

# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2016**

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BOC Limited

BOC Hydrogen Plant  
North Tees Site  
Huntsman Drive  
Port Clarence  
Stockton-on-Tees  
TS2 1TT

**Variation application number**

EPR/BJ7522IJ/V005

**Permit number**

EPR/BJ7522IJ/V005

# BOC Hydrogen Plant

## Permit number EPR/BJ7522IJ

### Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

This variation is for adding a carbon dioxide recovery and liquefaction plant (the LIC Plant) to capture carbon dioxide from the existing hydrogen production plant. The LIC Plant will capture up to 144 tonnes per day of carbon dioxide which will be liquefied and exported from the site by road tanker for use in other industrial activities such as food and drink production.

Adding the LIC Plant requires an extension to the installation boundary and will lead to additional emissions to water of process effluent and cooling water blowdown whilst facilitating a reduction in energy usage and carbon dioxide emissions.

The permit has also been updated to modern conditions, and the registered office address has been changed from The Priestley Centre, 10 Priestley Road, Surrey Research Park, Guildford, Surrey, GU2 7XY to Forge, 43 Church Road West, Woking, Surrey, GU21 6HT. There is no change to the registered company number.

The remainder of the site and its operation will continue as before.

The main features of the installation, as amended by this variation, are therefore as follows.

The primary purpose of the installation is reforming natural gas to produce hydrogen gas, with principle raw material feeds of natural gas and water.

The hydrogen production plant (H<sub>2</sub> Plant) process begins with removing traces of sulphur from the natural gas feed, which is then mixed with steam (raised on the installation), pre-heated and fed to a catalytic reformer, where it mostly reacts to produce hydrogen and carbon dioxide (syngas). The syngas is cooled by raised steam and passed through a further reactor to improve conversion before final cooling, where excess steam is condensed out. The syngas is then sent to the carbon dioxide recovery and liquefaction plant (LIC Plant). The carbon dioxide lean syngas returns to the H<sub>2</sub> Plant and is sent to the pressure swing absorption unit, which is tuned to produce high purity hydrogen. The remaining natural gas feed is added to the off gas from the pressure swing absorbers and combusted in air to produce the heat required for the process. Heat is recovered in the form of steam from the reformer vent.

The first stage of the LIC Plant involves feeding the syngas to an absorber column, which is operated with an amine-based washing agent for carbon dioxide absorption. Carbon dioxide rich solution from the absorber column goes to a stripper column for regeneration of the amine solution and then to a scrubber for the removal of impurities, before being compressed, dried, cooled and condensed. The liquid carbon dioxide is stored in three horizontal tanks, each with a capacity of 400 tonnes, from where it is loaded into road tankers for export from the site.

Under normal operation, the main emission to air is oxides of nitrogen from the H<sub>2</sub> Plant reformer furnace stack.

Discharges to water comprise periodic discharge of process and demineralisation effluents and continuous discharge of cooling water blowdown, with pH adjustment as required. All discharges from the site enter the North Tees Site drainage system where they join with surface water drainage from other sites and pass

through an oil-water separator before being pumped into a lagoon and discharged into the Tees Estuary (within the Teesmouth and Cleveland Coast SPA / Ramsar / SSSI), regulated under permit number EPR/BU4503IW held by SABIC UK Petrochemicals Limited.

The site is located approximately 5km northeast of Middlesbrough city centre within a tract of reclaimed land along the Tees Estuary utilised for industrial development. The Teesmouth and Cleveland Coast SPA / Ramsar / SSSI is within 10km of the site.

The schedules specify the changes made to the permit.

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

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application received	Received 07/06/2001	
Additional information received	08/10/2001 and 11/10/2001	
Permit determined	19/10/2001	Permit issued.
Agency variation determined EPR/BJ7522IJ/V002	24/05/2013	Agency variation to implement the changes introduced by the IED.
Application EPR/BJ7522IJ/V003	Duly made 07/10/2016	Application to add demineralised package water plant.
Request for further information 20/10/2016	11/11/2016	H1 screening.
Variation determined EPR/BJ7522IJ	04/01/2017	Varied permit issued.
Application EPR/BJ7522IJ/V004 (variation and consolidation)	Received 15/09/2023	Returned on 19/02/2024 due to missing information.
Application EPR/BJ7522IJ/V005 (variation and consolidation)	Duly made 08/01/2025	Application for a carbon dioxide recovery and liquefaction plant (the LIC Plant). Registered office address change to Forge, 43 Church Road West, Woking, Surrey, GU21 6HT.
Response to Schedule 5 Notice dated 25/06/2025 EPR/BJ7522IJ/V005	11/07/2025	Including: <ul style="list-style-type: none"> <li>• Site plans showing emission points.</li> <li>• Additional information on the operation of the LIC Plant, amine solvent selection, and emissions to air.</li> <li>• Revised surface water pollution risk assessment and additional information to support this.</li> </ul>
Additional information received EPR/BJ7522IJ/V005	19/08/2025	Additional information to support the surface water pollution risk assessment.
Additional information received EPR/BJ7522IJ/V005	27/08/2025	Revised surface water pollution risk assessment and addendum.
Additional information received EPR/BJ7522IJ/V005	01/09/2025	Additional information to support the surface water pollution risk assessment.
Additional information received EPR/BJ7522IJ/V005	11/09/2025	Additional information to support the surface water pollution risk assessment.
Additional information received EPR/BJ7522IJ/V005	24/10/2025	Surface water pollution risk assessment addendum 2 and updated water emissions data.

Status log of the permit		
Description	Date	Comments
Variation determined and consolidation issued EPR/BJ7522IJ	05/01/2026	Varied and consolidated permit issued in modern format.

Other Part A installation permits relating to this installation		
Operator	Permit number	Date of issue
SABIC UK Petrochemicals Limited	EPR/BU4503IW	28/03/2023

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

### Permit number

**EPR/BJ7522IJ/V005**

### Issued to

**BOC Limited** ("the operator")

whose registered office is

**Forge**

**43 Church Street West**

**Woking**

**Surrey**

**GU21 6HT**

company registration number 337663

to operate a regulated facility at

**BOC Hydrogen Plant**

**North Tees Site**

**Huntsman Drive**

**Port Clarence**

**Stockton-on-Tees**

**TS2 1TT**

to the extent set out in the schedules.

The notice shall take effect from 05/01/2026.

<b>Name</b>	<b>Date</b>
Stacey Tapsell	05/01/2026

Authorised on behalf of the Environment Agency

## **Schedule 1**

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2016

### Permit number

**EPR/BJ7522IJ**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BJ7522IJ/V005 authorising,

**BOC Limited** ("the operator"),

whose registered office is

**Forge**

**43 Church Street West**

**Woking**

**Surrey**

**GU21 6HT**

company registration number 337663

to operate an installation at

**BOC Hydrogen Plant**

**North Tees Site**

**Huntsman Drive**

**Port Clarence**

**Stockton-on-Tees**

**TS2 1TT**

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

Name	Date
Stacey Tapsell	05/01/2026

Authorised on behalf of the Environment Agency

# 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.

### **2.3 Operating techniques**

- 2.3.1 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 the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency 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 the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 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.
- 2.3.5 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.

### **2.4 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 the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

### **2.5 Pre-operational conditions**

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

## **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 Total annual emissions from the emission point(s) set out in schedule 3 tables S3.1 and S3.2 of a substance listed in schedule 3 table S3.3 shall not exceed the relevant limit in table S3.3.
- 3.1.4 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 the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency 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 the Environment Agency.
- 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 the Environment Agency, 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 the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;  
  
implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

### **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 the Environment Agency, 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 the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency 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 the Environment Agency.

## 3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1 and S3.2;
- (b) process monitoring specified in table S3.4;

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 the Environment Agency.

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 and S3.2 unless otherwise agreed in writing by the Environment Agency.

## 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 the Environment Agency, 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 the Environment Agency.

### 4.2 Reporting

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

- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) 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;
  - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule; and
  - (d) the function and monitoring of the carbon capture plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement give an account of the running of the process (including a summary of records of process monitoring requirements of table S3.4).
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, 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 the Environment Agency, 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.

## 4.3 Notifications

- 4.3.1 In the event:
- (a) 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 the Environment Agency,
    - (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) of a breach of any permit condition the operator must immediately—
    - (i) inform the Environment Agency, and
    - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) 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 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 the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency 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) the Environment Agency 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 The Environment Agency 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, the Environment Agency 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", 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
AR1	Section 4.2 A(1)(a)(i) Producing inorganic chemicals such as – gases, hydrogen	Hydrogen Plant: Gas treatment, reformation using a catalytic steam reformer, steam raising and all associated activities.	Receipt of raw materials at the battery limit to dispatch of steam and hydrogen product from the battery limit.
<b>Directly Associated Activity</b>			
AR2	Storage of solid wastes	Inside covered skip located on concrete hardstanding with internal segregation of wastes.	All solid wastes.
AR3	Demineralisation plant	Demineralisation of raw water supply.	From receipt of raw water supply to production of demineralised water for use on-site.
AR4	Effluent treatment	Effluent tank with pH adjustment as required.	From receipt of process effluents to discharge to drainage system via emission point E1 (Table S3.2).
AR5	Carbon dioxide recovery and liquefaction plant	LIC Plant: Amine-based absorption of carbon dioxide, including the handling and storage of the amine solvent, followed by purification, drying, compression, cooling and liquefaction.	From receipt of syngas from the steam-methane reforming process to the discharge of treated syngas back to the steam-methane reforming process and the transfer of liquefied carbon dioxide to the on-site storage.
AR6	Storage of liquefied carbon dioxide	Storage in three identical horizontal tanks, each with 400 tonnes storage capacity.	From receipt of liquefied carbon dioxide from the LIC Plant to its export from site via road tanker.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The responses to questions 2.1 to 2.11 of the application.	07/06/2001
Additional information dated 08/10/2001	The responses to prompts 2.5.2, 2.6 and 2.10 given in the table attached to the letter, and Attachment 3 to that letter.	11/10/2001
Application Variation EPR/BJ7522IJ/V003	The response to question 3a of Form EPC: Application for an environmental permit – Part C3	18/07/2016

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application Variation EPR/BJ7522IJ/V005	Sections 4, 5 and Appendix D of the Supporting Documentation provided in response to section 3a – technical standards, Part C3 of the application form.  Operating scenarios leading to CO <sub>2</sub> venting in section 7.1.1 of the Supporting Documentation.  Proposed monitoring of emissions to water in section 11.2 of the Supporting Documentation.	Duly Made 08/01/2025
Response to Schedule 5 Notice dated 25/06/2025	Response to question 2 providing further information on the operation of the LIC Plant.	11/07/2025
Additional information	Monitoring standard used for determination of ammonia in steam condensate from deaerator vent.	18/12/2025

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
9.1	The Operator shall, within 72 months of the issue of this Permit, submit a report on potential environmental improvements to the Permitted Installation. For each of the subject areas identified in Section 2 of the appropriate technical guidance, the report shall assess the costs and benefits of alternative techniques that may provide environmental improvement. This shall include, but not be limited to, those techniques listed in guidance. The methodologies used should be based on those given in Agency guidance note H1 and should justify, against the BAT criteria, where potential improvements are not planned to be implemented. As part of their management system, the Operator shall submit an updated report every 36 months. All the reports are required in writing to the Environment Agency at the Reporting Address.	Initial Report due 31-10-07 thence every 3 years.
9.2	Fugitive emissions shall be reviewed on an annual basis. The operator shall agree the scope and extent of this review with the Environment Agency prior to undertaking the work. A written summary report on this review shall be submitted to the Agency at the Reporting Address detailing such releases and the measures taken to reduce them, on an annual basis starting	Complete
9.3	The operator shall review the use of Ammonia as the supply of Alkali in the Water Purification System rather than Caustic Soda, in view of the particular problems with Ammoniacal Nitrogen in the River Tees. A written report, providing justification for the process or proposals, with timescale, to change, shall be submitted in writing to the Environment Agency at the Reporting Address.	Complete
9.4	Following commissioning of the activity, the operator shall conduct a noise survey so that the impact of the activity can be assessed. The details of the work to be done should be agreed with the Agency prior to its commencement. A written report, the scope of which has been agreed previously, shall be submitted in writing to the Environment Agency at the Reporting Address.	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC5	<p><b>Commissioning of the carbon dioxide recovery and liquefaction plant (LIC Plant)</b></p> <p>The operator shall submit a written report to the Environment Agency for assessment and written approval on the commissioning of the LIC Plant. The report shall summarise the environmental performance of the LIC Plant as set out in the commissioning plan required by pre-operational measure PO1 in table S1.4 of this permit.</p> <p>The report shall include:</p> <ul style="list-style-type: none"> <li>(i) A summary of the environmental performance of the LIC Plant as installed against the design parameters and risk assessments set out in application EPR/BJ7522IJ/V005 and parameters provided in response to pre-operational condition PO1.</li> <li>(ii) A review of the performance of the LIC Plant against the conditions of this permit.</li> <li>(iii) Details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions.</li> <li>(iv) Confirmation that the Environmental Management System has been updated accordingly.</li> </ul> <p>The operator must implement any proposals in the report in line with the timescales agreed with the Environment Agency's written approval.</p>	Within 6 months of the completion of commissioning of the LIC Plant (activity AR5 in Table S1.1).
IC6	<p><b>Carbon dioxide recovery and liquefaction plant (LIC Plant) 'other than normal operating conditions' (OTNOC) plan</b></p> <p>The operator shall submit to the Environment Agency for assessment and written approval an OTNOC management plan for the LIC Plant. The plan shall include:</p> <ul style="list-style-type: none"> <li>(i) Any potential OTNOC for the LIC Plant, taking into consideration both internal and external causes of OTNOC.</li> <li>(ii) Details of measures to: <ul style="list-style-type: none"> <li>• minimise the occurrence of OTNOC that are within the operator's control; and</li> <li>• reduce the impact of all OTNOC events.</li> </ul> </li> </ul> <p>The OTNOC plan shall be included in the Environmental Management System.</p> <p>The operator must implement any proposals in the report in line with the timescales agreed with the Environment Agency's written approval.</p>	Within 3 months of the completion of commissioning of the LIC Plant (activity AR5 in Table S1.1).



Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC7	<p><b>Carbon dioxide (CO<sub>2</sub>) venting assessment</b></p> <p>The operator shall submit to the Environment Agency for assessment and written approval a report that reviews the outcomes of the CO<sub>2</sub> venting emissions to air risk assessment presented in the application EPR/BJ7522IJ/V005.</p> <p>The report shall include but not be limited to:</p> <ul style="list-style-type: none"> <li>(i) Confirmation of the vent location(s).</li> <li>(ii) Confirmation of the potential venting scenarios, including whether any additional modelling has been carried out to inform the process design and manage risks associated with CO<sub>2</sub> venting.</li> <li>(iii) A description of the operating techniques that will minimise the risks associated with venting CO<sub>2</sub> to atmosphere and limit venting scenarios to those considered in the application.</li> <li>(iv) A vent management plan which is in keeping with our published guidance on emerging techniques on hydrogen production with carbon capture and industry best practice, such as that produced by the Energy Institute, or other equivalent guidance.</li> </ul> <p>The operator must implement any proposals in the report in line with the timescales agreed with the Environment Agency's written approval.</p>	Within 3 months of the completion of commissioning of the LIC Plant (activity AR5 in Table S1.1).
IC8	<p><b>Validation of surface water pollution risk assessment (EPR/BJ7522IJ/V005)</b></p> <p>The operator shall submit a written report to the Environment Agency for assessment and written approval.</p> <p>The report must contain:</p> <ul style="list-style-type: none"> <li>• The results from spot samples of the effluent discharges from the installation during the first 12 months of the LIC Plant being operational, at a frequency of a minimum of one sample per month, for parameters relevant to the addition of the LIC Plant and with the potential to cause an impact on the receiving waters, including but not limited to amine associated with the use of the carbon dioxide capture solvent, orthophosphate, dissolved oxygen, chlorine, adsorbable organically bound halogens expressed as chloride, total residual oxidant, and ammoniacal nitrogen.</li> <li>• The maximum concentration of Performax MX2411-EU, or other water treatment inhibitor, in the LIC Plant cooling water blowdown within the first 12 months of the LIC Plant being operational, derived from process monitoring of the dosing rate and the LIC Plant cooling water blowdown flow rate.</li> <li>• Confirmation, with justification, that the data shows no increase in environmental risk compared to that assessed as part of application EPR/BJ7522IJ/V005 (including that there has been no increase in ammoniacal nitrogen emissions from emission point E1 as a result of the operation of the LIC Plant), or a revised environmental risk assessment as required in line with our guidance (<a href="#">Surface water pollution risk assessment for your environmental permit - GOV.UK</a>).</li> <li>• Results of modelling, in the event that emissions do not screen out at Test 1 in any revised environmental risk assessment. Where the results of modelling do not show that emissions will have an insignificant impact on the receiving waters, provide proposals and timescales, without delay, on how to manage the effluent within the shortest possible time to ensure the emissions have an insignificant impact on the receiving waters.</li> </ul>	Within 18 months of the completion of commissioning of the LIC Plant (activity AR5 in Table S1.1).

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	The operator must implement any proposals in the report in line with the timescales agreed with the Environment Agency's written approval.	
IC9	<p><b>Effluent treatment</b></p> <p>The operator shall submit to the Environment Agency for assessment and written approval a written report on existing effluent treatment and the feasibility of installing additional treatment.</p> <p>The report must contain:</p> <ul style="list-style-type: none"> <li>• Characterisation of the effluent receiving pH adjustment as hazardous or non-hazardous, in line with our waste classification technical guidance (<u>Waste classification technical guidance - GOV.UK</u>).</li> <li>• Justification that the pH adjustment of effluent does not constitute a Schedule 1 Section 5.3 or 5.4 activity, with reference to Regulatory Guidance Note 2 Appendix 1 (<u>RGN 2: Understanding the meaning of regulated facility - GOV.UK</u>), or proposed actions and timelines for varying the permit to include the relevant activity.</li> <li>• A review of additional treatment options along with their associated benefits.</li> <li>• For each additional treatment option, the proposed actions and timeline for its implementation or justification for not implementing.</li> </ul> <p>The operator must implement any proposals in the report in line with the timescales agreed with the Environment Agency's written approval.</p>	Within 18 months of the completion of commissioning of the LIC Plant (activity AR5 in Table S1.1).

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
PO1	Carbon dioxide recovery and liquefaction plant (activity AR5 in Table S1.1).	<p><b>Commissioning plan</b></p> <p>At least 2 weeks prior to the commencement of commissioning of the carbon dioxide recovery and liquefaction plant (LIC Plant), the operator shall submit a written commissioning plan, including timelines for completion, for assessment and written approval by the Environment Agency.</p> <p>The commissioning plan shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>(i) The timelines for commissioning and the expected durations of these activities.</li> <li>(ii) The established operational envelope and associated process controls including appropriate parameters.</li> <li>(iii) The expected emissions to the environment during the different stages of commissioning, a risk assessment demonstrating that the environmental risks are not significant throughout all the phases of commissioning, and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions.</li> <li>(iv) A Commissioning Monitoring Plan.</li> <li>(v) A methodology for approval to demonstrate the carbon dioxide capture efficiency of the plant. The approved methodology shall be used to demonstrate the carbon capture efficiency of the plant as part of the commissioning activities, and, after the commissioning phase, for process monitoring and reporting purposes in compliance with the conditions of the permit.</li> <li>(vi) A methodology for approval for quantifying total mass of carbon dioxide emissions during short duration venting that may be required during the start-up sequence of the LIC Plant and during OTNOC (other than normal operating conditions).</li> </ul> <p>The commissioning activities shall be carried out in accordance with the commissioning plan approved by the Environment Agency.</p>

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

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
--	--

## 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 [NZ 5233 2329]	Heater flue gas from reformer	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	200 mg/m <sup>3</sup>	95% of the 30 minute average values over a 6 month period	Continuous	EN 14181
		Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	300 mg/m <sup>3</sup>	Single 30 minute average value	Continuous	EN 14181
		Carbon monoxide	300 mg/m <sup>3</sup> (Note 1)	95% of the 30 minute average values over a 6 month period	Continuous	EN 14181
		Temperature in deg C	No limit set	--	Continuous as appropriate to reference	Traceable to national standards
A2 [NZ 5234 2328]	Abnormal and emergency hydrocarbon vent	No parameters set	No limit set	--	--	--
A3 [NZ 5233 2331]	Deaerator vent	Ammonia in kg	No limit set	--	Six monthly	As agreed in writing with the Environment Agency
A4 [Point A4 on site plan in schedule 7]	Vent from LIC Plant make-up water break tank 1	Nitrogen	No limit set	--	--	--
A5 [Point A5 on site plan in schedule 7]	Vent from LIC Plant solution storage tank 1	Nitrogen	No limit set	--	--	--
A6 [Point A6 on site plan in schedule 7]	Vent gas from LIC Plant LP-Scrubber	Carbon dioxide	No limit set	--	--	--

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements</b>						
<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>
A7 [Point A7 on site plan in schedule 7]	Vent gas from LIC Plant CO <sub>2</sub> loading station	Carbon dioxide	No limit set	--	--	--
A8 [Point A8 on site plan in schedule 8]	Boil-off gas from LIC Plant CO <sub>2</sub> storage tanks	Carbon dioxide	No limit set	--	--	--

<b>Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site – emission limits and monitoring requirements</b>						
<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>
E1 on site plan in schedule 7 emission to North Tees site (SABIC) drainage system	Site effluent tank TK201: Combined process effluent from Hydrogen Plant and LIC Plant	Temperature	30°C	Instantaneous	Monthly (Note 1)	Resistance temperature detector or otherwise as agreed in writing with the Environment Agency
		pH	6 – 8	Instantaneous	Monthly (Note 1)	BS ISO 10523
E2 on site plan in schedule 7 emission to North Tees site (SABIC) drainage system	Reject water from demineralisation plant	No parameters set	No limit set	--	--	--
E3 on site plan in schedule 7 emission to North Tees site (SABIC) drainage system	Hydrogen Plant cooling water purge / blowdown	No parameters set	No limit set	--	--	--
E4 on site plan in schedule 7 emission to North Tees site (SABIC) drainage system	LIC Plant cooling water purge / blowdown	Chlorine	1.6 mg/l	Instantaneous (spot sample)	Monthly (Note 1)	BS EN ISO 7393-1 or BS EN ISO 7393-2 or BS EN ISO 7393-3

<b>Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site – emission limits and monitoring requirements</b>						
<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>
E5 on site plan in schedule 7 emission to North Tees site (SABIC) drainage system	Uncontaminated surface water run-off from LIC Plant collection pit	No parameters set	No limit set	--	--	--
Note 1: Either monthly or less frequent as agreed in writing with the Environment Agency, no earlier than 12 months after the completion of commissioning of activity AR5 in Table S1.1.						

<b>Table S3.3 Annual limits</b>		
<b>Substance</b>	<b>Medium</b>	<b>Limit (including unit)</b>
Methanol	Air	60 tonnes
Ammonia	Air	15 tonnes
Ammoniacal nitrogen, expressed as N	Water	20,000 kg

<b>Table S3.4 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Dosing rate of Performax MX2411-EU (Note 1) into the LIC Plant cooling water	litres/hour	Event-based	Flow monitoring on dosing pump	--
Venting of CO <sub>2</sub> from LIC Plant – emission points A6, A7 and A8	<ul style="list-style-type: none"> <li>Duration of event</li> <li>Total mass of CO<sub>2</sub> emissions (tonnes / event)</li> </ul>	Event specific, total annual	Calculation by method traceable to national standards compliant with UK ETS, to be agreed in writing with the Environment Agency as part of PO1 in Table S1.4 of this permit	The operator shall identify the root cause of the venting event and consider ways to prevent or reduce the frequency and duration of reoccurrence
Note 1: Or other water treatment inhibitor, as agreed in writing with the Environment Agency.				

## 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>
Point source emissions to air Parameters as required by condition 3.5.1	A1, A3	Every 6 months	1 January, 1 July
Point source emissions to sewer, effluent treatment plant or other transfers off-site Parameters as required by condition 3.5.1	E1, E4	Every 6 months	1 January, 1 July

<b>Table S4.2 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Energy usage	Annually	MWh
Occasions when steam is deliberately vented to atmosphere at rates in excess of 10 tonnes per hour for periods in excess of 1 hour, with reasons	Six monthly	N/A
Efficiency of carbon dioxide capture (CO <sub>2</sub> absorber stage) during normal operation	Annually	%
Total CO <sub>2</sub> captured and exported	Annually	tonnes
Total CO <sub>2</sub> vented to atmosphere from emission points A6, A7 and A8	Annually	tonnes
Period the LIC Plant is not available	Annually	number of occasions and cumulative hours for current calendar year

<b>Table S4.3 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Point source emissions to air	Emissions to Air Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Point source emissions to water (other than sewer)	Emissions to Water Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Process monitoring	Process Monitoring Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Energy usage	Energy Usage Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Other performance parameters	Other Performance Parameters Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021



# 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 malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b>	
<b>To be notified within 24 hours of detection</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 limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Measures taken, or intended to be taken, to stop the emission	

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

<b>(c) Notification requirements for the breach of permit conditions not related to limits</b>	
<b>To be notified within 24 hours of detection</b>	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

<b>(d) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
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.	

Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

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

“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 the Environment Agency 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.

“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 limit.

“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.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

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

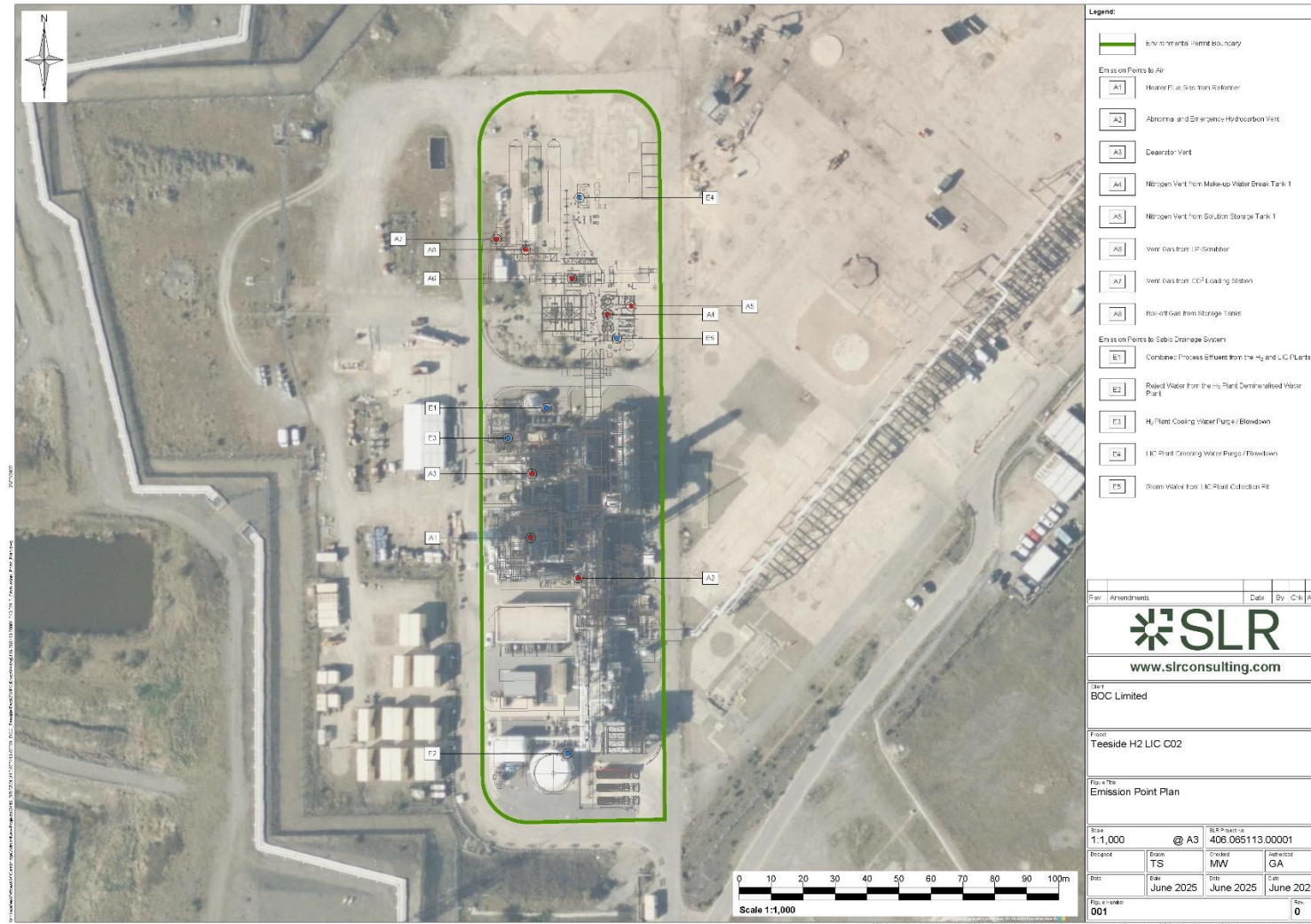
“year” means calendar year ending 31 December.

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:

- 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
- 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



END OF PERMIT

Permit number  
EPR/BJ7522IJ

## Emissions to Air Reporting Form

**Permit number:** *[EPR/AB1234CB]*

**Operator:** *[A Company Name Limited]*

**Facility name:** *[Unit A, Anytown]*

**Emissions to Air Reporting Form: version 1, 08/03/2021**

Reporting of emissions to air for the period from *[DD/MM/YY]* to *[DD/MM/YY]*

<b>Emission point</b>	<b>Substance / parameter</b>	<b>Emission Limit Value</b>	<b>Reference period</b>	<b>Test method <sup>1</sup></b>	<b>Result <sup>2</sup></b>	<b>Sample dates and times <sup>3</sup></b>	<b>Uncertainty <sup>4</sup></b>
<i>[e.g. A1]</i>	<i>[e.g. Oxides of nitrogen (NO and NO<sub>2</sub> expressed as NO<sub>2</sub>)]</i>	<i>[e.g. 200 mg/m<sup>3</sup>]</i>	<i>[e.g. daily average]</i>	<i>[e.g. BS EN 14181]</i>	<i>[State result]</i>	<i>[State relevant dates and time periods]</i>	<i>[State uncertainty if not 95% confidence interval]</i>

**Signed:** *[Name]*

**Date:** *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

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**Guidance for use:** Use this form to report your monitoring results.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

- <sup>1</sup> Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.
- <sup>2</sup> Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.
- <sup>3</sup> For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.
- <sup>4</sup> Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

## Emissions to Water Reporting Form

**Permit number:** *[EPR/AB1234CB]*

**Operator:** *[A Company Name Limited]*

**Facility name:** *[Unit A, Anytown]*

**Emissions to Water Reporting Form: version 1, 08/03/2021**

Reporting of emissions to water (other than to sewer) for the period from *[DD/MM/YY]* to *[DD/MM/YY]*

<b>Emission point</b>	<b>Substance / parameter</b>	<b>Emission Limit Value</b>	<b>Reference period</b>	<b>Test method <sup>1</sup></b>	<b>Result <sup>2</sup></b>	<b>Sample dates and times <sup>3</sup></b>	<b>Uncertainty <sup>4</sup></b>
<i>[e.g. W1]</i>	<i>[e.g. Total suspended solids]</i>	<i>[e.g. 30 mg/l]</i>	<i>[e.g. For 95% of all measured values of periodic samples taken over one month]</i>	<i>[e.g. BS EN 872:2005]</i>	<i>[State result]</i>	<i>[State relevant dates and time periods]</i>	<i>[State uncertainty if not 95% confidence interval]</i>



**Signed:**     *[Name]*

**Date:**        *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

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**Guidance for use:** Use this form to report your monitoring results.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

- <sup>1</sup> Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.
- <sup>2</sup> Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.
- <sup>3</sup> For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.
- <sup>4</sup> Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

## Process Monitoring Form

**Permit number:** *[EPR/AB1234CB]*

**Operator:** *[A Company Name Limited]*

**Facility name:** *[Unit A, Anytown]*

**Process Monitoring Form: version 1, 08/03/2021**

Reporting of process monitoring for the period from *[DD/MM/YY]* to *[DD/MM/YY]*

Monitoring point description or source	Parameter	Reference period	Test method <sup>1</sup>	Result <sup>2</sup>	Sample dates and times <sup>3</sup>	Uncertainty <sup>4</sup>
<i>[e.g. Condenser V 2345]</i>	<i>[e.g. cooling water outlet temperature]</i>	<i>[e.g. instantaneous]</i>	<i>[if applicable]</i>	<i>[State result]</i>	<i>[State relevant dates and time periods]</i>	<i>[if applicable]</i>

### Operator's comments

**Signed:**     *[Name]*

**Date:**        *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

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**Guidance for use:** Use this form to report your monitoring results.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Complete columns 1 to 5 using the information from schedule 3 of your permit. Complete columns 6 to 8 with your monitoring data. Add additional rows as necessary.

- <sup>1</sup> Where an internationally recognised standard test method is used, give the reference number. Where another method that has been formally agreed with the Environment Agency, give the appropriate identifier. In other cases state the principal technique, for example gas chromatography.
- <sup>2</sup> Give the result as the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, give the result as the 'minimum to maximum' of the measured values.
- <sup>3</sup> For non-continuous measurements give the date and time of the sample that produced the result. For continuous measurements give the percentage of the process operating time covered by the result.
- <sup>4</sup> Complete if the uncertainty associated with the result is not a 95% confidence interval. Leave blank for 95% confidence intervals.

## Energy Usage Reporting Form

**Permit number:** [EPR/AB1234CB]

**Operator:** [A Company Name Limited]

**Facility name:** [Unit A, Anytown]

**Energy Usage Reporting Form: version 1, 08/03/2021**

Reporting of energy usage for the year [YYYY]

Energy source	Energy consumption / production (MWh)	Specific energy consumption (MWh/unit) <sup>2</sup>
Electricity imported as delivered - source [specify source, e.g. supplied from the national grid]	[insert annual consumption in MWh where electricity is imported]	[insert annual consumption in MWh/unit where electricity is imported]
Electricity imported as primary energy 1 – conversion factor of [specify conversion factor used to convert electricity delivered to primary energy]	[insert annual consumption in MWh where electricity is imported]	[insert annual consumption in MWh/unit where electricity is imported]
Natural gas	[insert annual consumption in MWh where natural gas is used]	[insert annual consumption in MWh/unit where natural gas is used]
Gas oil – conversion factor of [specify conversion factor used to convert tonnes to MWh]	[insert annual consumption in MWh where gas oil is used]	[insert annual consumption in MWh/unit where gas oil is used]
Imported heat	[insert annual consumption in MWh where heat is imported]	[insert annual consumption in MWh/unit where heat is imported]
Other – [specify other energy source and conversion factors where applicable, e.g. renewable fuel. Add extra rows where needed]	[insert annual consumption in MWh where applicable]	[insert annual consumption in MWh/unit where applicable]
Electricity exported	[insert annual production in MWh where electricity is exported]	Not applicable
Heat exported	[insert annual production in MWh where heat is exported]	Not applicable

Operator's comments

**Signed:** *[Name]*

**Date:** *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

**Guidance for use:** Use this form to report your annual energy usage.

Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. Add additional rows as necessary.

<sup>1</sup> Multiply delivered electricity by 2.4 to convert to primary energy where the electricity is supplied from the national grid. If the electricity is supplied from another source, specify the conversion factor used. Add additional rows as needed if electricity is imported from multiple sources.

<sup>2</sup> Divide energy consumption by an appropriate unit of raw material processed or product output.

## Other Performance Parameters Reporting Form

Permit number: *[EPR/AB1234CB]*

Operator: *[A Company Name Limited]*

Facility name: *[Unit A, Anytown]*

Other Performance Parameters Reporting Form: version 1, 08/03/2021

Reporting of other performance parameters for the period from *[DD/MM/YY]* to *[DD/MM/YY]*

Parameter	Units
<i>[e.g. Total raw material usage]</i>	<i>[e.g. tonnes per production unit]</i>

**Operator's comments**

**Signed:**     *[Name]*

**Date:**        *[DD/MM/YY]*

(Authorised to sign as representative of the operator)

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**Guidance for use:** Use this form to report the performance parameters (other than water and energy) required by your permit. Example text is shown in bracketed grey italics. Replace the example text by entering your own site specific information. The parameters to report and units to be used can be found in the 'Performance parameters' table in schedule 4 of your permit. Add additional rows as necessary.