any relevant Agency guidance and shall be submitted electronically in the format specified by the Agency.

6.22 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.

6.23 Groundwater and Soil Monitoring

The licensee shall carry out monitoring for relevant hazardous substances in soil and groundwater at the site of the installation, and in accordance with *Schedule C: Control & Monitoring*, of this licence. The substances for monitoring shall be identified by the licensee by undertaking a risk based assessment. The risk assessment, sampling and monitoring shall be carried out in accordance with any guidance published by the Agency. The licensee shall have regard to the '*Classification of Hazardous and Non-Hazardous Substances in Groundwater*' as published by the Agency.

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

6.25 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.

6.26 The licensee shall update, to the satisfaction of the Agency, the site-specific protocol for monitoring emissions to air of fluorides, to include fluoride emissions from the REMF FAB, prior to the commencement of operations at the REMF Fab. This work shall entail continuous monitoring of fluoride emissions over sufficient time, as necessary to allow for the updating 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.

6.27 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. The survey shall be carried out within twelve months of commencement of operations at the REMF Fab.

6.28 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 scope of the study shall be to the satisfaction of the Agency, and it shall be completed within 12 months of the date of commencement of operations at the REMF Fab.

6.29 The licensee shall, before commencement of operations at the REMF Fab, and to the satisfaction of the Agency, 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 6.28 and the ecological survey required by Condition 6.27. The licensee shall review the sampling locations at a frequency approved by the Agency.

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

6.31 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.

6.32 The licensee shall, prior to commencement of operations at the REMF Fab, establish a programme to the satisfaction of the Agency for the continuous monitoring of ammonia concentrations in ambient air in the vicinity of the installation. Following commencement of operations at the REMF Fab, the licensee shall implement and maintain the programme. The programme shall provide a comparison with the impacts predicted by the air dispersion modelling reports submitted as part of the application. The results of the monitoring programme shall be made available to the Agency on request, and a summary report of the results shall be submitted to the Agency annually.'

6.33 The licensee shall install an abatement system, in the form of ammonia scrubbers, on the Trimix Waste Treatment System Exhausts (A256A, A256B and A340) by the 1st July 2023.

Reason: ***To provide for the protection of the environment by way of treatment and monitoring of emissions and to provide for the requirements of Irish Water 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 as required by the Agency. The audit shall be carried out in accordance with the guidance published by the Agency, "Guidance Note on Energy Efficiency Auditing".

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 under condition 2 above.

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 under condition 2 above.

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

Condition 8. Materials Handling

8.1 The licensee shall ensure that waste generated in the carrying on of the activity shall be prepared for re-use, recycling or recovery or, where that is not technically or economically possible, disposed of in a manner which will prevent or minimise any impact on the environment.

8.2 Waste sent off-site for recovery or disposal

8.2.1 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.

8.2.2 Waste sent off-site for recovery or disposal shall be transferred only to an appropriate facility.

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

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

8.7 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.

8.8 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 as required by Condition 11.3 of this licence.

9.3.2 Where an incident or accident that significantly affects the environment occurs, the licensee shall, without delay take measures to limit the environmental consequences of the incident or accident and to prevent further incident or accident.

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

Condition 10. Closure, Restoration and Aftercare 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. A final validation report to include a certificate of completion to demonstrate there is no continuing risk to the environment shall be submitted to the Agency within three months of termination or planned cessation of the activity.

10.2 Closure, Restoration and Aftercare Management Plan (CRAMP)

10.2.1 The licensee shall maintain, to the satisfaction of the Agency, a fully detailed plan for the decommissioning or closure of the site or part thereof. This plan shall be submitted for approval by the Agency within six months of the date of grant of this licence. The licensee shall maintain a fully detailed and costed plan for the closure, restoration and long-term aftercare of the site or part thereof.

10.2.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for approval 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's Guidance on Assessing and Costing Environmental Liabilities (2014) and, as appropriate, Guidance on Financial Provision (2015), when implementing Condition 10.2.1 above.

10.3 The Closure, Restoration and Aftercare Management Plan (CRAMP) shall include, as a minimum, the following:

(i) a scope statement for the plan;

(ii) the criteria that define the successful closure and restoration and aftercare 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 plan;

(v) details of the long term supervision, monitoring, control, maintenance and reporting requirements for the restored facility; and

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

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 licensee shall submit the reports, proposals and submissions required by this licence by the deadlines specified. The licensee shall not be in compliance with the requirements of this condition unless and until it has submitted every report, proposal and submission, the deadline for which has passed.

11.2 The licensee shall carry out any action required by the Agency, and arising out of such reports, proposals or submission, by such deadline as the Agency may specify. The licensee shall not be in compliance with the requirements of this condition unless and until it has carried out every such action.

11.3 The licensee shall notify the Agency by both telephone and either email or webform, 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) an incident or accident as defined by the glossary;

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

(iii) any breach of one or more of the conditions attached to this licence.

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. All details required to be communicated must be in accordance with any guidance provided by the Agency.

11.4 In the event of any incident which relates to discharges to sewer having taken place, the licensee shall notify Irish Water and the Local Authority in a manner prescribed by Irish Water, as soon as practicable after such an incident.

11.5 The following shall be notified, as soon as practicable after the occurrence of any incident which relates to a discharge to water:

(i) Inland Fisheries Ireland.

(ii) Irish Water and /or Water Services Authority in the case of any incident where the discharge(s) have been identified as upstream of a drinking water abstraction point.

11.6 The licensee shall make a record of any notification made under Condition 11.3. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident or accident. The record shall include all corrective actions taken to manage the incident or accident, minimise wastes generated and the effect on the environment, and avoid recurrence. In the case of a breach of a condition, the record shall include measures to restore compliance.

11.7 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.

11.8 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.

11.9 The licensee shall as a minimum ensure that the following documents are accessible at the site:

(i) the licences relating to the installation;

(ii) the current EMS for the installation including all associated procedures, reports, records and other documents;

(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 EIA documentation referenced in this licence.

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

11.10 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.

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

(i) the tonnages and LoW 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 LoW Code for the waste materials recovered/disposed on-site.

11.12 The licensee shall submit reports electronically as required by the conditions of this licence to the Agency.

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

11.14 The licensee shall, at least 3 months prior to the commencement of discharge under Scenario B, submit to the Agency:

11.14.1 A copy of the confirmation from Irish Water of the completion of commissioning of the necessary infrastructure required to accommodate the transfer of trade effluent from the Lower Liffey Valley Regional Sewerage scheme to the Greater Dublin Area agglomeration for treatment;

11.14.2 Confirmation from Irish Water that waste water discharge licence WWDL D0034-01 is authorised to accept Intel's trade effluent; and

11.14.3 Irish Water's consent to commence the discharge at the Scenario B levels. The notification shall include a commencement date as agreed with Irish Water.

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 €25,338, 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 Irish Water Charges

The licensee shall pay to Irish Water such sum as may be determined from time to time, having regard to the variations in the cost of providing drainage and the variation in effluent reception, treatment, monitoring, sampling and analysis costs. Payment to be made on demand from Irish Water.

12.3 Environmental Liabilities

12.3.1 The licensee shall submit to the Agency 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, as appropriate 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 preparation by an independent and appropriately qualified consultant, of a comprehensive and fully costed revised 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 CRAMP. A report on this assessment shall be submitted for approval and agreement by the Agency, within six months of the date of grant of this licence. 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 to the Agency.

12.3.3 The licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with the operation (including closure, restoration and aftercare). The amount of financial provision held shall be approved by the Agency, initially within six months of the date of grant of this licence, and thereafter 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, restoration and aftercare 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's Guidance on Assessing and Costing Environmental Liabilities (2014) and Guidance on Financial Provision (2015), and the baseline report, when implementing Conditions 12.3.2, 12.3.3 and 12.3.4 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 Irish Water 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 (m):	Boiler rating (MW):	Emission Limit Value (mg/m³) Note 1
				Nitrogen oxides (as NO_2)
A01	FAB 10 Energy Centre	9	4.32	180
A03	FAB 10 Energy Centre	9	6.17	180
A04	FAB 10 Energy Centre	9	6.17	180
A05	FAB 10 Energy Centre	9	6.17	180
A06	FAB 10 Energy Centre	9	6.17	180
A101	FAB 14 Energy Centre	19	9	170
A102	FAB 14 Energy Centre	19	9	170
A103	FAB 14 Energy Centre	19	9	170
A104	FAB 14 Energy Centre	19	9	170
A201	FAB 24 Energy Centre	21	9.13	150
A202	FAB 24 Energy Centre	21	9.13	150
A203	FAB 24 Energy Centre	21	9.13	150
A204	FAB 24 Energy Centre	21	9.13	150
A205	FAB 24 Energy Centre	21	9.13	150
A248	FAB 24 Energy Centre	21	9.13	150
A253	FAB 24 Energy Centre	21	9.13	150
A302	REMF Energy Centre	31	7.6	100
A303	REMF Energy Centre	31	7.6	100
A304	REMF Energy Centre	31	7.6	100
A305	REMF Energy Centre	31	7.6	100
A306	REMF Energy Centre	31	7.6	100
A307	REMF Energy Centre	31	7.6	100
A308	REMF Energy Centre	31	7.6	100
A309	REMF Energy Centre	31	7.6	100
A310	REMF Energy Centre	31	7.6	100

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, A15, A20.

Location: FAB 10 Header Scrubbers.

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value [Note 1, 2]
Total acids (as HCl)	10 mg/m³
Hydrofluoric acid (Gaseous) (as HF)	See table below for emission limit values
Total Fluorides (as HF)	See table below for emission limit values

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

Maximum rate per hour: 222,085 Nm³/hr (combined flow from all active emission points).

Header volume flow rate (Nm³/hr) [Note 1]	Emission Limit Value [Note 2, 6]	
	Hydrofluoric acid (Gaseous) (as HF) [Note 3] (mg/Nm³)	Total Fluorides [Note 4, 5] (mg/Nm³)
222,085	0.7	0.8
201,895	0.75	0.85
181,705	0.8	0.9
161,516	0.85	1.0
141,326	0.9	1.1
121,137	1.0	1.3
100,947	1.1	1.4
80,758	1.3	1.7
60,568	1.7	2.0
40,379	2.2	2.6
20,189	3.0	4.00

Note 1: Header volume flow rate refers to the combined flow of all active emissions points in the 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 the 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 the 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/m³ under any circumstance.
Note 4: The emission concentration, at any emission point, shall not exceed 4 mg/m³ under any circumstance.
Note 5: The emission limit value is based on a 6 hour sampling time.
Note 6: Compliance with the emission limit value shall be determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to the flow rate of each emission point).

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

Location: FAB 14 Header Scrubbers.

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value [Note 6]
Total acids (as HCl)	10 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: 289,295 Nm^3/hr (combined flow from all active emission points).

Header volume flow rate (Nm^3/hr) [Note 1]	Emission Limit Value [Note 2, 6]	
	Hydrofluoric acid (Gaseous) (as HF) [Note 3] (mg/Nm^3)	Total Fluorides [Note 4, 6] (mg/Nm^3)
289,295	0.80	0.95
262,995	0.85	1.00
236,696	0.90	1.05
223,546	1.00	1.10
184,097	1.10	1.20
157,797	1.20	1.40
131,498	1.30	1.55
105,198	1.40	1.80
78,899	1.90	2.20
52,599	2.60	3.00
26,300	3.00	4.00

Note 1: Header volume flow rate refers to the combined flow of all active emissions points in the 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 the 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.
Note 5: The emission limit value is based on a 6 hour sampling time.
Note 6: Compliance with the emission limit value shall be determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to the flow rate of each emission point).

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 Note 6
Total acids (as HCl)	10 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: 199,876 Nm^3/hr (combined flow from all active emission points).

Header volume flow rate (Nm^3/hr) Note 1	Emission Limit Value Note 2, 6	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	Total Fluorides Note 4, 5 (mg/Nm^3)
199,876	0.75	0.85
181,705	0.80	0.90
172.620	0.85	1.00
145,364	0.90	1.10
127,194	1.00	1.20
109,023	1.10	1.35
90,853	1.20	1.50
72,682	1.40	1.70
54,512	1.80	2.10
36,341	2.40	2.80
18,171	3.00	4.00

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

Note 5: The emission limit value is based on a 6 hour sampling time.

Note 6: Compliance with the emission limit value shall be determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to the flow rate of each emission point).

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 Note 6
Total acids (as HCl)	10 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: 199,876 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, 5 (mg/Nm^3)
199,876	0.75	0.85
181,705	0.80	0.90
171,620	0.85	1.00
145,364	0.90	1.10
127,194	1.00	1.20
109,023	1.10	1.35
90,853	1.20	1.50
72,682	1.40	1.70
54,512	1.80	2.10
36,341	2.40	2.80
18,171	3.00	4.00

Note 1: Header volume flow rate refers to the combined flow of all active emissions points in the 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 the 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.
Note 5: The emission limit value is based on a 6 hour sampling time.
Note 6: Compliance with the emission limit value shall be determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to the flow rate of each emission point).

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

Location: FAB 24-2 Header Scrubbers.

Minimum discharge height: 82 m O.D.

Parameter	Emission Limit Value [Note 6]
Total acids (as HCl)	10 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: 175,330 Nm^3/hr (combined flow from all active emission points).

Header volume flow rate (Nm^3/hr) [Note 1]	Emission Limit Value [Note 2, 6]	
	Hydrofluoric acid (Gaseous) (as HF) [Note 3] (mg/Nm^3)	Total Fluorides [Note 4, 5] (mg/Nm^3)
175,330	0.80	0.95
159,391	0.85	1.00
151,421	0.90	1.05
127,513	1.00	1.10
111,574	1.10	1.20
95,635	1.20	1.40
79,695	1.30	1.55
63,756	1.40	1.80
47,817	1.90	2.20
31,878	2.60	3.00
15,939	3.00	4.00

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

Note 5: The emission limit value is based on a 6 hour sampling time.

Note 6: Compliance with the emission limit value shall be determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to the flow rate of each emission point).

Emission Point Reference No's.: A311, A312, A313, A314, A315, A316, A317, and A318

Location: REMF FAB Header Integrated Scrubbers/WESPs.

Minimum discharge height above ground: 47 m

Parameter	Emission Limit Value Note 6
Total acids (as HCl)	10 mg/m^3
Total Dust	5 mg/m^3 Note 5
Nitrogen Oxides (as NO_2)	31 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: 1,165,982 Nm^3/hr (combined flow from all active emission points).

Header volume flow rate (Nm^3/hr) Note 1	Emission Limit Value Note 2, 6	
	Hydrofluoric acid (Gaseous) (as HF) Note 3 (mg/Nm^3)	Total Fluorides Note 4, 5 (mg/Nm^3)
1,165,982	0.45	0.6
1,059,984	0.5	0.65
953,986	0.55	0.70
847,987	0.6	0.75
741,989	0.70	0.80
635,991	0.80	1.10
529,992	1.00	1.20
423,994	1.20	1.60
317,995	1.60	2.00
211,997	2.10	2.50
105,998	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points in the 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 the 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.
Note 5: The emission limit value is based on a 6 hour sampling time.
Note 6: Compliance with the emission limit value shall be determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to the flow rate of each emission point).

Emission Point Reference No's.: A341 and A342

Location: REMF FAB WT1 scrubbers

Minimum discharge height above ground: 26.1 m

Parameter	Emission Limit Value [Note 6]
Total acids (as HCl)	10 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: 15,940 Nm^3/hr (combined flow from both stacks).

Header volume flow rate (Nm^3/hr) [Note 1]	Emission Limit Value [Note 2, 6]	
	Hydrofluoric acid (Gaseous) (as HF) [Note 3] (mg/Nm^3)	Total Fluorides [Note 4, 5] (mg/Nm^3)
15,940	0.75	0.80
14,346	0.80	0.90
12,752	0.85	1.00
11,158	0.90	1.10
9,564	1.00	1.30
7,970	1.10	1.40
6,376	1.30	1.70
4,782	1.70	2.00
3,188	2.20	2.60
1,594	3.00	4.00

Note 1: Header volume flow rate refers to combined flow of all active emissions points in the 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 the 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.
Note 5: The emission limit value is based on a 6 hour sampling time.
Note 6: Compliance with the emission limit value shall be determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points, weighted according to the flow rate of each emission point).

B.1.3 Rotary Concentrator Thermal Oxidisers (RCTOs)

RCTO Concentrator Exhausts:

Emission Point Reference No's.: A61, A141, A142, A143, A144, A260, A261, A262, A270, A263, A264, A265, A266, A325, A326, A327, A328, A329, A330, A331, A332, A333.

Emission Point Reference	Location	Volume to be emitted- maximum rate per hour (Nm^3)	Minimum discharge [height above ground(m)]
A61	FAB 10	120,000	34 m above ground
A141 Note 1	FAB 14	34,700	77 m O.D.
A142 Note 1	FAB 14	34,700	77 m O.D.
A143 Note 1	FAB 14	34,700	77 m O.D.
A144 Note 1	FAB 14	34,700	77 m O.D.
A260 Note 2	FAB 24	48,000	77 m O.D.
A261 Note 2	FAB 24	48,000	77 m O.D.
A262 Note 2	FAB 24	48,000	77 m O.D.
A270 Note 2	FAB 24	48,000	77 m O.D.
A263 Note 3	FAB 24-2	34,700	82 m O.D.
A264 Note 3	FAB 24-2	34,700	82 m O.D.
A265 Note 3	FAB 24-2	34,700	82m O.D.
A266 Note 3	FAB 24-2	34,700	82 m O.D.
A325 Note 4	REMF FAB	95,638	47 m above ground
A326 Note 4	REMF FAB	95,638	47 m above ground
A327 Note 4	REMF FAB	95,638	47 m above ground
A328 Note 4	REMF FAB	95,638	47 m above ground
A329 Note 4	REMF FAB	95,638	47 m above ground

A330 Note 4	REMF FAB	95,638	47 m above ground
A331 Note 4	REMF FAB	95,638	47 m above ground
A332 Note 4	REMF FAB	95,638	47 m above ground
A333 Note 4	REMF FAB	95,638	47 m above ground

Note 1: Where all four Fab 14 RCTO exhausts are in operation the combined volume shall not exceed 104,100 Nm^3/hr.
Note 2: Where all four Fab 24 RCTO exhausts are in operation the combined volume shall not exceed 144,00 $0Nm^3/hr$.
Note 3: Where all four Fab 24-2 RCTO exhausts are in operation the combined volume shall not exceed 104,100 Nm^3/hr.
Note 4: Where all nine REMF RCTO exhausts are in operation the combined volume shall not exceed 765,100 Nm^3/hr.

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

Emission Limit Values Note 1 (mg/m³)			
Organics Class I Note 2	Organics Class II Note 2	Total Organic Carbon (as C) Note 3	Article 59(5) Substances Note 4
5	20	50	2

Note 1: Where substances of more than one class are present, in addition to the above limits, 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: This limit applies only at mass flowrates of 10g/hour or greater.

RCTO Oxidiser Exhausts:

Emission Point /Monitoring 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	77 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)
M300, M301, M302, M303, M304, M305, M306 Note 2	RCTO oxidiser exhausts in REMF FAB	N/A	N/A

Note 1: Where all four Fab 24 RCTO exhausts are in operation the combined volume shall not exceed 12,000Nm3/hr.
Note 2: These oxidiser emissions discharge via the REMF Fab acid scrubber exhausts (A311 – A318).

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

Parameter	Emission Limit Value Note 1 (mg/m^3)
Organics Class I Note 2	5
Total Organic Carbon (as C) Note 3	50
Carbon monoxide	600
Nitrogen oxides (as NO_2)	200
Article 59(5) Substances Note 4	2

Note 1: Compliance with the emission limit value is based on the average emission concentration across all active emission points in the header.
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 (2010).
Note 3: Total organic carbon not including Class I and Class II organics.
Note 4: This limit applies only at mass flowrates in the header of 10g/hour or greater.

B.1.4 Ammonia Exhausts

Emission Point Reference No.	Location:	Minimum discharge height above ground (m):	Maximum Volume to be emitted (Nm^3/hr)	Maximum Annual Mean Volume to be emitted (Nm^3/hr)
A158, A159, A160, A161	FAB 14 Ammonia Exhausts	28m	41,000 (each) Note 1	33,733(each) Note 4
A257, A258, A259, A273	FAB 24-2 Ammonia Exhausts	28 m	65,000 (each) Note 2	55,200 (each) Note 5
A321, A322, A323	REMF FAB Ammonia Exhausts	47.4m	151,430 (each) Note 3	136,287 (each) Note 6,7

Note 1: Where all four Fab 14 ammonia exhausts are in operation, the combined volume shall not exceed 123,000 Nm3/hr.
Note 2: Where all four Fab 24-2 ammonia exhausts are in operation, the combined volume shall not exceed 195,000 Nm3/hr.
Note 3: Where all three REMF Fab ammonia exhausts are in operation, the combined volume shall not exceed 302,860 Nm3/hr.
Note 4: Where all four Fab 14 ammonia exhaust are in operation, the combined volume shall not exceed 101,200 Nm^3/h.
Note 5: Where all four Fab 24-2 ammonia exhaust are in operation, the combined volume shall not exceed 165,600 Nm^3/h.
Note 6: Where all three REMF Fab ammonia exhaust are in operation, the combined volume shall not exceed 272,574 Nm^3/h.
Note 7: This limit applies until 1st July 2023. Thereafter, the value of 151,430 Nm^3/hr (each) and Note 3 applies.

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

Parameter	Location	Emission Limit Value (mg/m³) Note 7,8		Annual Mean Limit (mg/m³)
Ammonia	Fab 14 Ammonia Exhausts	2.5 Note 1	3.5 Note 4	0.3 Note 9
Ammonia	Fab 24-2 Ammonia Exhausts	2.0 Note 2	2.5 Note 5	0.6 Note 9
Ammonia	REMF Fab Ammonia Exhausts	2.0 Note 3	3.0 Note 6	0.6 Note 10 1.0 Note 11

Note 1: Where all four Fab 14 ammonia exhausts are in operation, an emission limit of 2.5 mg/m³ shall apply.
Note 2: Where all four Fab 24-2 ammonia exhausts are in operation, an emission limit of 2.0 mg/m³ shall apply.
Note 3: Where all three REMF Fab ammonia exhausts are in operation, an emission limit of 2.0 mg/m³ shall apply.
Note 4: Where less than four Fab 14 ammonia exhausts are in operation, an emission limit of 3.5 mg/m³ shall apply.
Note 5: Where less than four Fab 24-2 ammonia exhausts are in operation, an emission limit of 2.5 mg/m³ shall apply.
Note 6: Where less than three REMF Fab ammonia exhausts are in operation, an emission limit of 3.0 mg/m³ shall apply.
Note 7: For the purposes of determining compliance with the emission limit values, emission concentrations across the active emission points in each FAB shall be averaged in accordance with Note 8 below. No individual emission point shall have an ammonia emission level greater than 10 mg/m³ from FAB 14, greater than 7 mg/m³ from FAB 24-2, and greater than 6 mg/m³ from the REMF Fab.
Note 8: Compliance with the emission limit value is determined using the weighted concentration for the header (i.e., the average emission concentration across all active emissions points in the header, weighted according to the flow rate of each emission point).
Note 9: Compliance shall be based upon mean emission concentration across all emission points in the same header.
Note 10: This limit applies until 1st July 2023. Compliance shall be based upon mean emission concentration across all emission points in the same header.
Note 11: This limit applies from 1st July 2023. Compliance shall be based upon mean emission concentration across all emission points in the same header.

B.1.5 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 above ground: 34 m

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 Dust	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	
Location:	FAB 24 Speciality Exhaust.	
Volume to be emitted:	Maximum rate per hour:	25,200 Nm^3

Minimum discharge height above ground: 34 m

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 Dust	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.: A343 and A344

Location: REMF FAB Speciality Exhaust.

Volume to be emitted: Maximum rate per hour: 24,000 Nm^3
(from both stacks combined)

Minimum discharge height above ground: 41 m

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 Dust	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.1.6 Trimix Waste Treatment System Exhausts

Emission Point Reference No.: A256A and A256B Note 1

Location: FAB 24

Volume to be emitted: Maximum rate per hour: 7,000 Nm^3 (each)
11,525 Nm^3 (each) Note 2

Minimum discharge height: 33 m O.D.

Parameter	Emission Limit Value (mg/m^3)	Emission Limit Value (kg/hr)	Annual Mean Limit (kg/hr)
Ammonia	50	-	0.1 Note 3
		-	0.01 Note 4
Oxides of nitrogen (as NO_2)	140	1.0 kg/hr	-
Carbon Monoxide	600	4.2 kg/hr	-

Note 1: Start-up and shut-down events shall be logged including the maximum duration of start-up and shut-down events.

Note 2: This value is the volumetric flow limit after 1st July 2023. Compliance shall be based upon mean volumetric flow across both emission points.

Note 3: This value is an annual mean mass emission limit until 1st July 2023. Compliance shall be based upon annual mean mass emission concentration across both emission points.

Note 4: This value is an annual mean mass emission limit from 1st July 2023. Compliance shall be based upon annual mean mass emission concentration across both emission points.

Emission Point Reference No.: A340 [Note 1]

Location: REMF FAB

Volume to be emitted: Maximum rate per hour: 24,200 Nm^3
35,000 Nm^3 [Note 2]

Minimum discharge height above ground: 14 m

Parameter	Emission Limit Value (mg/m^3)	Emission Limit Value (kg/hr)	Annual Mean Limit (kg/hr)
Ammonia	33	-	0.224 [Note 3]
		-	0.018 [Note 4]
Oxides of nitrogen (as NO_2)	140	3.4 kg/hr	-
Carbon Monoxide	600	14.5 kg/hr	-

Note 1: Start-up and shut-down events shall be logged including the maximum duration of start-up and shut-down events.
Note 2 This value is the volumetric flow limit after 1st July 2023.
Note 3: This value is an annual mean mass emission limit until 1st July 2023.
Note 4: This value is an annual mean mass emission limit from 1st July 2023.

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
Location: 298726E, 297229N

Scenario A:

Volume to be emitted:

Maximum in any one day:	35,000 m^3 Note 1
Maximum rate per hour:	1,656 m^3 Note 1
Maximum rate per second:	460 litres Note 1

Parameter	Emission Limit Value		
Temperature	30 °C (max)		
pH	6 – 9.5		
	Daily mean concentration mg/l	Daily mean loading kg/day	
TOC	Not applicable	5,280 Note 2	7,450 Note 3
Total Nitrogen	Not applicable	990 Note 2	1,490 Note 3
Total Phosphorus (as P)	Not applicable	140	
Total Suspended Solids	Not applicable	4,125	
Fluoride (as F)	Not applicable	160	
Cobalt	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 4	Not applicable	13.5	

Note 1: The emission limit values specified in this table ('Scenario A'), shall apply from the date of grant of licence, until the date of commencement of operation under Scenario B as approved by the Agency.
Note 2: This emission limit value applies from the date of grant of licence, until the date of receipt of written notification from Irish Water of the availability of treatment capability for this parameter at Leixlip MWWTP.
Note 3: This emission limit value applies from the date of receipt of written notification from Irish Water of the availability of treatment capability for this parameter at Leixlip MWWTP.
Note 4: The sum of arsenic, copper, chromium, nickel, tin, lead, and cobalt.

Scenario B: [Note 1]

Volume to be emitted:	Maximum in any one day:	50,000 m^3
	Maximum rate per hour:	2,600 m^3
	Maximum rate per second:	720 litres

Parameter	Emission Limit Value	
Temperature	30 °C (max)	
pH	6 – 9.5	
	Daily mean concentration mg/l	Daily mean loading kg/day
TOC	Not applicable	13,120
Total Suspended Solids	Not applicable	4,125
Total Nitrogen	Not applicable	2,190
Total Phosphorus (as P)	Not applicable	210
Fluoride (as F)	Not applicable	360
Cobalt	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: The emission limit values specified in this table ('Scenario B'), shall apply from the date of commencement notified to the Agency in accordance with Condition 11.14.

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

B.4 Noise Emissions

Daytime dB $L_{A1,T}$ (30 minutes)	Evening time dB $L_{Ar,T}$ (30 minutes)	[Note 1] Night-time dB $L_{Aeq,T}$ (30 minutes)
55	50	45

Note 1: During night time hours, 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, A15, 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
REMF Fab: A311, A312, A313, A314, A315, A316, A317, A318
REMF WT1: A341, A342

Description of Treatment:

Acid gas scrubbing, and also Wet Electrostatic Precipitation for REMF Fab emissions.

Control Parameter	Monitoring	Key Equipment Note 1
pH	Continuous	pH sensor and transmitter
Conductivity	Continuous	Conductivity sensor & transmitter
Recirculation flow	Continuous	Flow meter
Operating voltage Note 2	Continuous	Transformer rectifier set

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.
Note 2: Applicable for REMF Fab scrubbers only.

C.1.1.2 RCTOs

Emission Point Reference/Monitoring 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
REMF Fab RCTO Concentrators:	A325, A326, A327, A328, A329, A330, A331, A332, A333
REMF Fab RCTO Oxidisers:	M300, M301, M302, M303, M304, M305, M306

Description of Treatment: Adsorption/desorption and thermal oxidation.

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/UV scanner

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 24-2: A257, A258, A259, A273
REMF Fab: A321, A322, A323

Description of Treatment: Ammonia scrubbers.

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

C.1.1.4 Speciality Exhausts

Emission Point Reference No.'s: Fab 14: A152, A153
Fab 24: A218
REMF Fab: A343, A344

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
REMF Fab: A340

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.

Description of Treatment: Ammonia Scrubbers (Trimax) Note 1

Control Parameter	Monitoring	Key Equipment Note 2
pH	Continuous	pH sensor and transmitter
Conductivity	Continuous	Conductivity sensor and transmitter
Recirculation flow	Continuous	Flow Meter
Other Note 3	As required by the Agency	As required by the Agency

Note 1: Applicable from 1st July 2023.
Note 2: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.
Note 3: As established following completion of a test programme as required under Condition 6.1.

C.1.2 Monitoring of Emissions to Air

C.1.2.1 Boilers

Emission Point Reference No.'s:

Fab 10: A01, A03, A04, A05, A06
Fab 14: A101, A102, A103, A104
Fab 24: A201, A202, A203, A204, A205, A248, A253
REMF Fab: A302, A303, A304, A305, A306, A307, A308, A309, A310

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, A15, 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
REMF Fab: A311, A312, A313, A314, A315, A316, A317, A318, A341, A342

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
Volumetric Flow	Quarterly	Standard Method Note 1

Note 1: Or other method approved by the Agency.
Note 2: Monitoring of stack emissions across the same header shall be carried out in line with the site specific protocol required under Condition 6.26. Where the site specific protocol 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, of this licence.*

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
REMF Fab RCTO Concentrators:	A325, A326, A327, A328, A329, A330, A331, A332, A333

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
Article 59(5) substances	Annually	GC-MS
Volumetric Flow	Quarterly	Standard Method Note 1

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

Monitoring Point Reference No.'s: REMF Fab RCTO oxidisers: M300, M301, M302, M303, M304, M305, M306 Note 2

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
Article 59(5) VOCs	Annually	GC-MS
Volumetric flow	Quarterly	Standard Method Note 2
Oxygen	Continuous	Electrochemical cell or paramagnetic analyser

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

Note 2: These oxidiser emissions discharge via the REMF Fab acid scrubber exhausts (A311 – A318). The monitoring locations M300 – M306 are located so as to monitor only the oxidiser emissions, i.e. prior to mixing with the acid scrubber exhausts. The volumetric flow monitoring requirements specified do not apply to these emissions.

C.1.2.4 Ammonia Scrubber Exhausts

Emission Point Reference No.'s:

Fab 14: A158, A159, A160, A161 Note 1
Fab 24-2: A257, A258, A259, A273 Note 1
REMF Fab: A321, A322, A323 Note 1

Parameter	Monitoring Frequency	Analysis Method/Technique
Ammonia	Continuous Note 2	Standard Method
Volumetric flow	Continuous	Standard Method Note 3

Note 1: Monitoring of stack emissions across the same header shall be carried out simultaneously.
Note 2: Monitoring frequency shall be daily until continuous monitoring commences, which shall be within 6 months of date of grant of the licence.
Note 3: Alternative method may be approved by the Agency.

C.1.2.5 Speciality Exhausts

Emission Point Reference No.'s:

Fab 14: A152, A153
Fab 24: A218
REMF Fab: A343, A344

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
Volumetric flow	Bi-annually	Standard method

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
REMF Fab: A340

Parameter	Monitoring Frequency	Analysis Method/Technique
Oxides of nitrogen (NOx)	Quarterly	Combustion gas analyser
Carbon Monoxide	Quarterly	Combustion gas analyser
Ammonia	Continuous Note 1	Standard Method
Volumetric flow	Continuous	Standard Method Note 2

Note 1: Monitoring frequency shall be daily until continuous monitoring commences, which shall be within 6 months of date of grant of the licence.
Note 2: Alternative method may be approved by the Agency.

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.

Emission Point Reference No: SW2 299260E 236675N
(percolation area servicing water tanks yard)

Parameter	Monitoring Frequency	Analysis Method/Technique
Visual Inspection	Weekly	Grab sample for colour and odour.

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.: 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.

Emission Point Reference No.: SE1

Description of Treatment: Removal of Fats, Oils and Grease generated as a result of any canteen activities.

Control Parameter	Monitoring	Key Equipment Note 1
Fats, oil and grease removal	Fats, oil and grease content in trade effluent as a result of canteen activities	Grease removal equipment

Note 1: Grease removal equipment shall comply with the requirements of European Standards (EN) or Plumbing and Drainage Institute (PDI) standards or as otherwise specified by Irish Water.

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
COD Equivalence Note 2	Weekly Note 1	Standard Method/Conversion Factor
Total Organic Carbon (as C)	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
Total 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	Weekly Note 1	Atomic Absorption/ICP
Total Heavy Metals Note 3	Weekly Note 1	Atomic Absorption/ICP
Respirometry Note 4	Annually	To be approved
Total Organic Compounds Note 5	Annually	GC-FID or GC-MS
Toxicity	As per Condition 6.18.4	Standard Method

Note 1: All samples shall be collected on a 24 hour flow proportional composite sampling basis.
Note 2: The conversion factor and its validation shall be agreed with Irish Water.
Note 3: The sum of arsenic, chromium, copper, nickel, lead, tin and cobalt.
Note 4: The respirometry assessment shall be completed using acclimated sludges, and subject to approval in advance by Irish Water.
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
Other [Note 1]			

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

C.5 Noise Monitoring

Period	Minimum Survey Duration
Daytime	A minimum of 3 sampling periods at each noise monitoring location [Note 2]
Evening-time	A minimum of 1 sampling period at each noise monitoring location.
Night-time [Note 1]	A minimum of 2 sampling periods at each noise monitoring location.

Note 1: Night-time measurements should be made between 2300hrs and 0400hrs, Sunday to Thursday, with 2300hrs being the preferred start time.

Note 2: Sampling period is to be the time period T stated as per *Schedule B.4 Noise Emissions, of this licence.* This applies to day, evening and night time periods.

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	Biannually	Diffusion tubes

C.6.2 Vegetation Monitoring

Location: V1, V2, V3, V4, V5, V6, V7, V8 or other locations agreed under Condition 6.29.

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

Note 1: Or other method approved by the Agency.

C.6.3 Groundwater Monitoring

Location: MW1, MW3-MW5, MW7-MW13, MW14A-MW20, MW21, MW22, MW26, MW30, MW32, EBT-02, additional locations to be approved by the Agency.

MW2 MW32Parameter	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
Relevant hazardous Substances	Every ten years	Standard Method
Organohalogens [Note 1]	Biannually	Standard Method
Orthophosphate	Biannually	Standard Method
Chromium	Biannually	Standard Method
Copper	Biannually	Standard Method
Cobalt	Biannually	Standard Method
Lead	Biannually	Standard Method
Nickel	Biannually	Standard Method
Tin	Biannually	Standard Method
Arsenic	Biannually	Standard Method

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

C.6.6 Soil Monitoring

Location: As per the 'Baseline Report' or alternative monitoring location(s) as approved by the Agency.

Parameter	Monitoring Frequency	Analysis Method/Techniques
Relevant hazardous Substances	Every ten years	Standard Method

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.
Noise monitoring report summary.
Ambient monitoring summary.
Tank and pipeline assessment report.
Reported incidents summary.
Energy efficiency audit report summary.
Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.
Report on progress made and proposals being developed to minimise water demand and the volume of trade effluent discharges.
Development/Infrastructural works summary (completed in previous year or prepared for current year).
Reports on financial provision made under this licence, management and staffing structure of the installation, and a programme for public information.
Review of Closure, Restoration & Aftercare 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 approval of the Agency.

Sealed by the seal of the Agency on this the 17th day of November 2022.

PRESENT when the seal of the Agency
Was affixed hereto:

Tara Gillen

Tara Gillen, Authorised Person