

# Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

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**Newport Wafer Fab Limited**

**Newport Semiconductor Plant  
Cardiff Road  
Duffryn  
Newport  
NP10 8YJ**

Permit number  
**EPR/BV7460ID**

# Newport Semiconductor Plant

## Permit number EPR/BV7460ID

### Introductory note

#### **This introductory note does not form a part of the permit**

The main features of the permit are as follows.

The Newport Semiconductor Plant manufactures semiconductor wafers for a variety of uses including in automotive and energy management products. Production capacity is split between two production areas, Fab10 and Fab11, both areas are designed to operate 24 hours per day, 365 days per year. The facility is located in Duffryn, south-west of Newport city centre. It lies within the boundary of Newport City Council. The surrounding areas to the north, east and south are predominantly residential, areas to the west are predominantly rural countryside and farmland including the Tredegar House and Park estate and the M4 motorway.

The site is within 10 km of the Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar and the River Usk SAC. The site is within 2 km of Gwent Levels (St Brides) Site of Special Scientific Interest (SSSI). The site is approximately 1.4 km to the south of Glassllwch Air Quality Management Area (AQMA).

There are twenty-two emission points to air, five are process related, seventeen are combustion related. Two process emission points are characterised as toxic extract which is passed through a packed scrubber tower. Two process emission points are solvent extract. The final process related emission point is a pyrophoric gas exhaust. Of the combustion emission points, one is a new Medium Combustion Plant (MCP), the rest are either existing MCP or excluded from the MCP Directive. The aggregated thermal input of all combustion sources remains below 50 MW. The new MCP is a natural-gas fuelled Combined Heat and Power (CHP) engine, with a thermal input of 5.965 MW.

There is one emission point (W1) to surface water of uncontaminated surface water drainage to the River Ebbw. There is one emission point (S1) to the public foul sewer network from the on-site effluent treatment plant (ETP). There is a discharge consent from Dŵr Cymru in place for this single point discharge with limits placed on a number of parameters.

The Environmental Management System is externally accredited to ISO14001 and the company has an underlying Climate Change Agreement.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

**Status log of the permit**

Description	Date	Comments
Application BV7460ID	Received 31/12/04	
Additional information received	21/01/05 and 13/10/05	
Permit determined BV7460ID	21/12/05	
Response to permit BV7460ID Improvement Condition IP5	16/02/07	
Information received	04/09/07	Information relating to abatement systems
Information received	29/01/08	Information relating abatement systems and monitoring
Variation determined GP3533XU	04/04/08	
Variation application EPR/BV7460ID/V003	Duly made 10/01/18	Administrative variation application to change company name and update registered office address
Variation determined EPR/BV7460ID/V003	10/01/18	Varied permit issued to Newport Wafer Fab Limited
Variation application EPR/BV7460ID/V004	Duly made 05/07/19	Variation application to add a Standard Rules Permit: SR2018 No7 Medium Combustion Plant within current installation boundary
Variation determined EPR/BV7460ID/V004	29/11/19	Varied permit issued to Newport Wafer Fab Limited
Variation application EPR/BV7460ID/V005 (variation and consolidation)	Duly made 31/07/20	Variation application to convert SR2018 No7 Medium Combustion Plant to bespoke Medium Combustion Plant following the revision of the SR2018 No7 Standard Rules Permit
Variation determined EPR/BV7460ID/V005	14/09/20	Varied and consolidated permit issued to Newport Wafer Fab Limited

End of introductory note

# Permit

The Environmental Permitting (England and Wales) Regulations 2016

**Permit number**  
**EPR/BV7460ID**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BV7460ID/V005 authorising

**Newport Wafer Fab Limited** (“the operator”),  
whose registered office is

**Newport Wafer Fab Limited**  
**Cardiff Road**  
**Duffryn**  
**Newport**  
**NP10 8YJ**

company registration number **04338966**

to operate an installation at

**Newport Semiconductor Plant**  
**Cardiff Road**  
**Duffryn**  
**Newport**  
**NP10 8YJ**

to the extent authorised by and subject to the conditions of this permit.

Signed	Date
Holly Noble	11 September 2020

Authorised on behalf of Natural Resources Wales

# Conditions

## 1 Management

### 1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

### 1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

### 1.3 Efficient use of raw materials

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

### 1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

- 2.1.1 The operator is only authorised to carry out the activities specified in Schedule 1 Table S1.1 (the “activities”).

### **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at Schedule 7 to this permit.
- 2.2.2 For the following activity, reference A6 in Schedule 1, Table S1.1 no MCP shall be operated beyond the site of the grid reference specified for it in Schedule 1, Table S1.1 of the permit.

### **2.3 Operating techniques**

- 2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in Schedule 1, Table S1.2, unless otherwise agreed in writing by Natural Resources Wales.
- (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in Schedule 1, Table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.2 Any raw materials or fuels listed in Schedule 2, Table S2.1 shall conform to the specifications set out in that table.
- 2.3.3 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
- (b) the composition of the waste;
- (c) the handling requirements of the waste;
- (d) the hazardous property associated with the waste, if applicable; and
- (e) the waste code of the waste.
- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.5 For the following activity, reference A6 in Schedule 1, Table S1.1 the activity shall be operated using the techniques and, in the manner, described in Schedule 1, Table S1.2A.

### **2.4 Improvement programme**

- 2.4.1 The operator shall complete the improvements specified in Schedule 1, Table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.

- 2.4.2 Except in the case of an improvement condition which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

## **3 Emissions and monitoring**

### **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in Schedule 3, Tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in Schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

### **3.2 Emissions of substances not controlled by emission limits**

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

### **3.3 Odour**

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
  - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

## **3.4 Noise and vibration**

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
  - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

## **3.5 Monitoring**

- 3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in Schedule 3 to this permit:
- (a) point source emissions specified in Tables S3.1, S3.2 and S3.3;
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 3 Tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.5 For the following activity, reference A15 in Schedule 3, Table S3.1 the first monitoring measurements will be carried out within four months of the issue date of this permit or the date when the MCP is first put into operation whichever is later.
- 3.5.6 For the following activity, reference A15 in Schedule 3, Table S3.1 monitoring shall not take place during periods of start up or shut down.

# **4 Information**

## **4.1 Records**

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
  - (b) be made as soon as reasonably practicable;
  - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

- (i) off-site environmental effects; and
- (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

4.1.3 The operator shall maintain a record of the type and quantity of fuel used and the total annual hours of operation for each MCP and/or generator.

## 4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production / treatment data set out in Schedule 4, Table S4.2; and
- (c) the performance parameters set out in Schedule 4, Table S4.3 using the forms specified in Table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in Schedule 4, Table S4.1;
- (b) for the reporting periods specified in Schedule 4, Table S4.1 and using the forms specified in Schedule 4, Table S4.4; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 The operator shall submit an annual solvent management plan in order to demonstrate compliance with the requirements of the Industrial Emissions Directive, by 31 January each year in respect of the previous year.

## 4.3 Notifications

4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

- (i) inform Natural Resources Wales,
- (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

- (iii) take the measures necessary to prevent further possible incidents or accidents;
  - (b) in the event of a breach of any permit condition the operator must immediately—
    - (i) inform Natural Resources Wales, and
    - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in Schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
  - (b) any change in the operator's name(s) or address(es); and
  - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) Natural Resources Wales shall be notified at least 14 days before making the change; and
  - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

- 4.3.7 Where the operator has entered into a climate change agreement with the Government, Natural Resources Wales shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
  - (b) a decision by either the operator or the Secretary of State to terminate the agreement;  
and
  - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

## **4.4 Interpretation**

- 4.4.1 In this permit the expressions listed in Schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately” or “without delay”, in which case it may be provided by telephone.

# Schedule 1 - Operations

**Table S1.1 activities**

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	S4.2 A(1)(b)	Manufacture of semi-conductor wafers	From receipt of raw materials to dispatch of finished products and wastes.
A2	S4.2 A(1)(c)(i), (ii), (iv) and (viii)	Manufacture of semi-conductor wafers	From receipt of raw materials to dispatch of finished products and wastes.
A3	S6.4 A(2)(a)	Manufacture of semi-conductor wafers	From receipt of raw materials to dispatch of emissions to air and dispatch of wastes.
A4	S5.4 A(1)(a)(ii)	Effluent treatment plant	From production of effluent to the point of discharge to the public sewer.

**Directly Associated Activity**

A5	Directly associated activity	Steam and electrical power supply: combustion of natural gas for water heating, steam production and thermal oxidation.	From receipt of fuel to dispatch of combustion products to air.
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**Medium Combustion Plant**

Activity reference	Activity listed in the EP Regulations	Description of MCP and/or Specified Generator	Limits of specified activity
A6 NGR: ST 29046 85545	Schedule 25A – Medium Combustion Plant as detailed in Schedule 8 and Specified Generator that is excluded	1x 5.965 MWth input Combined Heat and Power Engine fuelled on natural gas	From receipt of fuel to despatch of combustion products to air.  Operating hours not restricted.

**Table S1.2 Operating techniques**

Description	Parts	Date Received
Application	The response to questions 2.1 and 2.2 given in pages 5-31 of the application	31/12/04
Information received in letter	Details relating to abatement systems in letter dated 30/08/07	04/09/07
Information received in letter	Details relating to abatement systems and monitoring in letter dated 24/01/08	29/01/08

**Table S1.2 Operating techniques**

Description	Parts	Date Received
Variation application EPR/BV7460ID/V005	Responses to questions 2, 3d, 5, 6 of Form C2 and all supporting documentation.  Responses to questions 1a, 2, 3a, 3b, 4a, 4b, 7, 8, Appendix 8 and Appendix 9 of Form C3 and all supporting documentation.  Air Dispersion Modelling Report: Newport Wafer Fab Air Quality Modelling Report May 2020 Project Number 1620009787	05/06/20
Information received in e-mails	All responses to queries made in e-mail Re: PAN-010620 sent 03/07/2020	06/07/20 and 21/07/20
Information received	Document reference: 'NWF Combustion Sources List'	11/08/20
Information received	Document reference: 20-NWF-ERP-LA-L001-Rev B-EPR Emission Points	11/09/20

**Table S1.2A Operating techniques for Medium Combustion Plant as detailed in Schedule 8****Description**

Each MCP must be operated in accordance with the manufacturer's instructions and records must be made and retained to demonstrate this

The operator must keep periods of start-up and shut-down of each MCP as short as possible

There must be no persistent emission of 'dark smoke' as defined in Section 3(1) of The Clean Air Act 1993

**Table S1.3 Improvement programme requirements**

Reference	Requirement	Date
IP1	The operator shall provide a report in writing to the Agency detailing the monitoring method used to determine effluent flow at release point S1. The monitoring method shall be agreed in writing with the Agency.	Complete
IP2	The operator shall provide the Agency with a report on the substitution of raw materials for less hazardous alternative and provide a justification when this is not feasible. The report should cover: <ul style="list-style-type: none"> <li>The replacement of solvents with aqueous alternative or where this is not possible, the substitution by a less hazardous solvent</li> <li>The replacement of any substance (particularly metals) with a less harmful alternative</li> </ul> The report shall include a time-scale for the implementation of the improvements identified in the report for approval by the Agency in writing.	Complete – CAR07/08/21 21/08/07
IP3	The operator shall carry out a water efficiency audit of the installation. The audit shall have regard to the Agency Guidance Note IPPC S4.03, Draft 1, May 2004, Section 2.4.3 and shall provide a breakdown of significant water use by department or activity and shall establish the current installation performance (for example litre water/kg of product) and water efficiency objective(s) for this installation. A summary of the audit shall be sent to the Agency.	Complete – CAR07/08/21 21/08/07
IP4	The Operator shall undertake a survey of sub-surface structures the survey will take into account the requirements of section 2.2.5 of the Agency Guidance Note IPPC s4.03. A written report summarising the findings shall be submitted to the Agency. A timescale for implementation of any improvements shall be approved by the Agency.	Complete

**Table S1.3 Improvement programme requirements**

Reference	Requirement	Date
IP5	<p>The Operator shall submit a report on the possibility of calculating emissions to air and demonstrating compliance with ELVs to air within the permit by mass balance. This report should cover:</p> <p><input type="checkbox"/> Comparison of monitored emissions with proposed mass balance techniques</p> <p>A revised H1 assessment for air emissions based on monitoring results</p>	Complete
IP6	The Operator shall review their written accident management plan with regard to the requirements set out in Section 2.8 of the Agency Guidance Note (IPPC S4.03, Draft 1, May 2004). Upon completion of the review the document shall be submitted to the Agency.	Complete
IP7	The Operator shall submit a report to the Agency by the date given in this programme, demonstrating whether the pH probes used for continuous measurement of pH on the effluent discharge to water meets with the performance standards given in the MCERTS document 'Continuous Water Monitoring Equipment Part 2, v1 February 2003'. The report shall include an assessment of the probes' performance with the criteria given in the standard and where these are not met, proposals and time-scales required to achieve the standard.	Complete - CAR080514 14/05/08
IP8	<p>The Operator shall carry out a waste minimisation audit of the Installation. The assessment shall have regard to the Agency Guidance IPPC S4.03, Draft 1, May 2004. The audit report shall provide information on any lines and operations identified as causing a process loss, specifying for each, the amount lost (tonnes/year) and the percentage recovered in process or recycled.</p> <p>A summary of the audit shall be sent to the Agency in writing together with a timetable to implement any necessary changes identified.</p>	Complete - CAR07/08/21 21/08/07
IP9	Provide the Agency with a report detailing the proposals for the operator meet the requirements of the SED regulations as set in the condition 10 below.	Complete - CAR080417 17/04/08
IP10	Provide the Agency with a report confirming that the operator has fully met the requirements of the SED regulations.	Complete – CAR091211 11/12/09
IC11	The Operator shall carry out a monitoring exercise at emission point A2 to the BS EN 13526 standard for Class B Volatile Organic Compounds (Total as Carbon). The results shall be compared to the previous monitoring in May and November 2006 and May and November 2007 and should demonstrate whether emissions are consistently low arising from the abatement system. The report shall be submitted to the Environment Agency.	Complete – CAR081201 01/12/08
IC12	<p>The Operator shall submit a report detailing the methods and procedures used to monitor emissions at A2 should the abatement system (RTO) be offline. This should include:</p> <ul style="list-style-type: none"> <li>• Details of any monitoring instruments to be used</li> <li>• Details of methods to ensure the continuing performance of the secondary abatement (carbon filter)</li> </ul> <p>The procedures shall be implemented from the date of approval in writing by the Agency.</p>	Complete – CAR021028 28/10/08

**Table S1.3 Improvement programme requirements**

<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC13	<p>A solvent management plan shall be submitted to the Agency and shall be in accordance with Defra Process Guidance Note 6/45(04). The plan shall:</p> <ul style="list-style-type: none"><li>• Provide definitions and calculations for a mass balance of solvent emissions</li><li>• Demonstrate compliance with the VOC requirements of the guidance note</li><li>• Demonstrate compliance with relevant mass emission limit value under The Solvent Emissions (England and Wales) Regulations 2004</li></ul> <p>The plan shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete – CAR090408 08/04/09
IC14	<p>The Operator shall carry out groundwater and soil monitoring as required by EPR 2016 and condition 3.1.3 of this permit. The operator shall submit a report detailing the results of the groundwater and soil monitoring survey by the date specified.</p>	14/09/2021

## Schedule 2 - Waste types, raw materials and fuels

**Table S2.1 Raw materials and fuels**

Raw materials and fuel description	Specification
None specified	-

## Schedule 3 – Emissions and monitoring

**Table S3.1 Point source emissions to air – emission limits and monitoring requirements**

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [point 1 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Solvents FAB11	Class B Volatile Organic Compounds (Total as Carbon)	No limit set	-	-	-
A10 [point 2 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Solvents FAB10	Class B Volatile Organic Compounds (Total as Carbon)	No limit set	-	-	-
A11 [point 3 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Pyrophoric Gas	No parameters set	No limit set	-	-	-
A13 [point 4 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Scrubbed Toxic Extract	Ammonia	No limit set	-	-	-
		Hydrogen fluoride (as F)	No limit set	-	-	-
		Hydrogen chloride	No limit set	-	-	-
		Sulphur dioxide	No limit set	-	-	-
A14 [point 5 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Scrubbed Toxic Extract	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	No limit set	-	-	-
		Ammonia	No limit set	-	-	-
		Hydrogen fluoride (as F)	No limit set	-	-	-
		Hydrogen chloride	No limit set	-	-	-
A15 [point 6 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	5.965 MWth input CHP engine	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	95 mg/m <sup>3</sup>	Periodic (average over one hour)	Every 3 years	MCERTS BS EN 14792 <sup>Note 1</sup>
		Carbon monoxide	No limit set	Periodic (average over one hour)	Every 3 years	MCERTS BS EN 15058 <sup>Note 1</sup>

**Table S3.1 Point source emissions to air – emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
HWB1 [point 7 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Hot Water Boiler 1 (4.5 MWth input)	No parameters set	No limit set	-	-	-
HWB2 [point 8 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Hot Water Boiler 2 (4.5 MWth input)	No parameters set	No limit set	-	-	-
HWB4 [point 9 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Hot Water Boiler 4 (2.5 MWth input)	No parameters set	No limit set	-	-	-
HWB5 [point 10 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Hot Water Boiler 5 (2.5 MWth input)	No parameters set	No limit set	-	-	-
SB1 [point 11 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Steam Boiler 1 (1.006 MWth input)	No parameters set	No limit set	-	-	-
SB2 [point 12 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Steam Boiler 2 (1.144 MWth input)	No parameters set	No limit set	-	-	-
SB3 [point 13 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Steam Boiler 3 (1.820 MWth input)	No parameters set	No limit set	-	-	-
GEN1 [point 14 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Back-up generator 1 (1.750 MWth input)	No parameters set	No limit set	-	-	-

**Table S3.1 Point source emissions to air – emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
GEN2 [point 15 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Back-up generator 2 (1.750 MWth input)	No parameters set	No limit set	-	-	-
GEN3 [point 16 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Back-up generator 3 (6 MWth input)	No parameters set	No limit set	-	-	-
GEN4 [point 17 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Back-up generator 4 (1.750 MWth input)	No parameters set	No limit set	-	-	-
GEN5 [point 18 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Back-up generator 5 (1.750 MWth input)	No parameters set	No limit set	-	-	-
TPU1 [point 19 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Thermal processing unit 1 (<1 MWth input)	No parameters set	No limit set	-	-	-
TPU2 [point 20 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Thermal processing unit 2 (<1 MWth input)	No parameters set	No limit set	-	-	-
TPU3 [point 21 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Thermal processing unit 3 (<1 MWth input)	No parameters set	No limit set	-	-	-
TPU5 [point 22 on document reference: 20-NWF-ERP-LA-L001-Rev B- EPR Emission Points-L001-Emission Points (002)]	Thermal processing unit 5 (<1 MWth input)	No parameters set	No limit set	-	-	-

Note 1: Monitoring requirements are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases at a standardised O<sub>2</sub> content of 15 % for engines.

**Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements**

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
Emission point W1 [point 25 on document reference: 20-NWF-ERP-LA-L001-Rev B-EPR Emission Points-L001-Emission Points (002)]	Uncontaminated surface water drainage	Oil and grease	None visible	Spot sample	Weekly	Visual Check
		pH	Minimum 6, Maximum 9	Spot sample	Weekly	SCA Blue Book 14 ISBN 0117514284 or as agreed in writing with Natural Resources Wales
Monitoring point M1 [point 27 of document reference: 20-NWF-ERP-LA-L001-Rev B-EPR Emission Points-L001-Emission Points (002)]						

**Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements**

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
	Effluent treatment plant	pH	Minimum 6, Maximum 11	Continuous reported as maximum and minimum over reporting period	Every 6 months	SCA Blue Book 14 ISBN 0117514284 or agreed in writing with Natural Resources Wales
		Suspended solids	No limit set	Spot sample	Every 6 months	BS EN 872, BS 6068-2.54

**Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
S1 [point 26 on document reference: 20-NWF-ERP-LA-L001-Rev B-EPR Emission Points-L001-Emission Points (002)]		Chemical oxygen demand	No limit set	Spot sample	Every 6 months	BS 6068-2.34
		Flow	No limit set	Continuous reported as daily average	Every 6 months	As agreed in writing with Natural Resources Wales
		Copper	No limit set	Spot sample	Every 6 months	BS EN ISO 15586:2003, BS 6068-2.84:2003
		Nickel	No limit set	Spot sample	Every 6 months	BS 6068-2.29, ISO 8288
		Zinc	No limit set	Spot sample	Every 6 months	BS 6068-2.29, ISO 8288
		Chromium	No limit set	Spot sample	Every 6 months	BS EN 1233 BS 6068-2.38, ISO 11083
		Sulphate	No limit set	Spot sample	Every 6 months	SCA Blue Book 136 ISBN 0117522406

## Schedule 4 - Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air Parameters as required by condition 3.5.1	A15	Every 3 years <sup>Note 1</sup>	1 January
Emissions to water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July
Emissions to sewer Parameters as required by condition 3.5.1	S1	Every 6 months	1 January, 1 July

Note 1: As required by condition 3.5.5, the first monitoring measurements will be carried out within four months of the issue date of the permit or the date when the MCP is first put into operation whichever is later.

<b>Table S4.2: Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Production of semiconductor wafers	m <sup>2</sup>

<b>Table S4.3 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Water usage	Annually	m <sup>3</sup>
Energy usage	Annually	MWh
Waste disposal	Annually	tonnes
Waste recovery	Annually	tonnes

<b>Table S4.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Air	Form air 1 or other form as agreed in writing by Natural Resources Wales	14/09/20
Water	Form water 1 or other form as agreed in writing by Natural Resources Wales	14/09/20
Sewer	Form sewer 1 or other form as agreed in writing by Natural Resources Wales	14/09/20
Water usage	Form water usage 1 or other form as agreed in writing by Natural Resources Wales	14/09/20
Energy usage	Form energy 1 or other form as agreed in writing by Natural Resources Wales	14/09/20
Other performance indicators	Form performance 1 or other form as agreed in writing by Natural Resources Wales	14/09/20

## Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

### Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

<b>(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment</b>	
<b>To be notified Immediately</b>	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

<b>(b) Notification requirements for the breach of a permit condition</b>	
<b>To be notified immediately</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:	
To be notified immediately	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

**Part B - to be submitted as soon as practicable**

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* authorised to sign on behalf of the operator

## Schedule 6 - Interpretation

*“accident”* means an accident that may result in pollution.

*“Annex I”* means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*“Annex II”* means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*“application”* means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

*“authorised officer”* means any person authorised by Natural Resources Wales under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

*“background concentration”* means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

*“building”* means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

*“combined heat and power”* or *“CHP”* or *“Cogeneration”* means the simultaneous generation in one process of thermal energy and electrical or mechanical energy

*“disposal”* or *“D”* means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*“emissions to land”* includes emissions to groundwater.

*“EP Regulations”* means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

*“emissions of substances not controlled by emission limits”* means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

*“first put into operation”* means that the plant must have been fired with its design fuel up to its full load. This can be, but does not have to be, during commissioning.

*“groundwater”* means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

*“hazardous property”* has the meaning in Annex III of the Waste Framework Directive

*“hazardous waste”* has the meaning given in the Hazardous Waste (Wales) Regulations 2005 (as amended)

*“hazardous substance”* means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

*“Industrial Emissions Directive”* means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

*“MCERTS”* means the Environment Agency’s Monitoring Certification Scheme

*“Medium Combustion Plant”* or *“MCP”* means a combustion plant with a rated thermal input equal to or greater than 1 MW but less than 50 MW.

*“Medium Combustion Plant Directive” or “MCPD”* means Directive 2015/2193/EU of the European Parliament and of the Council of the limitation of emissions of certain pollutants into the air from medium combustion plants.

*“Natural gas”* means naturally occurring methane with no more than 20% by volume of inert or other constituents

*“operating hours”* means the time, expressed in hours, during which a combustion plant is operating and discharging emissions into the air, excluding start-up and shut-down periods

*“quarter”* means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

*“recovery” or “R”* means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

*“Solvent Emissions Directive”* means Directive 1999/13/EC (as amended by Directive 2004/42/EC) on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations.

*“specified generator” or “SG”* means has the meaning given in paragraph 2(1) of Schedule 25B of the EP Regulations

*“Waste code”* means the six-digit code referable to a type of waste in accordance with the list of wastes established by Commission Decision 2000/532/EC as amended from time to time (the ‘List of Wastes Decision’) and in relation to hazardous waste, includes the asterisk.

*“Waste Framework Directive” or “WFD”* means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

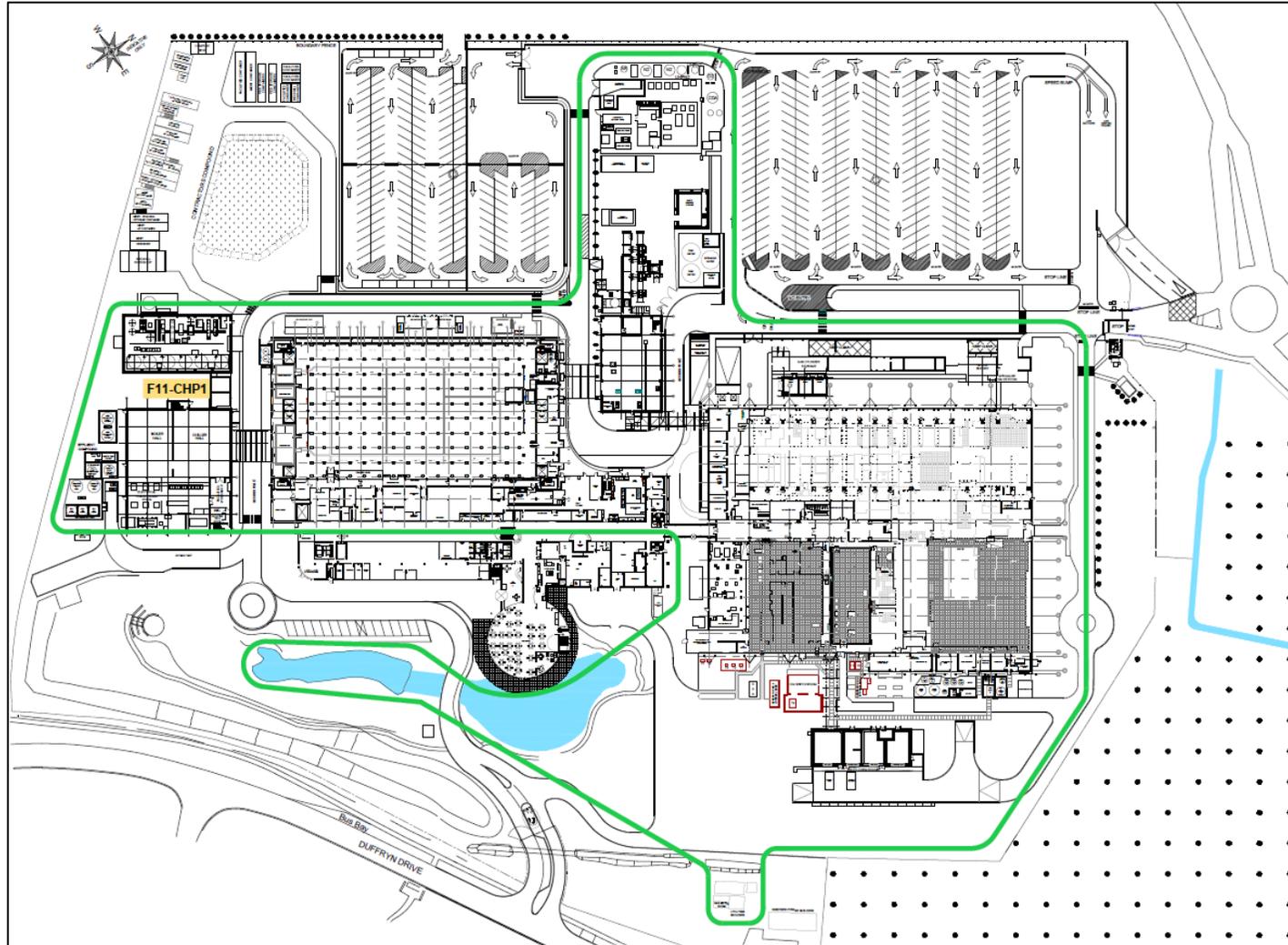
*“year”* means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of:
  - 3 % dry for liquid and gaseous fuels,
  - 6 % dry for solid fuels; and/or
  - 15 % for engines and turbines
- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

## Schedule 7 - Site plan



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## Schedule 8 – Annex 1 of MCPD

1. Rated thermal input (MW) of the medium combustion plant.	5.965 MW
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Combined Heat and Power Engine
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	100 % Natural gas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	05/03/2020
5. Sector of activity of the medium combustion plant or the facility in which it is applied (NACE code.)	2611
6. Expected number of annual operating hours of the medium combustion plant and average load in use.	8760 hours 100 % average load in use
7. Where the option of exemption under Article 6(3) or Article 6(8) is used, a declaration signed by the operator that the medium combustion plant will not be operated more than the number of hours referred to in those paragraphs.	N/A
8. Name and registered office of the operator and, in the case of stationary medium combustion plants, the address where the plant is located.	Newport Wafer Fab Limited Cardiff Road Duffryn Newport NP10 8YJ

END OF PERMIT