

# Notice of variation and consolidation with introductory note

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

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National Grid Gas Plc

Wisbech Compressor Station  
Catlings Lane  
Tydd St Giles  
Wisbech  
Cambridgeshire  
PE13 5PH

**Variation application number**

EPR/UP3538LW/V005

**Permit number**

EPR/UP3538LW

# Wisbech Compressor Station

## Permit number EPR/UP3538LW

### 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.

This variation notice combines two variations as follows:

- EPR/UP3538LW/V004 (Environment Agency Initiated Variation)

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. Due to the additional variation described below, these changes only apply to Unit A., LCP 226.

- EPR/UP3538LW/V005 (application made by the operator)

This variation, applied for by the operator, is for the replacement of the Maxi Avon 1534 >50MW (unit B, LCP 227) by an Avon 1533 with a net rated thermal input of 45MWth. As a result of the change unit B is no longer an LCP under Chapter III of the IED.

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

- LCP 226, Unit A, is changed to LCP 243; and
- LCP 227, Unit B, would be changed to LCP 244 but as a result of the variation this unit is no longer classed as an LCP.

The net rated thermal inputs of the units are as follows: LCP 243, one 59.7MWth open cycle gas turbine (OCGT); and unit B, one 45MWth OCGT.

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).

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.

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 LCP 243 under the 500 hour emergency operation. This is a change from the previous operating regime which was operation under emission limits determined by an assessment of the best available techniques (BAT).

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

National Grid Gas PLC is responsible for the safe and efficient delivery of natural gas from the coastal reception terminals to the point of use. It operates 24 compressor stations as part of the National Transmission System (NTS). This is a network of high pressure, buried pipelines over 6,900 km in length that enables natural gas from the terminals to be transported to consumers across the country. Within this system, compressor stations are used to compress the gas being transported to maintain safe system operating pressures. Natural gas is received at the station isolation valves from the NTS pipework at a

pressure between 40 and 70 barg and passes through a separation unit where any entrained liquid and solid particles are removed.

The Wisbech Compressor Station operates 2 gas turbine compression units comprising of an industrial hot gas generator, power turbine and centrifugal compressor. The 2 compression units have a combined thermal input of approximately 105 MWth. Unit A, LCP 243 is subject to Chapter III of IED. Unit B has been replaced as part of this variation and is now <50MW therefore no longer subject to Chapter III of IED. There is one backup generator at the site (2.5MW) which uses natural gas.

This backup generator is used to supply electrical power to the site in the event of mains failure. The main process emissions from the installation are oxides of nitrogen (NO<sub>x</sub>) and carbon monoxide (CO) to air. Uncontaminated surface waters are discharged to public surface water system. There are no discharges to sewer from the installation.

National Grid Gas operates an Environmental Management System which is certified to ISO14001. There is no Climate Change Levy Agreement for the installation. The nearest residential area is approximately 550 m west of the site. There are no habitat sites within 10 km of 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 UP3538LW	Duly made 29/03/06	
Additional information received	10/08/06	
Additional information received	25/09/06	
Additional information received	09/11/06	
Additional information received	21/11/06	
Permit determined UP3538LW	22/12/06	Permit issued to National Grid Gas PLC
Variation determined EPR/UP3538LW/V002	29/03/10	(Administrative variation issued)
Variation determined EPR/UP3538LW/V003	13/04/10	
Regulation 60 Notice sent to the Operator (EPR/UP3538LW/V004)	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.  (NOTE: EPR/UP3538LW/V004 – this variation is combined and issued in one variation notice with EPR/UP3538LW/V005).
Regulation 60 Notice response (EPR/UP3538LW/V004)	26/03/15	Response received from the Operator.
Additional information received (EPR/UP3538LW/V004)	03/08/15	Response to request for further information (RFI) dated 14/07/15.
Application EPR/UP3538LW/V005 (variation)	Duly made 05/11/15	Application received to replace Unit B (Maxi Avon 1534 >50MW) by an Avon 1533 <50MW unit.
Additional information received	16/11/15	Response to email dated 16/11/15 confirming the correct unit reference details.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Additional information received	10/12/15	Confirmation of compliance route for LCP 243 (<500hr).
Variation determined EPR/UP3538LW/V005 (PAS Billing ref: ZP3038RA)	23/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016. (NOTE: Combines Environment Agency Initiated Variation EPR/UP3538LW/V004 and variation application EPR/UP3538LW/V005).

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/UP3538LW**

### Issued to

**National Grid Gas Plc** ("the operator")

whose registered office is

**1-3 Strand  
London  
WC2N 5EH**

company registration number 02006000

to operate a regulated facility at

**Wisbech Compressor Station  
Catlings Lane  
Tydd St Giles  
Wisbech  
Cambridgeshire  
PE13 5PH**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

<b>Name</b>	<b>Date</b>
<b>Claire Roberts</b>	<b>23/12/2015</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 (EPR/UP3538LW/V004) and an application by the operator (EPR/UP3538LW/V005).

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

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

### Permit number

**EPR/UP3538LW**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/UP3538LW/V005 authorising,

**National Grid Gas Plc** (“the operator”)

whose registered office is

**1-3 Strand  
London  
WC2N 5EH**

company registration number 02006000

to operate an installation at

**Wisbech Compressor Station  
Catlings Lane  
Tydd St Giles  
Wisbech  
Cambridgeshire  
PE13 5PH**

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

<b>Name</b>	<b>Date</b>
<b>Claire Roberts</b>	<b>23/12/2015</b>

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

### 1.3 Efficient use of raw materials

1.3.1 The operator shall:

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

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

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities;
- (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 activity referenced in schedule 1, table S1.1: LCP 243. 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 The turbine units Cab A and Cab B shall not be operated unless one or more of the following criteria are met:
- (a) the total period of operation has not exceeded in any calendar year that number of hours in aggregate specified in the annual review of operating hours detailed in the revised Network Review in condition 2.3.5 that has been agreed in writing with the Agency in each year and
  - (b) when the gas turbine systems require routine maintenance or functional testing; or,
  - (c) when such operation is required to meet the gas flow or pressure increase requirements for the installation; or,
  - (d) when such use has been agreed in writing with the Agency at least 14 days in advance.
- 2.3.5 The Operator shall, by the 30 April each year, undertake a comprehensive review of the Network Review (including predicted and actual operating hours on a station by station basis). The extent and conclusions of each annual review shall be agreed in writing with to the Agency prior to 1 July each year.
- 2.3.6 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.7 For the following activity referenced in schedule 1, table S1.1: LCP 243. The activities shall not operate for more than 500 hours per year.

- 2.3.8 For the following activity referenced in schedule 1, table S1.1: LCP 243. 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.
- 2.3.9 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.
- 2.3.10 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 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; and
- (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 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 the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:
- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
  - (b) implement the approved proposals.
- 3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.
- 3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.
- 3.6.5 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.
- 3.6.6 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.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1; the Continuous Emission Monitors shall be used such that:
- (a) for the continuous measurement systems fitted to the LCP release points defined in Table S3.1 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;
  - (b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;
  - (c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;
  - (d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;
  - (e) an invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing; and
  - (f) any day, in which more than three hourly average values are invalid shall be invalidated.

## 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; and
- (d) where condition 2.3.7 applies the hours of operation in any year.

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) or 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where 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.

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 reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
A1	Section 1.1A(1)(a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP 243 (Unit A): 59.7 MWth Open cycle gas turbine (OCGT) for the purpose of compressing natural gas.  Unit B: 45 MWth OCGT for the purpose of compressing natural gas.  2.5 MWth standby generator using natural gas.	From receipt of raw materials to despatch of products and waste.
<b>Directly Associated Activity</b>			
A2	Directly associated activity	Water bath heater using natural gas.	From receipt of raw materials to despatch of products and waste.
A3	Directly associated activity	Oil storage	From receipt of raw materials to dispatch for use.
A4	Directly associated activity	Surface water drainage	Handling and storage of site drainage until discharge to the site surface water system.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application	The response to section 2.1 and 2.2 in the Application.	29/03/06
Application	The response to section B2.10 and Appendix 7 in the Application.	29/06/06
Response to regulation 60(1) Notice – request for information dated 31/10/14 (EPR/UP3538LW/V004)	Compliance route and operating techniques for unit A identified in response to questions 2 (compliance route), 4 (type of combustion unit) and 9 (monitoring).  Operating techniques for unit B identified in response to questions 4 (type of combustion unit) and 9 (monitoring).  Excluding compliance route LLD for LCP 243 and related operating techniques.	Received 26/03/15



<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 14/07/15 (EPR/UP3538LW/V004)	Compliance routes and operating techniques for Unit A identified in response to questions 5 (thermal input), 6 (Minimum start up load and minimum shut down load) and 7 (ELVs). Operating techniques for Unit B identified in response to question 7 (ELVs). Excluding compliance route LLD for LCP 243 and related operating techniques	Received 03/08/15
Application EPR/UP3538LW/V005	Section 3 of supporting information – justification for the thermal input of the replacement engine Unit B being <50MWth and therefore not subject to LCP. Confirmation that ELVs remain as per the Reg 60 RFI response.	26/11/15 (duly made 05/11/15)
Receipt of additional information to the regulation 60(1) Notice. (EPR/UP3538LW/V004)	Confirmation of the compliance route chosen for LCP 243 (<500hr).	Received 10/12/15

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	The Operator shall submit in writing details of the method for the determination of particulate matter and sulphur dioxide from emission point A1 and A2 including details of the verification of the suitability of such a method.	Complete
IC2	The Operator shall review measures to improve the storage and bunding of the waste oil and diesel store such that any spillage is contained and may be fully recovered. A summary of the review shall be sent to the Agency in writing together with a timetable to implement any necessary changes identified. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the summary. The changes identified shall be implemented by the operator from the date of approval by the Agency.	Complete
IC3	The Operator shall update the documented system of environmental management for the installation with a procedure for the monitoring and management of noise emissions. Upon completion of the procedure a summary of the document shall be submitted to the Agency in writing. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure. The procedure shall be implemented by the Operator from the date of approval in writing by the Agency.	Complete
IC4	The Operator shall develop a written Site Closure Plan with regard to the requirements set out in Section 2.11 of the Agency Guidance Note IPPC S2.03, July 2005. Upon completion of the plan a summary of the document shall be submitted to the Agency in writing.	Complete

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC5	<p>The Operator shall undertake a review of vented and fugitive gas emission from the installation.</p> <p>The review shall address the following issues:</p> <ul style="list-style-type: none"> <li>• Identify each potential source of such emission, quantify and assess the impact on the environment.</li> <li>• Consider the options to minimise such emissions, giving consideration (but not limited) to the following: <ul style="list-style-type: none"> <li>○ Current vent delay philosophy</li> <li>○ Emissions of odourised gas (if any)</li> <li>○ The number of compressor system vents</li> <li>○ The natural gas venting philosophy</li> <li>○ Discharge sequencing to prevent inappropriate pressure loads on vent systems</li> <li>○ The use of gas recycling or recompression</li> <li>○ Use of vented gas as a fuel</li> <li>○ Gas storage, flaring or other alternative venting techniques</li> </ul> </li> </ul> <p>Where improvements are identified propose a timetable to implement such improvements. The review 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 review.</p> <p>The improvements identified shall be implemented by the operator from the date of approval by the Agency.</p>	Complete
IC6	<p>The Operator shall carry out a waste minimisation audit of the installation that would be considered as part of the National Grid Gas network wide audit. The assessment shall have regard to the Agency Guidance Note S2.03, July 2005, Section 2.4.2. The audit report shall provide information on any lines and operations identified as causing a process loss, specifying for each, the amount lost (tonnes/year) and the percentage recovered in process or recycled.</p> <p>A summary of the audit shall be sent to the Agency in writing together with a timetable to implement any necessary changes identified. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the summary.</p> <p>The improvements identified shall be implemented by the operator from the date of approval by the Agency.</p>	Complete
IC7	<p>The Operator shall produce an Energy Efficiency Plan for the installation that would be considered as part of the National Grid Gas network wide plan. The plan shall have regard to the Agency Guidance Note S2.03, July 2005, Section 2.7.2.</p>	Complete
IC8	<p>For LCPD LCP 226 (now LCP 243 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 LCPD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.</p>	28/01/16

<b>Table S1.4 Start-up and Shut-down thresholds</b>		
<b>Emission Point and Unit Reference</b>	<b>“Minimum Start-Up Load” When two of the criteria listed below for the LCPs or units have been met.</b>	<b>“Minimum Shut-Down Load” When two of the criteria listed below for the LCPs or units have been met.</b>
A1 (Unit A, LCP 243)	<ol style="list-style-type: none"> <li>1. Power turbine speed (PT) is greater than 3800 rpm</li> <li>2. Exhaust cone temperature (ECT) is greater than 400°C</li> <li>3. Gas Generator (GG) speed is greater than 5700 rpm</li> </ol>	<ol style="list-style-type: none"> <li>1. Power turbine speed (PT) is less than 3800 rpm</li> <li>2. Exhaust cone temperature is less than 400°C</li> <li>3. Gas Generator (GG) speed is less than 5700 rpm</li> </ol>

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

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

## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air						
Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down. <sup>Note 1</sup>	Reference Period	Monitoring frequency	Monitoring standard or method
A1 (Unit A) (Application UP3538LW Part 3 Figure 1.3c, detailed in Table B2.2.1.2)	LCP No. 243 Gas turbine fired on natural gas	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner.	Agreed in writing with the Environment Agency.
		Sulphur dioxide				
		Carbon monoxide (CO)				
A2 (Unit B) (Application UP3538LW Part 3 Figure 1.3c, detailed in Table B2.2.1.2)	45MWth Gas turbine fired on natural gas	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	170 mg/m <sup>3</sup>	Daily average	Continuous	Predictive Emissions Monitoring as described in the application or otherwise agreed in writing by the Environment Agency
			170 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year		
		Carbon Monoxide (CO)	700 mg/m <sup>3</sup>	Daily average		
			700 mg/m <sup>3</sup>	95% of validated hourly averages within a calendar year		
		Sulphur dioxide	-	Hourly averages		

<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> <sup>Note 1</sup>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A2 (Unit B) (Application UP3538LW Part 3 Figure 1.3c, detailed in Table B2.2.1.2)	45MWth Gas turbine fired on natural gas	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	-	Minimum of five distinct measurements taken at stable operating conditions.	When operational hours in any year are less than or equal to 2,200 hours; discontinuous, every 2 years. When operational hours in any year are greater than 2,200 hours; discontinuous, every year or every 4,380 operational hours, whichever is sooner. Following any changes to process equipment, configurations or operating practices that may affect the accuracy of the data generated by the Predictive Monitoring System; discontinuous.	BS EN 14792
		Carbon Monoxide (CO)	-			BS EN 15058
A3 – A6 (Application UP3538LW, detailed in Table B2.2.1.2)	Gas vent from suction	-	-	-	-	Permanent sampling access not required.
A7 – A8 (Application UP3538LW, detailed in Table B2.2.1.2)	Gas over pressure relief valve	-	-	-	-	Permanent sampling access not required.
A9 (Application UP3538LW, detailed in Table	Fuel gas heating exhaust	-	-	-	-	Permanent sampling access not required.

<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> <sup>Note 1</sup>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
B2.2.1.2)						
A10 – A14 (Application UP3538LW, detailed in Table B2.2.1.2)	Pressure relief valve	-	-	-	-	Permanent sampling access not required.
A15 (Application UP3538LW, detailed in Table B2.2.1.2)	Lubricant oil store breather vent	-	-	-	-	Permanent sampling access not required.
A16 – A41 (Application UP3538LW, detailed in Table B2.2.1.2)	Vents from Cab units A & B	-	-	-	-	Permanent sampling access not required.
A42 – A43 (Application UP3538LW, detailed in Table B2.2.1.2)	Domestic heating boiler	-	-	-	-	Permanent sampling access not required.
A44 (Application UP3538LW, detailed in Table B2.2.1.2)	Exhaust from standby generator	-	-	-	-	Permanent sampling access not required.
A45 (Application UP3538LW, detailed in Table B2.2.1.2)	Domestic gas vent	-	-	-	-	Permanent sampling access not required.

**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. <sup>Note 1</sup>	Reference Period	Monitoring frequency	Monitoring standard or method
A46 (Application UP3538LW, detailed in Table B2.2.1.2)	Cab A emergency vent stack	-	-	-	-	Permanent sampling access not required.
A47 (Application UP3538LW, detailed in Table B2.2.1.2)	Cab B emergency vent stack	-	-	-	-	Permanent sampling access not required.
A48 (Application UP3538LW, detailed in Table B2.2.1.2)	Plant emergency vent stack	-	-	-	-	Permanent sampling access not required.

Note 1: Excluding start up, shut down and unit operation at loads <55% of MCR

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

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1	Oil or grease	Surface water via 3 stage weir oil interceptor	No visible	Any sample	Daily when site is manned or at frequency of no less than fortnightly.	Visual inspection. Permanent sampling access not required.



<b>Table S3.3 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Turbine unit A (LCP 243)	Operating hours at less than 55% MCR	Continuous	Not applicable	Shall be reported annually
	Operating hours			

## Schedule 4 – Reporting

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

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen	A1	Every 2 years or 4380 operating hours	1 January
	A2	Every 3 months	1 January, 1 April, 1 July, 1 October
Carbon monoxide	A1	Every 2 years or 4380 operating hours	1 January
	A2	Every 3 months	1 January, 1 April, 1 July, 1 October
Sulphur dioxide	A1	Every 2 years or 4380 operating hours	1 January
	A2	Every 6 months	1 January, 1 July
Emissions to water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July

Parameter	Units
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

<b>Table S4.2: Resource Efficiency Metrics</b>	
<b>Parameter</b>	<b>Units</b>
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	Every 3 months	hrs
Annual running hours at <55% MCR per unit	Every 3 months	hrs

<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 and Area Office	31/12/15
Air	Form IED AR1 – SO <sub>2</sub> , NO <sub>x</sub> and dust mass emission and energy	01/01/16	National and Area Office	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	01/01/16	Area Office	01/10/06
Resource efficiency	Form REM1– resource efficiency annual report	01/01/16	National	31/12/15
Water	Form water 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area office	01/10/06
Air (for emission point A2)	Form air 1 – Continuous measurement invalidation log or other form as agreed in writing by the Agency	01/01/16	Area Office	22/11/06
Air (for emission point A2)	Form air 2 – Continuous measurement invalidation log or other form as agreed in writing by the Agency	01/01/16	Area Office	22/11/06
Air (for emission point A2)	Form air 3 – discontinuous (NO <sub>x</sub> and CO) or other form as agreed in writing by the Agency	01/01/16	Area Office	22/11/06
Air (for emission point A2)	Form air 4 – discontinuous (SO <sub>2</sub> and PM) or other form as agreed in writing by the Agency	01/01/16	Area Office	22/11/06

# 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.

“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.

“emissions to land” includes emissions to groundwater.

“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.

“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.

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

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