

Permit with introductory note

Environmental Permitting (England & Wales) Regulations 2016

Dragon LNG Limited

Dragon LNG
Waterson
Milford Haven
Pembrokeshire
SA73 1DR

Variation number
EPR/AP3136UA/V005

Permit number
EPR/AP3136UA

Dragon LNG

Permit number EPR/AP3136UA

Introductory note

This introductory note does not form a part of the permit.

This permit controls the operation of a combustion plant. The relevant listed activity is Section 1.1 A(1)(a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.

The main purpose of the activities at the installation is to offload ships of Liquefied Natural Gas (LNG), store the LNG and finally convert to gaseous form for transfer by pipeline to various parts of the UK. The combustion activity provides the thermal energy to convert the LNG to gas. The facility is referred to as Dragon LNG or DLNG.

The LNG is unloaded from ship at the jetty (berth number 1) and transferred by pipeline to two full containment LNG storage tanks (maximum capacity of 165,000 m³ each, nominal capacity 154,000 m³). Facilities are on site to vaporise the LNG into natural gas (NG) for send out via the Above Ground Installation (AGI) into the National Grid transmission network for distribution. There are no gas odourising facilities authorised by this permit. 'Boil-off' gas (BOG) evaporating from the LNG in the storage tanks if not incorporated into the sendout stream during sendout is recondensed in the reliquefaction plant and returned to the LNG storage tanks. There is also a flare on standby to prevent over-pressure in the system. The flare is an authorised release point.

The LNG re-liquefaction plant is used to manage tank pressure in the two LNG storage tanks during periods of zero sendout. The re-liquefaction plant operates by cooling the BOG so that it condenses back to LNG, which is pumped back to the storage tanks. A nitrogen refrigerant is employed as a heat transfer medium to cool and recondense the BOG to a temperature of approximately -162 °C. The BOG/ LNG condensate circuit and refrigerant circuits both operate on a closed cycle and as such there are no emissions to atmosphere from the re-liquefaction plant.

There are 6 Submerged Combustion Vaporisers (SCVs) at the site, these operate at various loads and throughput depending on the demand. The SCVs are thermally efficient gas combustion units, used to heat water for indirect re-gasification of the LNG. The 6 SCVs use natural gas as fuel, but can use BOG as a fuel if required.

Approximately 1.3% of the NG is used as fuel for the SCVs. The emissions to air from the SCVs discharge via 6 dedicated release points (one for each SCV). Water as a by-product of NG combustion is directed to a fire water reservoir. The overflow from the fire water reservoir is directed into the West Reservoir owned and operated by Valero Pembrokeshire Oil Terminal (VPOT).

The main equipment on site can be summarised as:

- 2 LNG Storage Tanks (each maximum capacity 165,000 m³)
- 6 SCVs (35.2 MW thermal input each)
- Common collection basin for water from the SCVs.

- 1 Emergency Flare
- 2 emergency standby diesel generators

The main releases from the process are releases to air of oxides of nitrogen and carbon monoxide from natural gas combustion in the SCVs. There is a small release of relatively clean water from the site into the adjacent effluent treatment plant operated by Valero Pembrokeshire Oil Terminal Ltd EPR/BK1341IN (previously Sem Logistics Ltd) and is subject to monitoring in the DLNG permit as an authorised discharge.

The LNG storage is a directly associated activity to the scheduled combustion activities on site.

The main features of the permit are as follows.

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

Status Log of the permit		
Detail	Date	Response Date
Application BT7817	Received 20/11/02	-
Response to request for information (1)	Request dated 17/01/03	Response received 18/02/03
Request (1) by Agency to extend determination by 1 month	Request dated 18/03/03	Request accepted 25/03/03
Response to request for information (2)	Request dated 04/04/03	Response received 25/04/03
Request (2) by Agency to extend determination by 4 weeks	Request dated 05/06/03	Response received 06/06/03
Permit BT7817	Determined 20/06/03	-
Application for variation by Operator HP3238LJ	Application received 06/03/06	Variation of permit required to reflect changes in design of LNG installation.
1 st Schedule 7 notice	Issued 18 th May 2006	8 th June 2006 and 12 th July 2006
2 nd Schedule 7 notice	Issued 16 th August 2006	18 th September 2006
3 rd Schedule 7 notice	Issued 10 th October 2006	1 st November 2006
Agency request for extension of determination date to 31 st December 2006	Issued 17 October 2006	Accepted 6 th November 2006
Agency request for extension of determination date to 31 st March 2007	Issued 8 th December 2006	Accepted 15 th December 2006
Agency request for extension of determination date to 31 st May 2007	Issued 27 th March 2007	Accepted 30 th March 2007
Agency request for extension of determination date to 13 th July 2007	Issued 25 th May 2007	Accepted 1 st June 2007
Agency request for extension of determination date to 28 th September 2007	Issued 11 th July 2007	Accepted 12 th July 2007
Agency request for extension of determination date to 7 th November 2007	Issued 26 th September 2007	Accepted 28 th September 2007
Variation HP3238LJ	Issued 9 th November 2007	-
Application AP3136UA for transfer of permit BT7817 to Dragon LNG	Received 20 th July 2007	-
Agency request for extension of determination date for transfer to 2 weeks beyond issue of variation HP3238LJ	Issued 20 th August 2007	Accepted 21 st August 2007

Operator request for extension of determination date to 10 th December 2007 to allow submissions of additional information	Received 23 rd November 2007	-
Transferred permit AP3136UA	Issued 10 th December 2007	-
Application for variation by operator EA/EPR/AP3136UA/V001	Received 9 th May 2008	-
Request for information	16 th May 2008	12 th July 2008
Variation application duly made	12 th July 2008	-
Request by applicant to consider further information	Received 15 th July, 27 th October and 14 November (DLNG-EA-0066 & MEL127/CM/EM), 24 November 2008,	-
Agency request for extension of determination date for variation to 30 September 2008	12 September 2008	Accepted 16 September 2008
Operator request for extension of determination date to 30 November 2008 to allow submissions of additional information	10 October 2008	Accepted 7 November 2008
Operator request for extension of determination date to 21 December 2008 to allow ongoing discussions regarding the Nitrogen plant.	04 December 2008	Accepted 19 December 2008
Operator request for extension of determination date to 15 February 2009 to allow ongoing discussions regarding the Nitrogen plant. This request was made during a site visit on 18 December 2008 and agreed at the time.	Letter received 24 December 2008	Accepted 18 December 2008
Operator request to determine variation excluding the Nitrogen plant	26 January 2009	Accepted 10 February 2009
Operator comments on draft variation	24 February 2009	-
Request by applicant to consider further information	Two letters received on 05 June 2009 i.e. DLNG-EA-0087 and MEL146/CM/EM	-
Variation EA/EPR/AP3136UA/V001	determined	28 August 2009
Regulation 60 Notice sent to the Operator	14/11/2014	Issue of a Notice under Regulation 60(1) of the EPR. Natural Resources Wales initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V. The permit is also updated to modern conditions.
Regulation 60 Notice response	31/03/2015	Response received from the Operator.

Additional information received	02/07/2015	Response to request for further information (RFI) dated 02/07/15.
Variation Application EPR/AP3136UA/V003	Duly made 07/08/15	Application to vary the permit to allow the operation of a new re-liquefaction plant. Also various minor changes associated with aqueous discharges from the site and correction of permit conditions 7.1.2 and 2.10.5.
Additional information received	14/09/15	Revised Compander shelter elevations
Additional information requested	02/10/15	Number of and noise spectrum for upsized fin fan coolers; request for confirmation of any other design changes which may affect noise assessment and request for background noise survey reports
Additional information received	06/10/15	Baseline noise monitoring report,
Additional information requested	12/10/15 & 14/10/15	Proposed discharge of fire-fighting foam effluent and existing rainwater discharge
Additional information received	13/10/15 & 15/10/15	Further clarification regarding release of rainwater and requested fire-fighting foam effluent release
Additional Information Received	27/10/15	Updated noise modelling report for the revised re-liquefaction plant specification.
Additional Information Received	03/11/15	Updated plan showing proposed W1 discharge point & response to request for background noise monitoring report L-300017-S03-TECH-003.
Variation determined EPR/AP3136UA/V003	07/12/15	Varied permit issued.
Variation determined EPR/AP3136UA/V004	23/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.
Application EPR/AP3136UA/V005 received	Duly Made 13/04/2022	Application to vary the permit remove the Cogen Plant, and its associated discharge points, and to authorise revised operational configuration of the Submerged Combustion Vaporisers (SCVs).
Variation determined EPR/AP3136UA/V005	08/07/2022	

Superseded Licenses/Consents/Authorisations relating to this installation

Holder	Reference Number	Date of Issue
Haven Energy Limited	BB9962/BB9962	23/12/98
Haven Energy Limited	BB9962/BG4569	17/08/99
Haven Energy Limited	BT7817	20 June 2003
Permit Number EPR/AP3136UA	Page 5	Issue Date 08/07/2022

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/AP3136UA

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/AP3136UA/V005 authorising,

Dragon LNG Limited (“the operator”),

whose registered office is

Main Road

Waterston

Milford Haven

Pembrokeshire

SA73 1DR

company registration number 04562711

to operate an installation at

Dragon LNG

Waterston

Milford Haven

Pembrokeshire

SA73 1DR

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

Name	Date
Dr David Poole	08/07/22

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) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
 - (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (d) 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 measure 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 (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.

2.4 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 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.

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 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.
- 3.1.4 Transfers from the installation to the neighbouring installation EPR/BK1341IN, Milford Haven reservoirs shall be subject to the sampling frequency and emission limits stated in S3.3.

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 continuous), 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.

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.

4.2 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;
 - (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 S4.3; 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.

4.3 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 condition 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", 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 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts.	6 Submerged Combustion Vaporisers (SCVs, each 35.2 MWth) and collection basin for combustion water.	<p>The site is permitted to operate either:</p> <ul style="list-style-type: none"> a maximum of 6 SCVs at an hourly average production throughput of up to 150 tonnes per hour; <p>or</p> <ul style="list-style-type: none"> a maximum of 5 SCVs at an hourly average production throughput of up to 169 tonnes per hour.
		<p>Part of the Stationary Technical Unit: Two emergency standby diesel generators</p> <p>Compression ignition engines using gas oil as fuel to produce power</p>	Engines and generators including the receipt, storage and use of fuel and the storage and disposal of wastes.
	Directly Associated Activity		
AR2	LNG re-liquefaction plant	Plant used to re-liquefy boil-off gas from the two existing LNG storage tanks	
AR3	Storage of Liquefied Natural Gas (LNG)	LNG is stored onsite, prior to being vapourised in the combustion units (SCVs)	Unloading, storage (in two tanks) and processing on site, including the use of the emergency flare.

Table S1.2 Operating techniques

Description	Parts	Date Received
Applications and responses dated from 20/11/02 to 02/07/15	Where still relevant and not superseded following surrender of the Co-generation Plant as authorised by Variation V005: all parts listed below.	-
Application for PPC permit BT7817	The response to question 2.3 given in section LNG/IPPC.B2.3 of the application	20/11/02
Response to First Schedule 4 Part 1 Notice	Response to questions 9, 10 and 11	18/02/03
Application for variation HP3238LJ.	Section LNG/PPC2.1 and LNG/PPC2.12 of application	06/03/06
Response to first Schedule 7 notice	Response to questions 1, 5, 8, 9, and 13	08/06/06
Application for variation EA/EPR/AP3136UA/V001 and supporting information.	Response to questions C1.1, C1.2, C1.3, C1.4, C2.1 to C2.12 and documents LNG/PPC.C2.1 and LNG/PPC.C2.12	09/05/08
Letter reference DLNG-EA-0059 dated 14 July 2008.	All	15/07/2008
Letter reference DLNG_EA-0065 dated 23 October 2008.	All	17/10/2008
Letter reference DLNG-EA-066 dated 13 November 2008.	All	14/11/2008
Letter reference MEL127/CM/EM dated 6 November 2008.	All	14/11/2008
Letter reference DLNG-EA-0087 dated 3 June 2009	All	05/06/2009
Letter reference MEL146/CM/EM dated 28 May 2009	All	05/06/2009
Response to regulation 60(1) Notice – request for information dated 14/11/14	Compliance route and operating techniques identified in response to questions 2 (LCP compliance route), 4 (LCP configuration), 5 (LCP net rated thermal input), 6 (MSUL/MSDL), 7 (Proposed ELVs) and 9 (Monitoring requirements).	31/03/15
Variation application EPR/AP3136UA/V003	Application Form C3, response to questions 3a and 3c contained within “Application for a Variation to Environmental Permit AP3136UA. Supporting Information for Introduction of a Re-liquefaction Plant” (Document Reference 9Y1920/AP3136UA/RP/Variation). Specifically Section 3 Operating Techniques.	04/05/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated June 2015	Additional information provided for response to questions 5 (LCP net rated thermal input), 6 (MSUL/MSDL) and 7 (Proposed ELVs).	02/07/15

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
9.1	<p>The Operator shall complete a noise monitoring survey for the installation as defined by the response to condition 1.1.3(e). The results and conclusions shall be sent in a report to the Environment Agency.</p> <p>The report shall indicate how account has been taken of the relevant parts of Agency guidance presented in 'IPPC H3 – Horizontal Noise Guidance (Part 1 and 2)'.</p>	Completed
9.2	<p>A noise management plan shall be submitted to the Environment Agency, detailing the measures to be used to control emissions of noise and shall be in accordance with Appendix 4 (noise management plan) of Horizontal Guidance Note H3 (Horizontal Noise Guidance) Part 2).</p> <p>The plan shall build on the operator's 'Proposed Action Plan to Reduce Noise Level if the Condition Requirements of the PPC Permit AP3136UA are Exceeded. Rev: 0 – 8 Sept 2008'</p> <p>Additional points shall include, but not be limited to:</p> <ul style="list-style-type: none"> (i) Identification and assessment of the impact of current noise emissions arising from the permitted activities using the 'survey methodology: process or site survey' given in H3 (Part 2) section 2.4.1.2 (ii) Detail an options appraisal for achieving Best Available Techniques for targeted noise attenuation and compliance, based on indicative benchmarks given in H3. (iii) Further to (ii), proposals for implantation of BAT with dates for the implementation of individual measures. (iv) Proposals to ensure that new items of plant and equipment minimize any potential to contribute to creeping ambient levels in the locality. (v) Proposals for measuring and assessing the impact of installation noise upon community noise levels using a hazard and risk-based approach. Dates for implementation of individual measures shall be included. <p>The plan shall be implemented and maintained by the operator from the date of approval in writing by the Environment Agency.</p> <p>The operator shall review the plan annually and record at least once a year or as soon as practicable after a complaint (whichever is earlier), whether changes to the plan should be made and make any appropriate changes to the plan identified by a review.</p>	Completed
9.3	<p>The Operator shall submit to the Environment Agency a post commissioning report for the installation. The report shall include a comparison of process and emissions performance compared with the design assumptions in the application. The report shall also include air dispersion modelling results based on actual measured emissions from the release points under normal and maximum conditions.</p>	Completed
9.4	<p>The Operator shall develop and implement an energy management and efficiency improvement plan. The plan shall include improvement targets, actions and timescale. The plan shall be submitted in writing to the Environment Agency.</p>	Completed
9.5	<p>The Operator shall implement an environmental management system, having regard to section 2.1 of the relevant IPPC Sectoral or Technical guidance. A report shall be submitted to the Environment Agency summarising the key details and the implementation and accreditation date.</p>	Completed
9.6	<ul style="list-style-type: none"> • The Operator shall carry out an assessment to determine measures that could be taken to reduce the nitrate emissions from the site, in order to minimise any impact on the Milford Haven waterway. • The assessment shall include the costing and feasibility of installation of each of the measures identified. • On completion of the assessment a report shall be completed and submitted to the Agency for approval detailing the assessment. 	Completed

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>The report shall also include a time-tabled plan for installation of any feasible measures identified.</p> <p>The installation plan shall be implemented from the date of approval by the Environment Agency.</p>	
9.7	<p>Following successful commissioning of the re-liquefaction plant and establishment of routine steady operation, the Operator shall undertake noise monitoring at the five nearest local receptors. This shall include:</p> <ul style="list-style-type: none"> • A full noise monitoring survey and assessment meeting the BS4142:2014 standard • 1/3rd octave and narrow band (FFT) measurements to identify any tonal elements or low frequency noise <p>The noise monitoring shall assess the following two scenarios:</p> <ol style="list-style-type: none"> Re-liquefaction plant operating in tandem with the Co-gen plant Re-liquefaction plant operating without the Co-gen Plant operating <p>Upon completion of the work, a written report shall be submitted to Natural Resources Wales. The report shall make reference to the Re-liquefaction Plant specifications, predictions and proposed attenuation measures in the Xodus Report L-300017-S05-TECH-002 "Update of Noise Model for proposed new re-liquefaction plant". If rating levels associated with the Re-liquefaction Plant are detected which are likely to cause adverse impact at sensitive receptors, the report shall include an assessment of the most suitable abatement</p> <ul style="list-style-type: none"> • techniques, an estimate of the cost and a proposed timetable for their installation. The noise management plan for the installation may need to be reviewed as a result of the report findings. 	Completed
9.8	<p>The Operator shall:</p> <p>(a) submit to NRW a report reviewing 12 months operational data on efficiency. The report shall include a comparison of process and emissions performance compared with the design assumptions in the application. The report shall also include air dispersion modelling results based on actual measured emissions from the release points under low or zero send out operating conditions.</p> <p>develop and implement an energy management and efficiency improvement plan based on the above condition. The plan shall include improvement targets, actions and timescale. The plan shall be submitted in writing to the NRW for approval.</p>	Completed
9.9	<p>The Operator shall implement and install physical improvements as detailed in the energy and efficiency improvement plan submitted to NRW in IC9.8, from the date approved by NRW, to maximise energy efficiency from the installation specifically at low or zero send out operating conditions, unless otherwise agreed in writing by NRW.</p>	Completed

Table S1.4 Pre-operational measures for future development

Reference	Operation	Pre-operational measures
1 - Completed	Re-liquefaction Plant	At least 2 months prior to the commencement of commissioning; the Operator shall provide a written commissioning plan, including timelines for completion, for approval by Natural Resources Wales. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to Natural Resources Wales in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Gas oil	Not exceeding 0.1% w/w sulphur content

Schedule 3 – Emissions and monitoring

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

Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during startup or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A8 – SCV stack 1, 15m, SM 93165 04994	Oxides of nitrogen (NO and NO ₂ expressed asNO ₂)	SCV 1 stack	-	Monthly average	Continuous	As agreed in writing with Natural Resources Wales
A8 A9 – SCV 2 stack, 15m, SM 93155 05000 A10 – SCV 3 stack, 15m, SM 93145 05007 A11 – SCV 4 stack, 15m, SM 93135 05013 A12 – SCV 5 stack, 15m, SM 93126 05019 A13 – SCV 6 stack, 15m, SM 93116 05025	Oxides of nitrogen (NO and NO ₂ expressed asNO ₂)	SCV 1 stack, SCV 2 stack, SCV 3 stack, SCV 4 stack, SCV 5 stack, SCV 6 stack	86 mg/m ³	Quarterly spot samples	-	EN 14792
	Carbon monoxide	SCV 1 stack, SCV 2 stack, SCV 3 stack, SCV 4 stack, SCV 5 stack, SCV 6 stack	130 mg/m ³	Quarterly spot samples	-	EN 15058
A5 – LNG tank 1 relief vent, 45m, SM 93024 04815	Tonnes vented	LNG tank1 relief vent	-	-	-	-
A6 – LNG tank 2 relief vent, 45m, SM 92918 04882	Tonnes vented	LNG tank2 relief vent	-	-	-	-
A7 – natural gas emergency flare, 20m, SM 93193 04772	-	Natural gas emergency flare	-	-	-	-

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

Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during startup or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A14 – standby generator 1, 3.7m, SM 93597 05483	-	Standby generator1	-	-	-	-
A15 A14 – standby generator 2, 3.7m, SM 93628 05463	-	Standby generator2	-	-	-	-

Note 1: Not all A numbers are in use

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

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1(Point at which surface water drainage pipe immediately upstream of the AGI pond leaves the installation boundary (NGR SM 92720 05037) Destination – Milford Haven Waterway via the AGI Pond	No parameter set	Clean uncontaminated rainwater run-off from around the LNG storage tanks	-	-	-	-

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	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
E2(B) as shown on drawing reference 1679-030-COG- GND-170 rev B3	Oil (mg/l)	E2(B) effluent water from the water treatment plant and purgewater from cooling water system	5 mg/l	Spot sample	Quarterly	BS EN ISO 9377-2 or SCA blue book 77 ISBN0117517283
E3 as described in the application Note 1	Oil (mg/l)	E3 Overflow from firewater reservoir	5 mg/l	Spot sample	Monthly	BS EN ISO 9377-2 or SCA blue book 77 ISBN0117517283
E2(B)	Suspended solids (mg/l)	E2(B)	50 mg/l	Spot sample	Quarterly	BS EN 872 or SCA blue book 105 ISBN 011751957X
E3 Note 1	Suspended solids (mg/l)	E3	50 mg/l	Spot sample	Monthly	BS EN 872 or SCA blue book 105 ISBN 011751957X
E2(B)	pH	E2(B)	6 – 9	Spot sample	Quarterly	BS ISO 10523 or SCA blue book 14 ISBN 0117514284
E3 Note 1	pH	E3	6 – 9	Spot sample	Monthly	BS ISO 10523 or SCA blue book 14 ISBN 0117514284
E3 Note 1	Total oxidised nitrogen asN (mg/l)	E3	45 mg/l	Spot sample	Monthly	BS EN ISO 13395 or BS EN 11905-1 or BS EN 12260 or BS ISO 29441 or SCA blue book 40 ISBN 0117515930
E3 Note 1	Flow	E3	m ³ /day	Daily average	Daily	Continuous monitor

Note 1: Discharges from E3 are subject to permit condition 3.1.4 and discharges to installation EPR/BK1341IN.

Table S3.4 Process Monitoring requirements			
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method
Natural gas emergency flare	Tonnage of natural gas sent to flare	Annually	Not applicable

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen	A8	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
Oxides of nitrogen	A8, A9, A10, A11, A12, A13	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October
Carbon monoxide	A8, A9, A10, A11, A12, A13	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October
pH	E2(B), E3	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October
Oil (mg/l)	E2(B), E3	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October
Suspended solids (mg/l)	E2(B), E3	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October
Total oxidised nitrogen (mg/l)	E3	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October
Discharge volume (m ³ /quarter)	E2(B), E3	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October
Gas vented (tonnes)	A5 (LNG tank 1 relief vent), A6 (LNG tank 2 relief vent)	Every 3 months for periodic monitoring	1 January, 1 April, 1 July, 1 October

Table S4.2: Annual production/treatment	
Parameter	Units
Natural gas	GWh

Table S4.3: Performance parameters		
Parameter	Frequency of assessment	Units
Gas flared	Annually	Tonnes

Table S4.4 Reporting forms		
Media/ parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by Natural Resources Wales	08/07/2022
Air	Form air 2 or other form as agreed in writing by Natural Resources Wales	08/07/2022
Water	Form water 1 or other form as agreed in writing by Natural Resources Wales	08/07/2022
Energy	Form Energy 1 or other form as agreed in writing by Natural Resources Wales	08/07/2022
Performance	Form performance 1 or other form as agreed in writing by Natural Resources Wales	08/07/2022

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.

5 Part A

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

(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified Immediately	
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) Notification requirements for the breach of a permit condition	
To be notified immediately	
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.	

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 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.

- 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.

“*monthly average*” means the value across a calendar month of all validated hourly means.

“*CEN*” means Comité Européen de Normalisation.

“*EP Regulations*” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 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.

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

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

“*NRW*” means Natural Resources Wales.

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

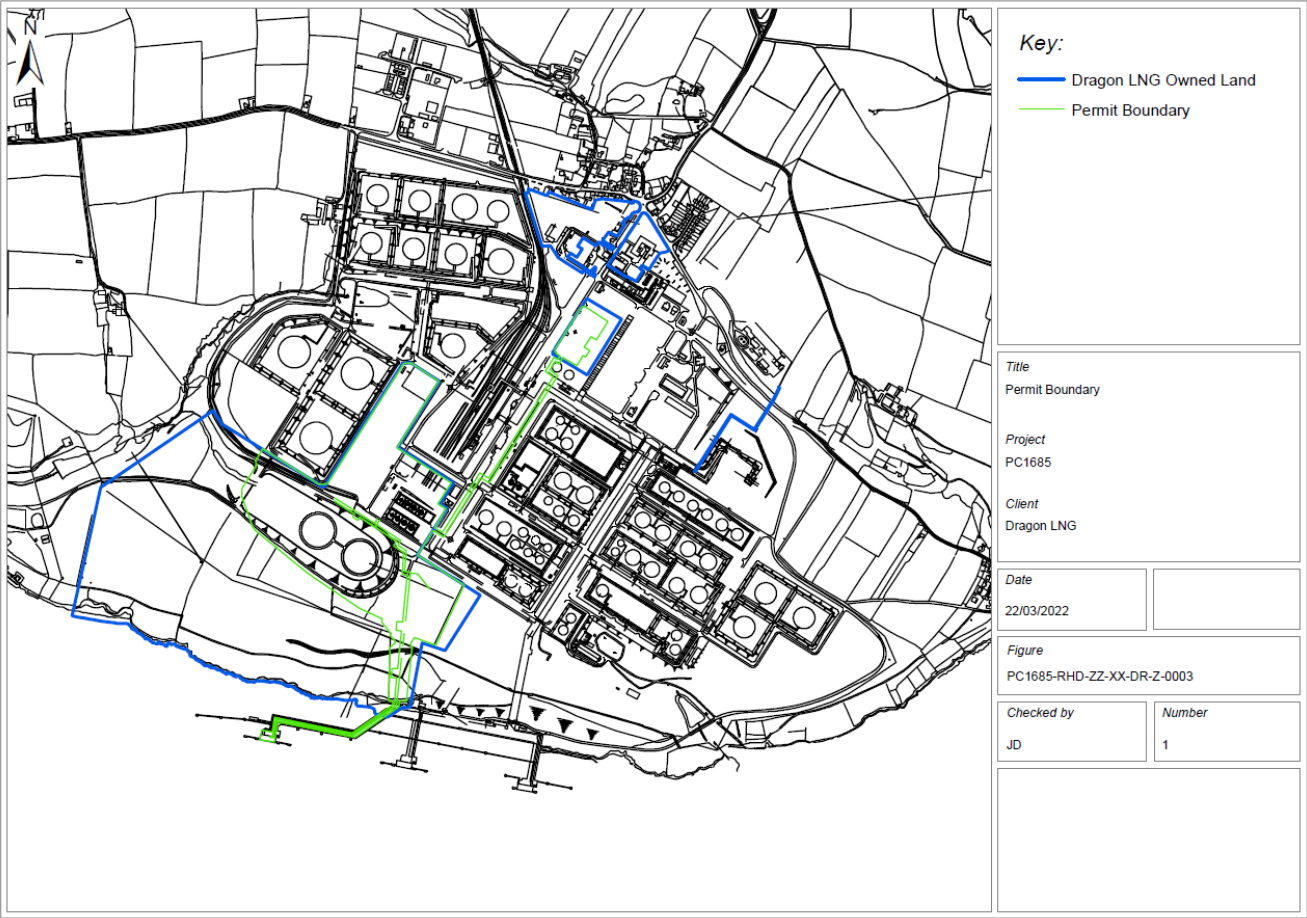
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

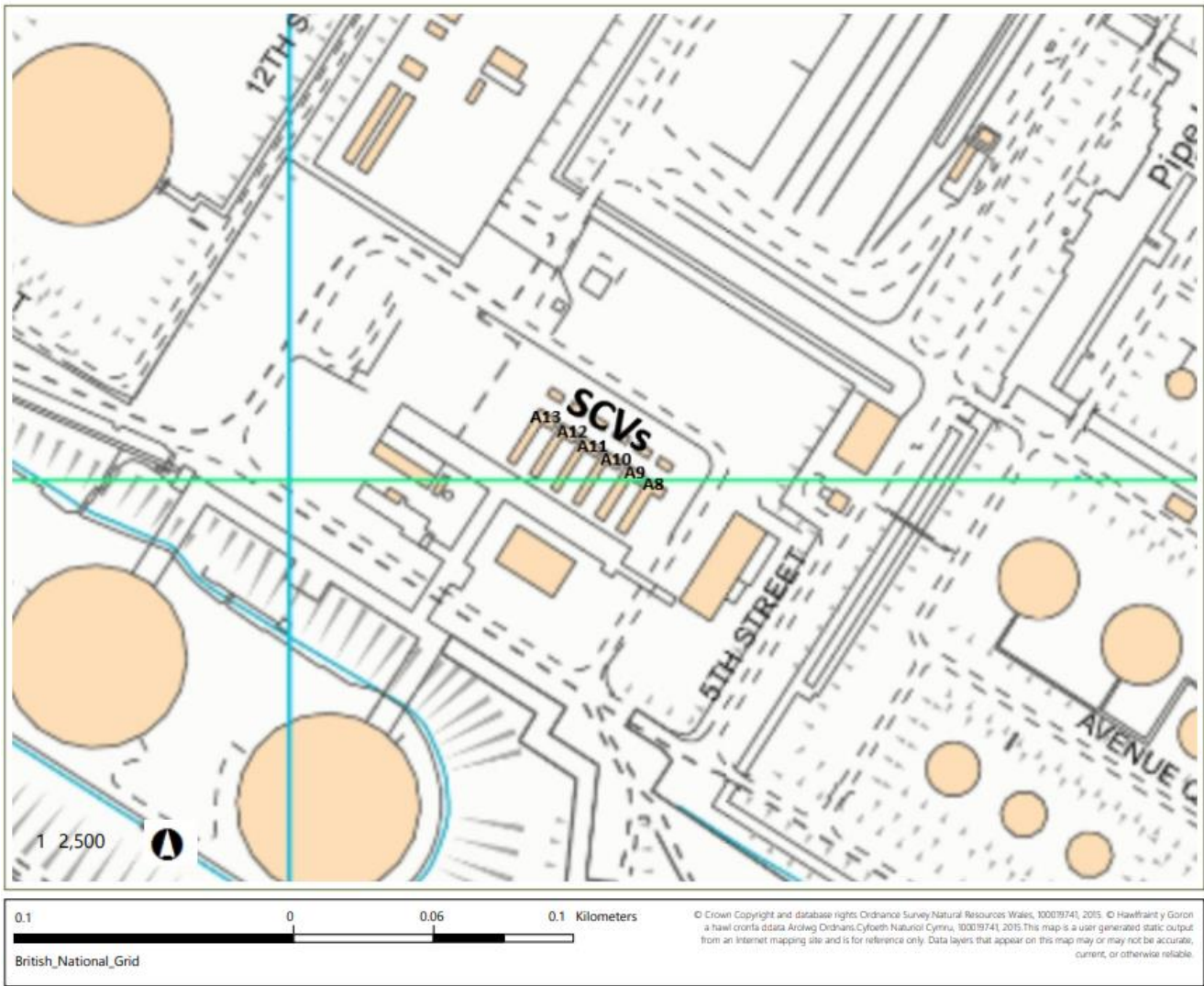
- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels [11%] and/or
- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

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

Schedule 7 – Site plan



Informative layout of air emission points



END OF PERMIT