

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Uniper UK Limited
Grain Power Station
Isle of Grain
Rochester
Kent
ME3 0AR

Variation application number

EPR/EP3533RY/V002

Permit number

EPR/EP3533RY

Grain Power station

Permit number EPR/EP3533RY

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 (The CCGTs) under the ELV compliance route. The OCGT black start gas turbines will operate under the <500 hour compliance route.

The net thermal input of the LCPs is as follows:

- LCP 102 – two 113 MWth OCGT,
- LCP 103 one 737 MWth CCGT,
- LCP 104 one 746 MWth CCGT and,
- LCP 105 one 744 MWth CCGT.

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

- LCP 156 is changed to LCP 102,
- LCP 435 is changed to LCP 103,
- LCP 436 is changed to LCP 104 and
- LCP 437 is changed to LCP 105.

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

Grain power station installation is located in north Kent on the northern bank of the River Medway Estuary near the village of Grain, approximately 16 kilometres east of Rochester. It consists of two facilities; a now disused oil fired station, and a more recently constructed gas fired station. This Permit covers both the existing oil fired plant and the CCGT plant and the open cycle units.

The oil fired station was built and commissioned by the Central Electricity Generating Board (CEGB) in the 1970s as a 4 x 660 MWe oil-fired power station. The first unit was commissioned in December 1979 and the fourth unit in 1984.

There are four 113MWth open cycle gas turbines for black start and emergency generation, fired by gas oil. Only the operation of open cycle units 1 and 4 are permitted under this permit.

The natural gas fired combined cycle gas turbine (CCGT) plant on-site, comprises 3 x 455 MW_E units, and was commissioned in 2010. The combustion gases exiting the HRSG are discharged to air via a 93 metre

chimney, one for each CCGT. There is no supplementary firing of the HRSGs The main pollutants are oxides of nitrogen which are minimised by the use of lean premix and two stage combustion.

Unit 6 (LCP 103)has been converted to operate in either standard, or a low load configuration.

Gas station unit 6 (LCP 103) can operate as a combined heat and power (CHP) system to supply otherwise excess heat from the gas turbines to the adjacent Grain Liquid Natural Gas (LNG) installation operated by National Grid for the purposes of LNG re-evaporation.

Any units on the gas station can operate as a combined heat and power (CHP) system to supply otherwise excess heat from the gas turbines to the adjacent Grain Liquid Natural Gas (LNG) installation operated by National Grid for the purposes of LNG re-evaporation. The plant is able to switch between using either estuarine water as condenser coolant for the steam turbine or a closed loop of demineralised water, running through transfer pipes to the Grain LNG terminal. The heat transfer loop is operated by Uniper. With the closed loop system heat from the turbine cooling is exported for use LNG terminal and cooled water is returned to the steam turbine condenser to complete the loop.

The site is equipped with a direct once through water cooling system. Water is extracted from the River Medway estuary and pumped through underground culverts through condensers and coolers for the operational plant. The water exits the plant and travels in a second culvert to discharge back into the River Medway estuary.

A raw water treatment plant uses either estuarine or borehole water for the production of feed water for CCGT steam generation.

An electrochlorination plant is used to produce sodium hypochlorite from sea water and used for dosing cooling water to prevent biofouling in the cooling water systems.

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.

Status log of the permit		
Description	Date	Comments
Application RP3432SG	Duly made 20/01/2006	
Additional information received	10/07/2006	
Permit determined	17/01/2007	
Partial surrender application EPR/RP3432SG/S002	Duly made 17/06/2008	
Additional information received		Receipt date 23/09/2008
Additional information received		Receipt date 30/09/2008
Permit partially surrendered EPR/RP3432SG/S002	15/10/2008	
Variation application EPR/RP3432SG/V003	Duly made 20/08/2009	
Variation issued EPR/RP3432SG/V003	23/04/2010	
Variation determined EPR/RP3432SG/V004	11/03/13	Environment Agency initiated variation to incorporate Eel Regulations improvement condition.
Variation determined EPR/RP3432SG/V005	Issued 29/09/14	Environment Agency Initiated Variation, to add an improvement condition requiring a cost benefit appraisal to ensure compliance with the Eels Regulations. Effective 1/10/14.

Grain Power station
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number
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Status log of the permit		
Description	Date	Comments
Application EPR/EP3533RY/T001 (full transfer of permit EPR/RP3432SG)	Duly made 09/07/15	Application to transfer the permit in full to Uniper UK Limited.
Transfer determined EPR/EP3533RY	26/08/15	Full transfer of permit complete.
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 and update the permit to modern conditions.
Regulation 60 notice reissued	09/12/14	
Regulation 60 Notice response	27/03/15	Response received from the Operator.
Additional information received	30/06/15	Response to request for further information (RFI) dated 29/05/15.
Receipt of additional information	Proposals for low load operation on unit 6 (LCP103)	15/09/15
Variation determined EPR/EP3533RY/V002 (PAS Billing ref: UP3832RW)	24/12/2015	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.

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/EP3533RY

Issued to

Uniper UK Limited (“the operator”)

whose registered office is

Westwood Way

Westwood Business Park

Coventry

CV4 8LG

company registration number 2796628

to operate a regulated facility at

Grain Power Station

Isle of Grain

Rochester

Kent

ME3 0AR

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
Anne Nightingale	24/12/2015

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/EP3533RY

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/EP3533RY/V002 authorising,

Uniper UK Limited (“the operator”),

whose registered office is

**Westwood Way
Westwood Business Park
Coventry
CV4 8LG**

company registration number 2796628

to operate an installation at

**Grain Power Station
Isle of Grain
Rochester
Kent
ME3 0AR**

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

Name	Date
Anne Nightingale	24/12/2015

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) 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 activities referenced in schedule 1, table S1.1: LCP102, LCP103, LCP104 and LCP 105. 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: LCP102. The activities shall not operate for more than 500 hours per year.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP102, LCP103, LCP104 and LCP105. 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
- 2.3.7 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.
- 2.3.8 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.
- 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 2.3.5 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), 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

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	<p>LCP103:- Unit 6 - The operation of a Combined Cycle Gas Turbine with a net rated thermal input of 737MW fired on natural gas for the generation of electricity and hot water.</p> <p>LCP104:- Unit 7 - The operation of a Combined Cycle Gas Turbine with a net rated thermal input of 746MW fired on natural gas for the generation of electricity and hot water.</p> <p>LCP105:- Unit 8 - The operation of a Combined Cycle Gas Turbine with a net rated thermal input of 744MW fired on natural gas for the generation of electricity and hot water.</p> <p>LCP102:- Units 1 and 4 The operation of a Open Cycle Gas Turbines with a total net rated thermal input of 226MW fired on gas-oil for black start and emergency operation for system support as required by National Grid for up to 500 hours per year..</p>	<p>From receipt of natural gas to discharge of exhaust gases and wastes, and the generation of electricity and hot water for export.</p> <p>From receipt of gas oil to discharge of exhaust gases and wastes, and the generation of electricity.</p>
Directly Associated Activity			
A2	Boiler water treatment system.	Boiler feedwater treatment and supply for the fired boilers and the HRSGs.	From receipt of mains, borehole and estuarine cooling water to the supply of water suitable for the steam raising plant and the release of waste water to the cooling water system after neutralisation.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A3	Fuel tanks, pumping and heating, fuel control systems	The storage tanks, pumping and heating sets for the oil and the firing control systems. The pressure reduction and cleaning systems for natural gas and the firing control systems for the gas turbines.	From receipt of fuel to the combustion on the fired equipment.
A4	Kingsnorth to Grain Pipeline.	Pipeline for the transfer of oil from import terminal storage at Kingsnorth to Grain Power Station.	All equipment, pipework and associated heating systems associated with the transfer of oil contained within the installation boundary.
A6	Grain Power Station to Grain LNG terminal heat pipeline and combined heat and power system	Pipeline for the transfer of heat from the CCGT condensers to the Grain LNG evaporation plant and return of cool water to the condensers.	All equipment, pipework and associated systems for the transfer of heat contained within the installation boundary.
A7	Direct cooling system for station steam condensers and coolers.	The use of water from the River Medway to condense steam and cool operational plant.	The pumping, filtering and chemical treatment of the water, its use in the condensers and the discharge of the water back to the River Medway.
A8	Emergency diesel engines	The burning of gasoil/diesel in three emergency generator engines and one fire fighting pump engine	From receipt of fuel through to discharge of the exhaust gas.
A9	Directly associated activity	Surface water drainage.	Handling and storage of site drainage until discharge to the site surface water system.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application Section 2.1, 2.2 and 2.3 referring to the oil fired plant in the Application.	The corresponding sections referring to the CCGTs are excluded.	21/12/05

Table S1.2 Operating techniques		
Description	Parts	Date Received
Additional information covering the proposed CCGTs	Section 2.1, 2.2 and 2.3 in the additional information. All references to “staged application” and “oil firing” are excluded.	10/07/06
Variation application supporting document	Sections 2.1, 2.2 and 2.10. Description of operating techniques for in-process controls, emissions control, abatement and monitoring for the CCGT/CHP plant.	20/08/09
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance route(s) and operating techniques identified in response to questions 2, 4, 5, 6, 7, 9ii, 10, 11. Compliance routes and operating techniques identified in response to questions 2 (compliance), 4 (configuration), 5 (net rated thermal input), 6 (MSUL/MSDL), 9i (ELVs), 11 (monitoring), 12 (low load operation). Excluding compliance route LHD for LCP 103, LCP 104 and LCP 105 and related operating techniques.	27/03/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 29/05/15	Compliance route and operating techniques identified in response to questions 1 (compliance), 2 (net rated thermal input), 3 (MSUL/MSDL), 4 (ELVs).	30/06/15
Receipt of additional information	Proposals for low load operation on unit 6 (LCP103)	15/09/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 1	The Operator shall review its accident management procedures against the requirements of Section 2.8 of IPPC Sector Guidance Note S1.01 and report in writing to the Agency the findings, recommendations and a timetable for the implementation of the recommendations.	Complete
IC 2	The Operator shall carry out a waste minimisation audit in accordance with section 2.4.2 of IPPC Sector Guidance Note S1.01 and submit a written report to the Agency. The report shall contain a timescale for the implementation of any actions identified to address any deficiencies. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report. The actions to address deficiencies shall be implemented by the operator from the date of approval by the Agency.	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 3	<p>The Operator shall carry out a water efficiency audit in accordance with section 2.4.3 of IPPC Sector Guidance Note S1.01 and submit a written report to the Agency. The report shall contain a timescale for the implementation of any actions identified to address any deficiencies. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The actions to address deficiencies shall be implemented by the operator from the date of approval by the Agency.</p>	Complete
IC 4	<p>The Operator shall provide a post commissioning report for each new CCGT, the report shall demonstrate how the installation has been commissioned to achieve the BAT and shall include, but not be limited to, the minimisation of Oxides of Nitrogen and Carbon Monoxide, giving the lowest sustainable concentrations for those substances and the efficiency of each set.</p>	Complete
IC 5	<p>The Operator shall develop a comprehensive site closure plan to include both the existing and new plant and also to incorporate work already on going with the unused boiler units. The plan shall be submitted in writing to the Agency</p>	Complete
IC 6	<p>The Operator shall submit a proposal for a trial of a “shock dosing” regime for the electro- chlorination of the condenser cooling water. The limit for free chlorine in the discharge is raised to 0.2 mg/l as requested in the Application for the period of the trial only. A report on the trial, to include an assessment on any impact on the River Medway, shall be submitted in writing to the Agency.</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC7	<p>The Operator shall undertake a review of the existing screening measures at the intakes and outfalls which provide and discharge water to and from the Installation. The review shall be undertaken with reference to the Eels (England and Wales) Regulations 2009 (SI 2009/3344) and the Environment Agency "Safe Passage of Eel" Regulatory Position Statement version 1 dated July 2012.</p> <p>The Operator shall submit details of the arrangement suitable to meet the requirements for the safe passage of eels [of the Eels (England and Wales) Regulations 2009 (SI 2009/3344)] by either:-</p> <ul style="list-style-type: none"> • Providing a written proposal for the installation of an eel screen. • Providing a written proposal to the modification of existing screening arrangements. • Providing a written response with an explanation and description of how the existing screening arrangements can be regarded to meet the requirements for the safe passage of eels [of SI 2009/3344] either without change or with mitigation measures. • Providing a written response setting out a case for an exemption <p>In all cases, the proposal shall be submitted in writing for the approval of the Environment Agency. Where appropriate, each proposal shall contain an assessment of alternative options considered including impacts on other fish species and an explanation of why the proposed option has been chosen.</p> <p>Where installation of eel screen; modification of existing arrangements; or mitigation measures are proposed, the submission shall contain relevant timescales for installation in accordance with the Safe Passage of Eel Regulatory Position Statement version 1 dated July 2012.</p> <p>The proposals shall be implemented in accordance with the Environment Agency's written approval.</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC8	<p>The Operator has undertaken a review of the existing screening arrangements with reference to the Eels (England and Wales) Regulations 2009 (SI 2009/3344) and the Environment Agency "Safe Passage for Eel" Regulatory Position Statement version 1 dated July 2012 (and as amended February 2013) in response to Improvement Programme reference IC7.</p> <p>The Environment Agency has determined that the site does not comply with the requirements for safe passage of eel and the Operator is now required to complete a cost benefits appraisal of best available technique with reference to the Environment Agency "Safe Passage for Eel: Guidance on Exemptions" as a screening tool.</p> <p>a) If the Cost Benefit Assessment shows that the Benefits are greater than the costs by a factor of 1.5 or more, then the Operator shall submit to the Environment Agency for review a report setting out the costs and the technical and economic feasibility to introduce the improvements to achieve best available technique.</p> <p>b) If the Cost Benefit Assessment shows that the Benefits are not greater than the costs by a factor of 1.5 or more, then the Operator shall, with reference to the Environment Agency "Safe Passage for Eel: Guidance on exemptions, assess which alternative measure, or combination of alternative measures, could be implemented under a case of a conditioned Exemption. The Operator shall submit a report to the Environment Agency setting out the costs and the technical and economic feasibility of implementing their proposed alternative measure or measures.</p> <p>In all cases, the submission shall contain relevant timescales in accordance with the Safe Passage for Eel Regulatory Position Statement version 1 dated July 2012 (as amended 2013).</p> <p>The proposals shall be implemented following written approval of the Environment Agency.</p> <p>Whilst undertaking this Improvement Condition, the Operator shall be operating under exemption from the requirements to place eel screen diversion structures pursuant to Regulation 17(5)(a) of the Eels (England and Wales) Regulations 2009. The exemption will remain in place until the Environment Agency has provided written approval that the Improvement Condition has been deemed complete.</p>	Received on 24/06/15, under assessment by the Environment Agency
IC9	<p>The operator shall prepare a report on the operation of LCP 103 (Unit 6) in Low part load operating mode.</p> <p>The report shall confirm the conclusions of the commissioning report dated July 2015 and confirm any proposals for implementing the same changes to LCP 104 (Unit 7) and LCP 105 (Unit 8).</p>	31/12/16

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC10	For LCPD LCP156 (now LCP 102), LCP 435 (now LP 103), LCP 436 (now LCP 104) and LCP 437 (now LCP 105), 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.	28/01/16

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum start up load” Load in MW and as percent of rated power output (%) and/or when two of the criteria listed below for the LCP or unit have been met.	“Minimum shut-down load” Load in MW and as percent of rated power output (%) and/or when two of the criteria listed below for the LCP or unit have been met.
A3 Unit 6 LCP 103 Standard operation	220 MW; 51%	220 MW; 51%
A3 Unit 6 LCP 103 Low part load operation	135 MW; 31% Flame on Low part load combustion mode selected	135 MW; 31% Flame off Low part load combustion mode deselected
A4 Unit 7 LCP 104	220 MW; 51%	220 MW; 51%
A5 Unit 8 LCP105	220 MW; 51%	220 MW; 51%
A2 Unit 1-A2(1) Unit 4-A2(4) LCP102	As soon as the Gas turbine start up is initiated,	As soon as the Gas turbine is off load.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Natural gas	-
Gas oil	Less than 0.1% w/w sulphur content

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A2 (Point A2) on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP102 Gas turbine fired on gas oil (units 1 and 4)	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner.	Agreed in writing with the Environment
	Sulphur dioxide		-	-		
	Dust		-	-		
	CO		-	-		
A3 [Point A3 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP 103 (Unit 6) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP 103 (Unit 6) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹ 83 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP 103 (Unit 6) Gas turbine fired on natural gas	75 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Carbon monoxide	LCP 103 (Unit 6) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A3 [Point A3 on site plan in Schedule 7]	Carbon monoxide	LCP 103 (Unit 6) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹ 110 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Carbon monoxide	LCP 103 (Unit 6) Gas turbine fired on natural gas	100 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Sulphur dioxide	LCP 103 (Unit 6) Gas turbine fired on natural gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A3 [Point A3 on site plan in Schedule 7]	Oxygen	LCP 103 (Unit 6) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Water Vapour	LCP 103 (Unit 6) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Stack gas temperature	LCP 103 (Unit 6) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A3 [Point A3 on site plan in Schedule 7]	Stack gas pressure	LCP 103 (Unit 6) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A3 [Point A3 on site plan in Schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP 103 (Unit 6) Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A4 [Point A4 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP 104 (Unit 7) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A4 [Point A4 on site plan in Schedule 7]	Oxides of Nitrogen	LCP 104 (Unit 7) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹ 83 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A4 [Point A4 on site plan in Schedule 7]	(NO and NO ₂ expressed as NO ₂)	LCP 104 (Unit 7) Gas turbine fired on natural gas	75 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A4 [Point A4 on site plan in Schedule 7]	Carbon monoxide	LCP 104 (Unit 7) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A4 [Point A4 on site plan in Schedule 7]	Carbon monoxide	LCP 104 (Unit 7) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹ 110 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A4 [Point A4 on site plan in Schedule 7]	Carbon monoxide	LCP 104 (Unit 7) Gas turbine fired on natural gas	100 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A4 [Point A4 on site plan in Schedule 7]	Sulphur dioxide	LCP 104 (Unit 7) Gas turbine fired on natural gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A4 [Point A4 on site plan in Schedule 7]	Oxygen	LCP 104 (Unit 7) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A4 [Point A4 on site plan in Schedule 7]	Water Vapour	LCP 104 (Unit 7) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A4 [Point A4 on site plan in Schedule 7]	Stack gas temperature	LCP 104 (Unit 7) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A4 [Point A4 on site plan in Schedule 7]	Stack gas pressure	LCP 104 (Unit 7) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A4 [Point A4 on site plan in Schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP 104 (Unit 7) Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A5 [Point A5 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO2 expressed as NO2)	LCP 105 (Unit 8) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A5 [Point A5 on site plan in Schedule 7]	Oxides of Nitrogen	LCP 105 (Unit 8) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹ 83 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A5 [Point A5 on site plan in Schedule 7]	(NO and NO2 expressed as NO2)	LCP 105 (Unit 8) Gas turbine fired on natural gas	75 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A5 [Point A5 on site plan in Schedule 7]	Carbon monoxide	LCP 105 (Unit 8) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A5 [Point A5 on site plan in Schedule 7]	Carbon monoxide	LCP 105 (Unit 8) Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹ 110 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A5 [Point A5 on site plan in Schedule 7]	Carbon monoxide	LCP 105 (Unit 8) Gas turbine fired on natural gas	100 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A5 [Point A5 on site plan in Schedule 7]	Sulphur dioxide	LCP 105 (Unit 8) Gas turbine fired on natural gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A5 [Point A5 on site plan in Schedule 7]	Oxygen	LCP 105 (Unit 8) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A5 [Point A5 on site plan in Schedule 7]	Water Vapour	LCP 105 (Unit 8) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A5 [Point A5 on site plan in Schedule 7]	Stack gas temperature	LCP 105 (Unit 8) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A5 [Point A5 on site plan in Schedule 7]	Stack gas pressure	LCP 105 (Unit 8) Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A5 [Point A5 on site plan in Schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP 105 (Unit 8) Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A7[Point A7 on site plan in Schedule 7]	None	3 Emergency Diesel Generators and one diesel fire fighting pump.	-	-	-	-

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A8 (i) [Point A8 on site plan in Schedule 7]	None	Gas fired hot water boiler for gas heaters	-	-	-	-
A8 (ii) [Point A8 on site plan in Schedule 7]	None	Gas fired hot water boiler for gas heaters	-	-	-	-
A9[Point A9 on site plan in Schedule 7]	None	Gas vents at gas reception facility and at shut off valves at each turbine.	-	-	-	-
A10[Point A10 on site plan in Schedule 7]	None	Vents from oil storage tanks and pipework.	-	-	-	-
A11[Point A11 on site plan in Schedule 7]	None	Turbine oil cooler vents.	-	-	-	-
A12[Point A12 on site plan in Schedule 7]	None	Electrochlorination plant hydrogen detrainment vent	-	-	-	-
A13[Point A13 on site plan in Schedule 7]	None	Electrochlorination plant hydrogen detrainment vent	-	-	-	-

Note 1: This ELV applies when the load is >70% throughout the reference period.

Note 2: This ELV applies when the load varies between MSUL/MSDL and base load during the daily reference period. MSUL and MSDL are defined in Table S1.4.

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 emission to River Medway Grid Ref TQ 8930 7550	Flow	Turbine cooling water and process releases	226,008 m ³ /h.	Any sample	Continuous	SCA Estimation of Flow and Load. (ISBN 01175264X) or as agreed with the Agency
W1 emission to River Medway Grid Ref TQ 8930 7550	Free Chlorine	Cooling water treatment	0.1 mg/l	Daily average	Continuous	BS 6068 2.27 1990 (or as agreed with the Agency)
W1 emission to River Medway Grid Ref TQ 8930 7550	Free Chlorine	Cooling water treatment	0.2 mg/l for period of "shock dosing trials" (Ref Improvement Condition 5) and afterwards only following written agreement from Agency.	Daily average	Continuous	BS 6068 2.27 1990 (or as agreed with the Agency)
W1 emission to River Medway Grid Ref TQ 8930 7550	Maximum cooling water temperature increase	Heat from condensers	18°C	Instantaneous	Continuous	As agreed with the Agency.
W1 emission to River Medway Grid Ref TQ 8930 7550	Oil and grease	Turbine cooling water and process releases	none visible	-	daily	Visual check at station drains discharge point to W1 outfall

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	A3, A4, A5	Every 3 months	1 January, 1 April, 1 July, 1 October
Carbon monoxide	A3, A4, A5	Every 3 months	1 January, 1 April, 1 July, 1 October
Sulphur dioxide	A3, A4, A5	Every 6 months	1 January, 1 July
Oxides of nitrogen, carbon monoxide, sulphur dioxide, dust	A2	Every 4380 operational hours or 2 years, whichever is sooner	1 January
Emissions to water. Parameters as required by condition 3.5.1	W1	Every 3 months	1 January, 1 April, 1 July, 1 October

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 ³
Water Abstracted from Borehole Source	m ³
Water Abstracted from Estuarine Water Source	m ³
Water Abstracted from Sea Water Source	m ³
Water Abstracted from Mains Water Source	m ³
Gross Total Water Used	m ³
Net Water Used	m ³
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

Parameter	Frequency of assessment	Units
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	TJ
Total Emissions to Air of NO _x for each LCP	Annually	t
Total Emissions to Air of SO ₂ for each LCP	Annually	t
Total Emissions to Air of dust for each LCP	Annually	t
Operating Hours for each LCP	Annually	hr

Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
LCP	Form IED HR1 – operating hours	01/01/16	National	31/12/15
Air & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy	01/01/16	National	31/12/15
Air	Form IED CON 2 – continuous monitoring	01/01/16	Area Office	31/12/15
CEMs	Form IED CEM – Invalidation Log	01/01/16	Area Office	31/12/15
Resource Efficiency	Form REM1 – resource efficiency annual report	01/01/16	National	31/12/15
Water	Form Water 1	01/01/16	Area Office	V6 Nov 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	

(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	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“Air Quality Risk Assessment” has the meaning given in Annex D of IED Compliance Protocol for Utility Boilers and Gas Turbines.

“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.

“Black Start” means the procedure to recover from a total or partial shutdown of the UK Transmission System which has caused an extensive loss of supplies. This entails isolated power stations being started individually and gradually being reconnected to other power stations and substations in order to form an interconnected system again.

“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_x burners.

“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.

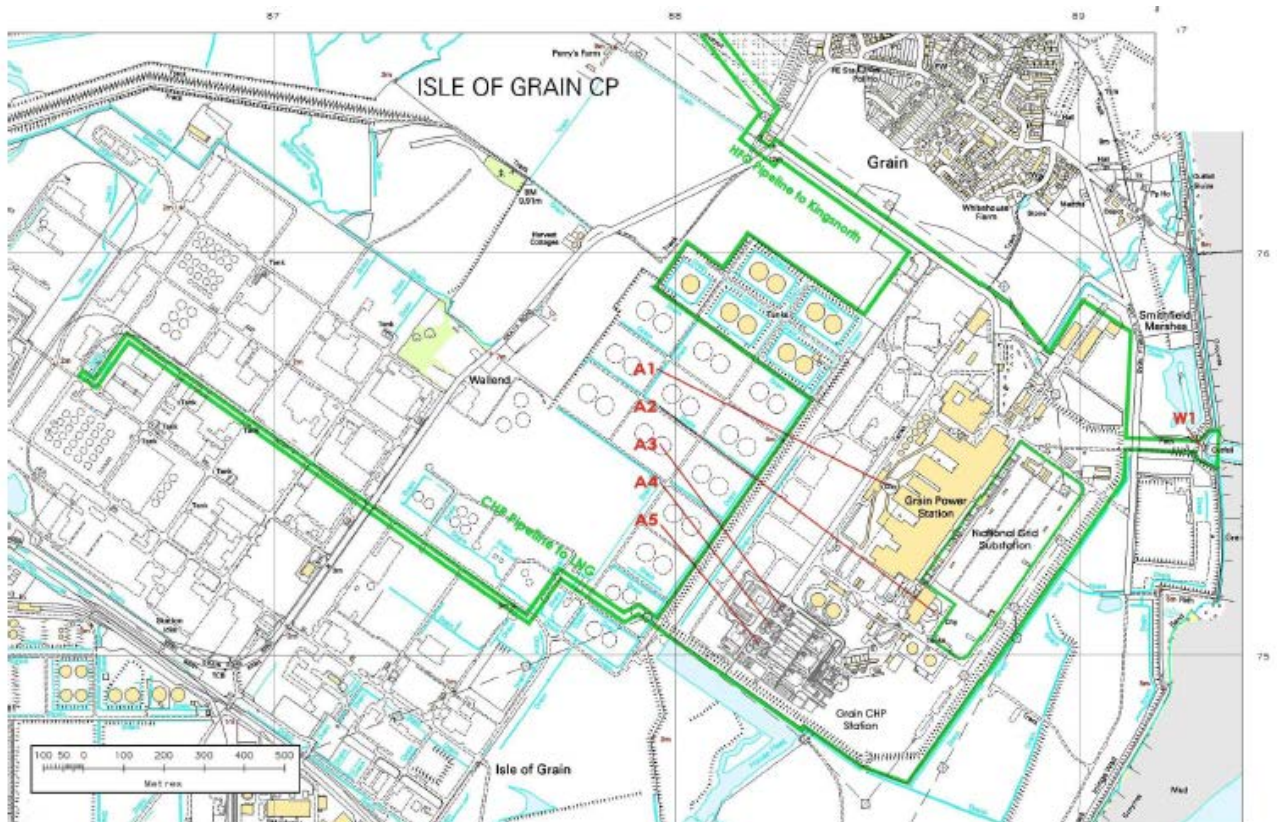
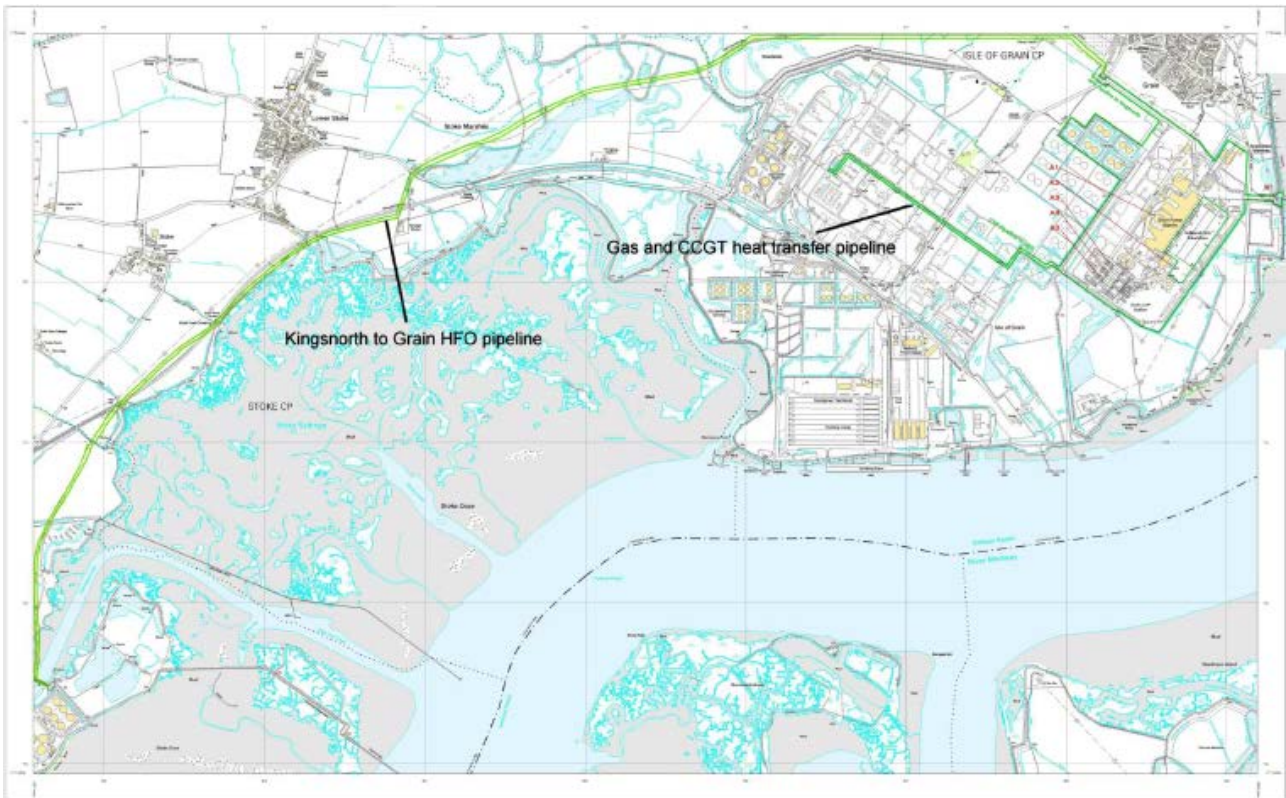
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

- in relation to emissions from 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

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



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END OF PERMIT