



# Notice of variation and consolidation with introductory note

## The Environmental Permitting (England & Wales) Regulations 2010

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Perenco UK Limited

Dimlington Gas Terminal  
Dimlington Road  
Easington  
East Yorkshire  
HU12 0SU

### **Variation application number**

EPR/PP3237CR/V003

### **Permit number**

EPR/PP3237CR

# Dimlington Gas Terminal

## Permit number EPR/PP3237CR

### Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2010 (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 that all the conditions of the permit have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made and contains all conditions relevant to this permit.

The requirements of the Industrial Emissions Directive (IED) 2010/75/EU are given force in England through the Environmental Permitting (England and Wales) Regulations 2010 (the EPR) (as amended).

This Permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED), is varied by the Environment Agency to implement the special provisions for LCP given in the IED, by the 1 January 2016 (Article 82(3)). The IED makes 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.

As well as implementing Chapter III of IED, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issued. It also modernises all conditions to reflect the conditions contained in our current generic permit template.

The Operator has chosen to operate this LCP under the ELV compliance route. This is a change from the previous operating regime which was operating under emission limits determined by an assessment of the best available techniques (BAT).

The net thermal input of the LCP is as follows: LCP 427 consists of one 80.3 MWth OCGT1 and LCP 459 consists of one 80.3 MWth OCGT2.

The variation notice uses updated LCP numbers in accordance with the most recent DEFRA LCP reference numbers. The LCP references are as follows:

- LCP 427
- LCP 459

An improvement condition (IC10), has been included, requiring the Operator to provide a report which demonstrates if there are any impacts associated with the carbon monoxide limit between MSUL/MSDL and 70% baseload.

The rest of the installation is unchanged and continues to be operated as follows:

The installation comprises two gas terminals, with interconnecting pipelines, located in a rural area near to the village of Easington on the East coast of Yorkshire, just north of Spurn Point. Operations at the two sites are integrated and controlled from the northern terminal (Dimlington), and hence are covered by one permit. Both terminals receive North Sea natural gas to export to the National Transmission System (NTS) and operate 24 hours per day, 365 days per year. The processes involve the physical separation and dehydration of the natural gas, which in its raw state, contains water vapour and light hydrocarbon oils (condensate). There are two other gas terminals nearby.

The Easington terminal was constructed on a greenfield site in the early 1970s and receives partially dried gas via two subsea pipelines (16" and 24") from the West Sole gas fields. Each pipeline is terminated with a sphere receiver. The 16" and 24" pipelines connect into 450 mm diameter pipelines that run between the Easington and Dimlington terminals.

The Dimlington terminal was constructed on a greenfield site in 1989. It processes gas from the West Sole gas fields received via the Easington terminal, the North Sea Villages gas fields, and the Amethyst gas fields.

The Amethyst gas is received via a 30" subsea pipeline which is terminated with a sphere receiver located on an adjacent terminal operated by Centrica Storage Limited (Environmental Permit EPR/AP3833LW).

The processing undertaken comprises gas dew-point reduction and stabilisation of condensate. Dew-point reduction and dehydration is achieved by trains using refrigeration (utilising R-134a) and methanol, and silica gel based trains. Electric heaters are used for regeneration of methanol at the MDU and silica gel systems and for heating Dimlington export gas in winter.

A thermal oxidation unit is used to abate volatile organic carbon emissions from the methanol regeneration plant. Following processing, the Dimlington gas is metered before export to the NTS.

Condensate is stabilised by heating and off-gases are recovered for return to the process and use as a fuel gas. Stabilised condensate is metered and sent to Saltend. There are condensate storage tanks at Dimlington.

There are a number of ancillary systems, including process monitoring and control, compressed air, nitrogen, fuel gas (Dimlington only), fire water and electricity. There are separate drainage systems at each site for clean water and oily or contaminated water. Each terminal has a flare which is used infrequently for depressurisation prior to planned maintenance. There are also vents used to depressurise sections of plant for maintenance or in the event of an emergency.

Releases to air are combustion products (oxides of nitrogen (NO<sub>x</sub>) carbon dioxide (CO<sub>2</sub>) and carbon monoxide (CO)), predominantly from the compressors, and unburnt hydrocarbons (methane with trace volatile organic compounds (VOCs)). There are some fugitive releases of R-134a refrigerant and hydrocarbons. There are no effluent discharges to water or sewer. Each site intermittently discharges uncontaminated surface water run-off into local drainage ditches, which flow to the River Humber.

Waste materials include produced water (the largest stream), waste-water and wastes arising from maintenance activities, such as oils and scrap metals. Dimlington process waste-water is tankered off site for recovery and used in waste-to-energy. Easington waste-water is tankered off site and treated in a sewage treatment plant. Excluding produced water, 82% of waste is recycled or recovered.

The terminals have an environmental management system which is certified to ISO14001 standards. The Dimlington terminal is a Top Tier COMAH site (Control of Major Accident Hazards).

There is a Site of Special Scientific Interest (SSSI) (Dimlington Cliff) within two kilometres of the site and a Natura site (the Humber Estuary) within ten kilometres. An impact assessment has been carried out, and none of the interest features of the sites are adversely affected by the installation.

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 QP3133LR	Duly made 28/08/06	
Additional information received	29/03/07	
Permit determined QP3133LR	27/06/07	
Variation application EPR/QP3133LR/V002	Duly made 17/03/08	Installation of two RB211 turbine driven compressors.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Variation determined EPR/QP3133LR	28/03/08	
Transfer application EPR/PP3237CR/T001	Duly made 23/07/12	Application to transfer the permit in full from BP Exploration Operating Company Limited to Perenco UK Limited. (Full transfer of permit EPR/QP3133LR).
Transfer determined EPR/PP3237CR	08/08/12	Full transfer of permit. Effective date for transfer is 01/11/12.
Variation application EPR/PP3237CR/V002	Duly made 15/12/14	Application to vary the permit for the replacement of the Freon R-22 refrigeration system; and update the permit to modern conditions.
Variation determined EPR/PP3237CR	30/01/15	Varied and consolidated permit issued in modern condition format.
Regulation 60 Notice sent to the Operator	31/10/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency 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	01/04/15	Response received from the Operator.
Additional information received	03/06/15	Response to request for further information (RFI) dated 15/05/15.
Variation determined EPR/PP3237CR/V003 (PAS Billing ref: HP3334AU)	21/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/16.

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

### Permit number

**EPR/PP3237CR**

### Issued to

**Perenco UK Limited** (“the operator”)

whose registered office is

**Anchor House  
15 - 19 Britten Street  
London  
SW3 3TY**

company registration number 04653066

to operate a regulated facility at

**Dimlington Gas Terminal  
Dimlington Road  
Easington  
East Yorkshire  
HU12 0SU**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

<b>Name</b>	<b>Date</b>
<b>Tom Swift</b>	<b>21/12/2015</b>

Authorised on behalf of the Environment Agency

## **Schedule 1**

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2010

### Permit number

**EPR/PP3237CR**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/PP3237CR/V003 authorising,

**Perenco UK Limited** (“the operator”),

whose registered office is

**Anchor House  
15 - 19 Britten Street  
London  
SW3 3TY**

company registration number 04653066

to operate an installation/part of an installation at

**Dimlington Gas Terminal  
Dimlington Road  
Easington  
East Yorkshire  
HU12 0SU**

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

Name	Date
Tom Swift	21/12/2015

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;
- (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 For the following activities referenced in schedule 1, table S1.1: LCP 427 and LCP 459. Without prejudice to condition 2.3.1, the activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” revision 1 dated February 2015 or any later version unless otherwise agreed in writing by the Environment Agency.

2.3.3 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.

2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.5 For the following activities referenced in schedule 1, table S1.1: LCP 427 and LCP 459. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4.

2.3.6 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.

2.3.7 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.

## **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 Where a substance is specified in schedule 3 tables S3.2 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 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;
  - (b) 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.

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 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.

## **3.6 Monitoring for the purposes of the Industrial Emissions Directive Chapter III**

3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.

3.6.2 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.

3.6.3 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.

## **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 resource efficiency metrics 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 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 (a)(i), 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit, or 4.3.1 (d) where the information relates to malfunction or breakdown of abatement equipment, 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:
- (c) any change in the operator's name or address; and
  - (d) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (e) the death of any of the named operators (where the operator consists of more than one named individual);
  - (f) any change in the operator's name(s) or address(es); and
  - (g) 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.
- 4.3.8 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

## **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

<b>Table S1.1 activities</b>		
<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
Section 1.2 A(1) (a): Refining gas where this is likely to involve the use of 1,000 or more tonnes of gas in any 12 month period.	Refining natural gas from the West Sole gas fields, Amethyst gas fields and North Sea Villages complex.	From receipt of natural gas fluids and raw materials to dispatch of treated gas, condensate and wastes.
Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP 427 (80.3 MWth): Open cycle gas turbine 1 (OCGT) for the purpose of compressing natural gas.  LCP 459 (80.3 MWth): OCGT2 for the purpose of compressing natural gas.  Five < 3 MWth heaters each.	From receipt of fuels and raw materials to release of combustion products to air, dispatch of products and wastes.
<b>Directly Associated Activity</b>		
Directly associated activity	Condensate treatment and storage – storage and stabilisation of raw condensate.	From storage of raw condensate to storage and dispatch of stabilised condensate.
Directly associated activity	Utility and service systems - utility systems including process monitoring and control, compressed air, nitrogen, fuel gas, fire water and electricity, including back-up supply.	Utilities and services systems within the Installation boundary.
Directly associated activity	Drainage systems - surface water, oily water and process drainage systems.	Handling and storage of site drainage and effluent until discharge off site.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application QP3133LR	The response to sections 2.1 and 2.2 which are given in sections 3.1 – 4.6 inclusive of the Application.	28/08/06
Response to request for further information, dated 06/03/07	Response to questions 1 – 5, relating to section 4.1 of the Application; emissions to air.	29/03/07
Variation application EPR/QP3133LR/V002	All.	17/03/08

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Variation application EPR/QP3133LR/V002	The response to question 3 Operating techniques, given in Part C3 of the variation application form. Includes Table 3a – Technical Standards.  Application Supporting Information (Document Dim-FRP-VAR-001). BAT Assessment Report (Ref: 7600-0180-075-03-003-001 REV 0).	15/12/14
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance route and operating techniques identified in response to questions 2 (compliance route), 4 (type of combustion unit), 5 (thermal input), 6 (minimum start up load and minimum shut down load), 9 (proposed ELVs and BAT), and 11 (monitoring requirements).	01/04/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 15/05/15	Responses to questions 1 (the method which the net rated thermal input of each LCP was derived), 2 (details of how the MSUL and MSDL were derived), 3.1 (confirmation of the correct MSUL and MSDL output), 3.2 (details of how the ELVs were derived), 3.3 (a CO ELV between 70% and 80% load) and 4 (details of the SO <sub>x</sub> and dust monitoring).	03/06/15

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	A written Site Closure Plan shall be prepared in accordance with Section 2.11 of TGN S1.02. Upon completion of the Plan, a summary of the document shall be submitted in writing to the Agency. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan summary.	Complete
IC2	An energy efficiency plan shall be submitted to the Agency, detailing the energy management techniques relevant to the installation. The plan shall be produced in accordance with TGN IPPC H2 on Energy Efficiency. Where appropriate the plan shall contain dates for the implementation of individual measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.  The plan shall be implemented by the operator from the date of approval in writing by the Agency.	Complete
IC3	A written report shall be submitted to the Environment Agency detailing the results of a study into the treatment of produced water and other effluent onsite, and its disposal by a sea outfall up to twelve miles offshore to replace disposal by tankering offsite. The report shall take into account BAT and include dispersion modelling to assess the potential impact of the discharge on the marine environment. Where appropriate, the report shall contain dates for the implementation of measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report. The measures shall be implemented by the operator from the date of approval by the Agency.	Complete

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC4	<p>A written plan shall be submitted to the Agency for approval detailing the results of a survey of hard-standing, kerbing, below-ground drainage and secondary containment for raw material, intermediate, product and waste storage areas and the measures to comply with the requirements of section 2.2.5 of TGN S 1.02. Where appropriate the plan shall contain dates for the implementation of individual measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Agency.</p>	Complete
IC5	<p>A written plan shall be submitted to the Agency for approval detailing the outcome of a review of options for reduction of NOx emissions. The review shall take consideration of current BAT. The plan shall contain dates for implementation of measures to reduce NOx emissions. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Agency.</p>	Complete
IC6	<p>A written plan shall be submitted to the Agency for approval detailing the results of an options review and front end engineering design evaluation for replacement of HCFC-R22 (Freon) in the Hydrocarbon Dewpoint Reduction Units by 2010. The review shall take account of BAT as given in SGN IPPC S1.02. Where appropriate the plan shall contain dates for the implementation of measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Agency.</p>	Complete
IC7	<p>The Operator shall submit in writing to the Agency for approval, details of the method for the determination of particulate matter and sulphur dioxide released from emission points A22 and A23 including details of the verification of the suitability of such a method. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p>	Complete
IC8	<p>The Operator shall submit a written report to the Environment Agency on the commissioning of the R-134a based refrigeration plant. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the plant against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions.</p>	Within 4 months of the completion of commissioning of the R-134a based system
IC9	<p>The Operator shall undertake a noise assessment in accordance with the procedures given in BS4142: 2014 (Rating industrial noise affecting mixed residential and industrial areas) and BS7445: 2003 (Description and measurement of environmental noise) or other methodology as agreed with the Environment Agency. Any noise source(s) identified as exhibiting tonal contributions shall be quantified by means of frequency analysis. Noise measurements shall be undertaken by an experienced and suitably qualified person.</p> <p>A written report shall be submitted to the Environment Agency detailing a comparison of the results against the predicted noise emissions.</p> <p>Should the report indicate that noise complaints are likely, a report shall be submitted detailing investigations and measures to be implemented to reduce noise emissions to a level not likely to generate complaints.</p>	Within 6 months of the completion of commissioning of the R-134a based system



<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC10	The Operator shall undertake an assessment of the impacts of carbon monoxide emissions, at 670 mg/m <sup>3</sup> , including the possible impacts of formaldehyde, in line with our H1 guidance or equivalent methodology. A written report detailing the assessment of the impacts at this limit should be submitted to the Environment Agency.	01/07/2016
IC11	For LCP 427 and LCP 459 under IED. Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LPCD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.	28/01/2016

<b>Table S1.4 Start-up and Shut-down thresholds</b>		
<b>Emission Point and Unit Reference</b>	<b>“Minimum Start-Up Load” Load in MW and as percent of rated power output (%)</b>	<b>“Minimum Shut-Down Load” Load in MW and as percent of rated power output (%)</b>
A22 LCP 427 OCGT1 Unit A	14 MW N3 shaft output (43.75% of rated power output)	14 MW N3 shaft output (43.75% of rated power output)
A23 LCP 459 OCGT2 Unit B	14 MW N3 shaft output (43.75% of rated power output)	14 MW N3 shaft output (43.75% of rated power output)

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

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
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## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air						
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
A4 [Ref EA10a in Application QP3133LR]	Easington emergency site vent	No parameter set	No limit set	-	-	Permanent sampling access not required
A6 [Ref EA14a in Application QP3133LR]	Easington sphere receiver vent – 24" line	No parameter set	No limit set	-	-	Permanent sampling access not required
A7 [Ref EA14b in Application QP3133LR]	Easington sphere receiver vent – 16" line	No parameter set	No limit set	-	-	Permanent sampling access not required
A9 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	Silica gel regeneration heater	No parameter set	No limit set	-	-	Permanent sampling access not required
A10, A11 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	Sales gas heater 1 burners A, B	No parameter set	No limit set	-	-	Permanent sampling access not required
A12, A13 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	Sales gas heater 2 burners A, B	No parameter set	No limit set	-	-	Permanent sampling access not required
A14, A15 [Ref DA7 & DA8 in Application QP3133LR] Note 4	Glycol re-boilers A & B	No parameter set	No limit set	-	-	Permanent sampling access not required
A16 [Dimlington Emission Points	Thermax unit (vapours from MDU	Benzene	1 mg/m <sup>3</sup>	Hourly mean	Annually	Agreed in writing with the Environment

Table S3.1 Point source emissions to air						
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
plan provided with EPR/PP3237CR/V002]	and methanol storage tanks)	Methanol	2 mg/m <sup>3</sup>			Agency
A17 [Ref DA10 in Application QP3133LR] Note 4	Glycol re-boiler vent Note 5	No parameter set	No limit set	-	-	Permanent sampling access not required
A18 [Ref DA11 in Application QP3133LR] Note 4	Glycol re-boiler vent Note 5	No parameter set	No limit set	-	-	Permanent sampling access not required
A19 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	Emergency site vent	No parameter set	No limit set	-	-	Permanent sampling access not required
A20 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	Dimlington sphere receiver vent	No parameter set	No limit set	-	-	Permanent sampling access not required
A21 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	Dimlington flare	No parameter set	No limit set	-	-	Permanent sampling access not required
A22, A23 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	LCP 427 and LCP 459 RB211 gas turbine compressor, Unit A and Unit B, fired on natural gas	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	60 mg/m <sup>3</sup> 70% to base load Note 2  60 mg/m <sup>3</sup> MSUL/MSDL to base load Note 3	Average over sampling period	At least every 6 months	BS EN 14792

Table S3.1 Point source emissions to air						
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
		Carbon monoxide	110 mg/m <sup>3</sup> 70% to base load <sup>Note 2</sup>  670 mg/m <sup>3</sup> MSUL/MSDL to base load <sup>Note 3</sup>			BS EN 15058
A22, A23 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	LCP 427 and LCP 459 RB211 gas turbine compressor, Unit A and Unit B, fired on natural gas	Sulphur dioxide	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A22, A23 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002]	LCP 427 and LCP 459 RB211 gas turbine compressor, Unit A and Unit B, fired on natural gas	Oxygen	-	-	Periodic as appropriate to reference	BS EN 14789
		Water vapour			Periodic as appropriate to reference	BS EN 14790
		As required by the Method Implementation Document for BS EN 15259			Pre – operation and when there is a significant operational change	BS EN 15259
A24 [Dimlington Emission Points plan provided with EPR/PP3237C/V002]	MDU vent	No parameter set	No limit set	-	-	Note 1

<b>Table S3.1 Point source emissions to air</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
<p>Note 1: MDU vent shall only be used when the Thermox is unavailable due to breakdown/maintenance, and for a maximum period of 48 hours per year. The Environment Agency shall be notified of any venting likely to exceed 24 hours with a plan for reinstatement of the MDU.</p> <p>Note 2: This ELV applies where the load is &gt;70% for the duration of the sampling period.</p> <p>Note 3: This limit applies where the load varies between MSUL/MSDL and base load during the sampling period. MSUL and MSDL are defined in table S1.4.</p> <p>Note 4: Emission points shall be decommissioned when the R-134a based system is operational.</p> <p>Note 5: Glycol re-boiler vents shall only be used when the Thermox is unavailable due to breakdown / maintenance, and for a maximum period of 12 hours per use and with only two uses per 12 month period.</p>						

<b>Table S3.2 Point Source emissions to water (other than sewer) – 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>
W1 [Ref EW1 in Application QP3133LR] emission to River Humber via land drainage ditch	Uncontaminated surface runoff via Firewater pond	No parameter	No limit set	-	-	Permanent sampling access not required
W2 [Dimlington Emission Points plan provided with EPR/PP3237CR/V002] emission to River Humber via land drainage ditch	Uncontaminated surface runoff via Firewater pond	No parameter	No limit set	-	-	Permanent sampling access not required

## 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>
Benzene	A16	Every 12 months	1 January
Methanol	A16	Every 12 months	1 January
Oxides of nitrogen	A22, A23	Every 6 months for periodic monitoring	1 January, 1 July
Carbon monoxide	A22, A23	Every 6 months for periodic monitoring	1 January, 1 July
Sulphur dioxide	A22, A23	Every 6 months for periodic monitoring	1 January, 1 July
Dust	A22, A23	Every 6 months for periodic monitoring	1 January, 1 July

<b>Table S4.2: Resource Efficiency Metrics</b>	
<b>Parameter</b>	<b>Units</b>
Electricity Exported	GWhr
Heat Exported	GWhr
Mechanical Power Provided	GWhr
Fossil Fuel Energy Consumption	GWhr
Non-Fossil Fuel Energy Consumption	GWhr
Annual Operating Hours	hr
Water Abstracted from Fresh Water Source	m <sup>3</sup>
Water Abstracted from Borehole Source	m <sup>3</sup>
Water Abstracted from Estuarine Water Source	m <sup>3</sup>
Water Abstracted from Sea Water Source	m <sup>3</sup>
Water Abstracted from Mains Water Source	m <sup>3</sup>
Gross Total Water Used	m <sup>3</sup>
Net Water Used	m <sup>3</sup>
Hazardous Waste Transferred for Disposal at another installation	t
Hazardous Waste Transferred for Recovery at another installation	t
Non-Hazardous Waste Transferred for Disposal at another installation	t
Non-Hazardous Waste Transferred for Recovery at another installation	t
Waste recovered to Quality Protocol Specification and transferred off-site	t
Waste transferred directly off-site for use under an exemption / position statement	t

<b>Table S4.3 Chapter III Performance parameters for reporting to DEFRA and other Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	TJ
Total Emissions to Air of NO <sub>x</sub> for each LCP	Annually	t
Total Emissions to Air of SO <sub>2</sub> for each LCP	Annually	t
Total Emissions to Air of dust for each LCP	Annually	t
Operating Hours for each LCP (load factor)	Annually	hr
Unburned hydrocarbons lost as % of gas exported	Annually	%
Thermox availability	Annually	%
Primary carbon dioxide production	Annually	Tonnes/million m <sup>3</sup> gas exported
Benzene and methanol emissions	Annually	kg
Energy consumption	Annually	MWh/million m <sup>3</sup> gas exported

<b>Table S4.4 Reporting forms</b>				
<b>Media/ parameter</b>	<b>Reporting format</b>	<b>Starting Point</b>	<b>Agency recipient</b>	<b>Date of form</b>
LCP	Form IED HR1 – operating hours	01/01/16	National	31/12/15
Air & energy	Form IED AR1 – SO <sub>2</sub> , NO <sub>x</sub> and dust mass emission and energy	01/01/16	National	31/12/15
Air	Form IED PM1 - discontinuous monitoring and load	01/01/16	Area Office	31/12/15
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	2015	Area Office	2015
Resource efficiency	Form REM1– resource efficiency annual report	01/01/16	National	31/12/15



# 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	
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

<b>(c) 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.	

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

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

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

“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.

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

for emissions to surface water, the surface water quality up-gradient of the site; or

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

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

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

“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.

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

“DLN” means dry, low NO<sub>x</sub> burners.

“Energy efficiency” the annual net plant energy efficiency means the value calculated from the operational data collected over the year.

“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 or background concentration 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.

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

“low polluting fuels” means biomass or coal with an average as-received sulphur content of less than 0.4% by mass as described in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

“MCR” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

“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.

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 gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous 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.

“year” means calendar year ending 31 December.

# Schedule 7 – Site plan

Subject to National Security.

END OF PERMIT