

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

South Hook LNG Terminal Company LTD.

**South Hook LNG Terminal
Dale Road
Herbrandston
Milford Haven
Pembrokeshire
Wales
SA73 3SU**

Permit number
EPR/XP3538LD

South Hook Liquefied Natural Gas Terminal

Permit number EPR/XP3538LD

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The South Hook Liquefied Natural Gas (LNG) Terminal reheats LNG delivered via ships to produce natural gas using a total of sixteen Submerged Combustion Vapouriser (SCV) combustion units, although the site is permitted to use fifteen at any one time. In this technique, natural gas is burnt and the combustion gases are passed through a volume of water. In the warm water is a heat exchanger filled with LNG entering at one end and vapourised to natural gas at the other. Nitrogen is added to the natural gas before the natural gas enters the National Gas Transmission System. The off gas from each SCV passes out to air through a 24 metre stack. The primary pollutants released from combustion of natural gas are oxides of nitrogen and carbon monoxide. Excess water from the SCVs are collected and neutralised before being discharged into the Haven.

The target average natural gas send out capacity is 650 GWh per day, with peak flow rate of 812 GWh per day. Each combustion unit has an thermal input of 32 MWth (average) and 40 MW (peak flow rate) therefore all sixteen aggregate to above 50 MW thermal input. One of the SCVs added in variation V004 is considered a new Medium Combustion Plant as put into operation after 20 December 2018.

The South Hook LNG Terminal is located near Herbrandston, in Pembrokeshire. The installation is within 2 km of Milford Haven Waterway Site of Special Scientific Interest (SSSI) and within 10 km of Limestone Coast of South West Wales Special Area of Conservation (SAC), Pembrokeshire Marine SAC, West Wales Marine SAC, Castlemartin Coast Special Protection Area (SPA) and Skomer, Skokholm and the Seas of Pembrokeshire SPA.

LNG carriers, ships or other vessels berthed at the LNG Terminal are not considered to be part of the EPR permitted installation.

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

Status log of the permit

| Description | Date | Comments |
|------------------------------------|-----------------------|---|
| Application received BW9816IE | Duly made 17/11/03 | Application for a new liquefied natural gas terminal |
| Additional information received | 16/06/04 | Response to Schedule 4 Notice dated 11/05/04 |
| Permit determined | 16/07/04 | Permit issued to Esso Petroleum |

| | | |
|---|--------------------|---|
| BW9816IE | | Company Limited |
| Application XP3538LD/T001 (Full transfer of permit BW9816IE) | Duly made 27/07/06 | Application to transfer PPC permit |
| Transfer determined | 01/09/06 | Permit transferred from Esso to South Hook LNG Terminal Company Ltd. |
| Variation application XP3538LD/V002 | Duly made 14/09/06 | Variation for a series of changes to the Terminal design after completion of a more detailed engineering design |
| Additional information received | 15/11/07 | Supporting information regarding discharge of nitrates into the Haven |
| Variation determined EPR/XP3538LD/V002 | 16/05/08 | Varied permit issued. |
| Variation application EPR/XP3538LD/V003 (variation and consolidation) | Duly made 12/03/14 | Application to vary and update the permit to modern conditions |
| Variation determined EPR/XP3538LD/V003 | 14/10/15 | Varied and consolidated permit issued in modern condition format |
| Variation application EPR/XP3538LD/V004 (variation and consolidation) | Duly made 15/12/20 | Application to add one new submerged combustion vapouriser (SCV) among other changes to the permit. |
| Variation determined EPR/XP3538LD/V004 | 15/04/21 | Varied and consolidated permit issued to Operator. |

Other Part A installation permits relating to this installation

| Operator | Permit number | Date of issue |
|------------------------|----------------------|---|
| South Hook CHP Limited | EPR/XP3936NS | Issued 21/05/15 Surrendered 23/06/16 |

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/XP3538LD

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/XP3538LD/V004 authorising

South Hook LNG Terminal Company LTD. (“the operator”),

whose registered office is

South Hook LNG Terminal Company Ltd

Dale Road

Herbrandston

Milford Haven

Pembrokeshire

Wales

SA73 3SU

company registration number **04982132**

to operate an installation at

South Hook LNG Terminal

Dale Road

Herbrandston

Milford Haven

Pembrokeshire

SA73 3SU

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

Signed

Date

| | |
|--------------------|-------------------|
| Holly Noble | 14/04/2021 |
|--------------------|-------------------|

Authorised on behalf of Natural Resources Wales

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

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

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

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

1.2 Energy efficiency

1.2.1 The operator shall:

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

1.3 Efficient use of raw materials

1.3.1 The operator shall:

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

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

1.4.1 The operator shall take appropriate measures to ensure that:

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

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

2 Operations

2.1 Permitted activities

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

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.
- (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.3 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
- (b) the composition of the waste;
- (c) the handling requirements of the waste;
- (d) the hazardous property associated with the waste, if applicable; and
- (e) the waste code of the waste.
- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.5 For the following activities referenced in schedule 1, table S1.1 (A2) the activities shall be operated using the techniques and, in the manner, described in schedule 1, table S1.2A

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.
- 2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

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

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

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

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

- 3.4.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2
 - (b) process monitoring specified in table S3.3
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.5 For the following activities referenced in schedule 1, table S1.1 (A2) the first monitoring measurements shall be carried out within four months of the issue date of the permit or the date when the MCP is first put into operation, whichever is later.
- 3.5.6 For the following activities referenced in schedule 1, table S1.1 (A2) monitoring shall not take place during periods of start up or shut down

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.
- 4.1.3 For the following activities reference in schedule 1, table S1.1 (A2) the operator shall maintain a record of the type and quantity of fuel used and the total annual hours of operation for each MCP and/or Specified Generator.
- 4.1.4 For the following activities reference in schedule 1, table S1.1 (A2) the operator shall maintain a record of any events of non-compliance and the measures taken to ensure compliance is restored in the shortest possible time.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production / treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 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 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 |
|------------------------------|---|--|--|
| A1 | S1.1 A(1)(a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more | Reheated liquefied natural gas (LNG) to produce natural gas with fifteen combustion units (aggregate to above 50 MWth) | From receipt of LNG to the transfer of natural gas to the National Gas Transmission system. |
| A2 NGR: SM 87260 06410 | | Schedule 25A Medium Combustion Plant: 1x submerged combustion vapouriser as detailed in Schedule 8. | Includes the sixteen 24 metre stacks and associated devices and systems for controlling combustion conditions and emissions. |
| | | MCPD Identifier: 44-E6901 H | Includes the operation of the waste water treatment plant and the collection and treatment of surface water. |
| | | | A maximum of fifteen combustion units to operate at any one time. |
| Directly Associated Activity | | | |
| A3 | Directly associated activity | Receipt and storage of LNG | From receipt of LNG, including flaring and venting, to dispatch for use |

Table S1.2 Operating techniques

| Description | Parts | Date Received |
|-------------------------------------|---|---------------|
| Application | The response to questions B2.1, B2.2, B2.3, B2.4, B2.5, B2.6, B2.7.1, B2.7.2, B2.7.3, B2.8, B2.9, B2.10, B2.11 and B3.1 given in Sections 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7.0, 2.7.1, 2.7.2, 2.7.3, 2.8, 2.9, 2.10, 2.11 and Part 3 of the application. | 17/11/03 |
| Response to Schedule 4 Notice | The response to questions 4, 6, 7 and 10 | 16/06/04 |
| Variation application XP3538LD/V002 | Parts 2,3,4,5,6,7,8,9 and associated appendices | 14/09/06 |
| Additional information | Correction of application error | 15/07/07 |
| Additional information | Supporting information | 15/11/07 |

Table S1.2 Operating techniques

| Description | Parts | Date Received |
|--|--|---------------|
| Variation application EPR/XP3538LD/V003 | Section 2 – Management of Activities Section 3 – Operations Section 4 – Emissions and Monitoring Section 5.8 – BAT Summary Section 6 – Amendments to and regularisation of current permit EPR Environmental Permit XP3538LD Application Form Part C3 – Section 3 Operating Techniques Table 3 – Technical Standards | 12/03/14 |
| Variation application EPR/XP3538LD/V004 | Document reference: Application to Vary Environmental Permit Reference EPR/XP3538LD – Supporting Information including all appendices | 02/10/20 |
| | Document reference: Application to Vary Environmental Permit Reference EPR/XP3538LD – Post Site Capacity Test Addendum | 15/12/20 |

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

| Description |
|--|
| Each MCP must be operated in accordance with the manufacturer's instructions and records must be made and retained to demonstrate this |
| The operator must keep periods of start-up and shut-down of each MCP as short as possible |
| There must be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993 |

Table S1.3 Improvement programme requirements

| Reference | Requirement | Date |
|-----------|--|------|
| - | Improvement conditions 1.4.1A, 1.4.1B and 1.4.1C have all been completed | - |

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) – these limits do not apply during start up or shut down | Reference period | Monitoring frequency | Monitoring standard or method (unless as otherwise agreed in writing with NRW) |
| A1 – A8 A11 – A17 [Points A1 – A8 and A11 – A17 as detailed on site plan in Schedule 7) | Submerged Combustion Vaporisers | Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂) | 107 mg/m ³ | Daily mean (1 SCV in Phase 1 and 1 SCV in Phase 2 only) | Continuous (1 SCV in Phase 1 and 1 SCV in Phase 2 only) | EN 15267-3 In respect of QAL 1 only BS EN 14181 (1 SCV in Phase 1 and 1 SCV in Phase 2 only) |
| | | | 107 mg/m ³ | One hour sample | Quarterly | BS EN 14792 |
| | | Carbon monoxide | No limit set | Not specified | Quarterly | BS EN 15058 |
| A18 [Point A18 as detailed on site plan in Schedule 7] | Submerged Combustion Vaporiser MCPD Identifier 44-E6901 H | Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂) | 100 mg/Nm ³ | Periodic | Quarterly | BS EN 14792 |
| | | Carbon monoxide | No limit set | Periodic | Quarterly | BS EN 15058 |
| A21 – A24 | Nitrogen plant product nitrogen vents | - | - | - | - | - |
| A28 | Flare (main burners and pilots) | - | - | - | - | - |
| A29 – A32 | Tank 1 relief vents | - | - | - | - | - |
| A33 – A36 | Tank 2 relief vents | - | - | - | - | - |
| A37 – A40 | Tank 3 relief vents | - | - | - | - | - |
| A41 – A44 | Tank 4 relief vents | - | - | - | - | - |

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

| Emission point ref. & location | Source | Parameter | Limit (including unit) – these limits do not apply during start up or shut down | Reference period | Monitoring frequency | Monitoring standard or method (unless as otherwise agreed in writing with NRW) |
|---|--|------------------|--|-----------------------------|---------------------------------|---|
| A45 – A48 | Tank 5 relief vents | - | - | - | - | - |
| A51 – A54 | Nitrogen plant (adsorption system) air purification vents | - | - | - | - | - |
| A63 – A66 | Instrument air dryer vents | - | - | - | - | - |
| A70 – A84 | SCV pressure relief valves | - | - | - | - | - |
| A85 – A99 | SCV Burner Management System Fuel Gas Pilot and Interstage vents | - | - | - | - | - |
| A100 - A114 | SCV Burner Management System Fuel Gas Main Burner vents | - | - | - | - | - |
| A115 - A116 | Essential Emergency Generators A & B | - | - | - | - | - |
| A117 - A118 | Diesel Firewater pumps A & B | - | - | - | - | - |
| A119 | Jetty Firewater pump | - | - | - | - | - |
| A120 –A124 | Nitrogen plant (adsorption system) waste gas vents | - | - | - | - | - |
| A125 –A128 | Nitrogen plant main air compressors vents | - | - | - | - | - |
| A129 –A132 | Nitrogen plant column liquid dump vents | - | - | - | - | - |
| A133 –A134 | Nitrogen plant liquid nitrogen storage vents | - | - | - | - | - |

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

| Emission point ref. & location | Source | Parameter | Limit (including unit) – these limits do not apply during start up or shut down | Reference period | Monitoring frequency | Monitoring standard or method (unless as otherwise agreed in writing with NRW) |
|--|--|------------------|--|-----------------------------|---------------------------------|---|
| A135 –A136 | LNG import analyser – gas chromatograph sample gas vents | - | - | - | - | - |
| A137 –A138 | LNG import analyser – sample pump exhaust vents | - | - | - | - | - |
| A139 | LNG import analyser vacuum educator vent | - | - | - | - | - |
| A140 –A141 | LNG Export analysers - LNG C6+ Chromatograph Analysers – gas chromatograph sample gas vents | - | - | - | - | - |
| A142 –A143 | LNG Export analysers - LNG Sulphur Chromatograph analysers chromatograph- sample gas vents | - | - | - | - | - |
| A144 – A145 | LNG Export analysers – LNG Sulphur Chromatograph analysers chromatograph- Exhaust | - | - | - | - | - |
| A146 [Point A146 as detailed on site plan in Schedule 7] | Combustion emissions from temporary Portable Air Compressor fuelled on diesel – instrument air compressor / drier skid | - | - | - | - | - |

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

| Emission point ref. & location | Source | Parameter | Limit (incl. unit) | Reference Period | Monitoring frequency | Monitoring standard or method |
|---|--|---|-----------------------------|-------------------------------------|----------------------|--|
| W1 on site plan in Schedule 7 (or as agreed with NRW) | Site drainage (surface and ground-water) | pH | 6 – 9 | Maximum | Daily | BS ISO 10523 |
| | | Turbidity | No limit set | Not specified | Daily | BS EN ISO 7027 |
| | | Oil and grease | None visible | Spot sample | Daily | Visual Check |
| | | TOC | No limit set | Spot sample | Weekly | BS EN 1484 |
| | | List 2 metals (copper, zinc and iron only) | No limit set | Maximum | Monthly | APHA 3120B |
| W2 on site plan in Schedule 7 | Process effluents | Flow | 3500 m ³ per day | 24 hour period aligned with gas day | Continuous | Flow meter |
| | | | 164 m ³ per hour | Maximum | | |
| | | pH | 6 – 9 | Daily maximum | Continuous | BS ISO 10523 |
| | | Nitrates as N | 50 mg/L | Spot sample | Daily | APHA 4500-NO3-B |
| | | | 100 kgN/day | Spot sample | | |
| | | | 50 kgN/day annual mean | Annual average | | |
| | | Oil and grease | None visible | Spot sample | Daily | Visual check |
| | | Total Residual Oxidant (As Total Free Chlorine) | 0.1 mg/L | Spot sample | Monthly | Hach DPD Chlorine test kit for Total Free Chlorine |
| | | Biological Oxygen Demand (BOD) | No limit set | Spot sample | Monthly | HMSO BOD5 II |
| | | Temperature | 30 °C | Daily maximum | Continuous | Standard thermocouple |

Table S3.3 Process monitoring requirements

| Emission point reference or source or description of point of measurement | Parameter | Monitoring frequency | Monitoring standard or method | Other specifications |
|--|------------------|-----------------------------|--------------------------------------|-----------------------------|
| Natural gas consumption | MWh | Continuous | Flow meter | - |
| Operating hours – LNG only | Hours | Continuous | - | - |

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 |
|---|--|------------------|-------------------|
| Emissions to air Parameters as required by condition 3.5.1. | A1 – A8 A11 – A18 | Every 12 months | 1 January |
| Emissions to water Parameters as required by condition 3.5.1 | W1, W2 | Every 6 months | 1 January, 1 July |

Table S4.2: Annual production/treatment

| Parameter | Units |
|----------------------|--------|
| Natural gas produced | tonnes |

Table S4.3 Performance parameters

| Parameter | Frequency of assessment | Units |
|--------------|-------------------------|----------------|
| Water usage | Annually | m ³ |
| Energy usage | Annually | MWh |
| Gas usage | Annually | MWh |

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 | 15/04/21 |
| Water | Form water 1 or other form as agreed in writing by Natural Resources Wales | 15/04/21 |
| Water usage | Form water usage 1 or other form as agreed in writing by Natural Resources Wales | 14/10/15 |
| Energy usage | Form energy 1 or other form as agreed in writing by Natural Resources Wales | 14/10/15 |
| Other performance indicators | Form performance 1 or other form as agreed in writing by Natural Resources Wales | 15/04/21 |

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 | |

| | |
|--|--|
| (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.

“calendar monthly mean” means the value across a calendar month of all validated hourly means, aligned to gas days.

“CEN” means Comité Européen de Normalisation

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“day” means a 24 hour period aligned to gas days or as agreed with Natural Resources Wales.

“DLN” means dry, low NO_x burners.

“emissions to land” includes emissions to groundwater.

“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.

“Gas day” is the daily period over which gas transmission operators work as defined by the Capacity Allocation Mechanism (CAM) Network code.

“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.

“ncv” means net calorific value.

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October, aligned to gas days.

“SI” means site inspector

“year” means calendar year ending 31 December, aligned to gas days

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 273 K, 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

- (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.

[illegible]

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Schedule 8 – Annex 1 of MCPD

| | |
|--|---|
| 1. Rated thermal input (MW) of the medium combustion plant. | 40 MWth (peak) 32 MWth (average) |
| 2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant). | Other medium combustion plant |
| 3. Type and share of fuels used according to the fuel categories laid down in Annex II. | Natural gas 100 % |
| 4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018. | Currently not operational, TBC |
| 5. Sector of activity of the medium combustion plant or the facility in which it is applied (NACE code). | D35.21 |
| 6. Expected number of annual operating hours of the medium combustion plant and average load in use. | 8760 32 MWth average load in use |
| 7. Where the option of exemption under Article 6(3) or Article 6(8) is used, a declaration signed by the operator that the medium combustion plant will not be operated more than the number of hours referred to in those paragraphs. | Not applicable |
| 8. Name and registered office of the operator and, in the case of stationary medium combustion plants, the address where the plant is located. | Operator: South Hook LNG Terminal Company LTD Dale Road Herbrandston Milford Haven Pembrokeshire Wales SA73 3SU MCP Address: South Hook LNG Terminal Dale Road Herbrandston Milford Haven Pembrokeshire Wales SA73 3SU |

END OF PERMIT