Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Centrica KL Limited

Kings Lynn Power Station
Willows Business Park
Kings Lynn
Norfolk
PE34 3RD

Variation application number

EPR/BP3239LA/V005

Permit number

EPR/BP3239LA

Kings Lynn Power Station
Permit number EPR/BP3239LA

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies that all the conditions of the permit have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made and contains all conditions relevant to this permit.

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

This Permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED), is varied by the Environment Agency to implement the special provisions for LCP given in the IED, by the 1 January 2016 (Article 82(3)). The IED makes special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V.

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

The Operator has chosen to operate this LCP under the ELV compliance/Transitional National Plan (TNP) compliance route.

The net thermal input of the LCPs is a follows LCP 48 – one 646 MWth CCGT for the proposed unit when installed, LCP399 & LCP400 are two yet to be installed CCGT units with the thermal rating to be confirmed.

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 113 is changed to LCP 48 and
- LCP 399 is a new number for a new turbine at Kings Lynn B
- LCP400 is a new number for a new turbine at Kings Lynn B.

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

A non-technical description, and further details, of the installation (King's Lynn A, one CCGT unit) is given in the original Application (2006) and in the 2011 Application for the extension of the installation (King's Lynn B -an additional two CCGT units on the same, but extended, site). The main features of the installation are as follows.

King's Lynn Power Station is operated by Centrica KL Limited and is located on the southern outskirts of King's Lynn centred on NGR 560800 317100. It occupies a site on relatively flat land on the eastern bank of the River Great Ouse. The land surrounding the power station is mixed usage, with a council road maintenance depot to the north and an industrial estate to the north east, fields and scattered houses to the south and east, and the River Great Ouse to the west.

There is a SSSI within 2km and Natura 2000 sites within 10km of the installation which have been assessed for potential impacts.

The main areas of the installation are:

Turbine halls – including gas turbines, steam turbines and generators

Air cooled condensers

Auxiliary cooling water systems

Gas oil storage tanks

Water treatment plant chemical storage area

Water treatment plant
Heat Recovery Steam Generator (HRSG)
Auxiliary boilers (electric, King's Lynn A or natural gas fired, King's Lynn B) – infrequent use

First Phase KING'S LYNN A

The decommissioned King's Lynn A station has a baseload electrical output of 335 MW in CCGT mode and consists of one gas turbine, one heat recovery steam generator and one steam turbine. The exhaust gases from the gas turbine are used to produce steam in the heat recovery steam generator to drive the steam turbine in CCGT mode. Due to the challenges of the energy market over recent years, the demand for operation fell dramatically and the station was decommissioned. As a result of the investment plans, a new gas turbine will, when installed, result in a baseload electrical output of circa 365 MW in CCGT mode. The new plant will comply with BAT and be capable of satisfying the new plant standards for emissions and energy efficiency set out in the 2006 Large Combustion Plant BREF

The station burns natural gas. There is one major point source emission to air from the King's Lynn A installation, the gas turbine stack, which has emissions continuously monitored.

Second Phase KING'S LYNN B

King's Lynn B is constructed on land contiguous with the existing King's Lynn A, 2 km south west of the town of King's Lynn, Norfolk. King's Lynn B is being developed to provide Centrica KL Limited with additional efficient and flexible generating capacity at the King's Lynn Power Station site. Certain facilities such as water treatment are shared between the King's Lynn A and B generating plants.

The King's Lynn B plant uses proven technology and consists of two gas fired CCGT modules which allow the power station to operate in 'two shift', 'part load' and 'base load' modes.

A consent under Section 36 of the Electricity Act 1989 to construct and operate the substantial extension to the existing power station was granted in February 2009.

The additional King's Lynn B units can provide of the order of 1020 MW of electrical power and will burn natural gas. King's Lynn B comprises two main Combined Cycle Gas Turbine generating units. Fuel is burned in the combustion chamber of the gas turbine from where the hot gases expand through the gas turbine to generate electricity. The hot exhaust gases are then used in the heat recovery steam generators to generate steam, which in turn is used to generate electricity via the steam turbine plant. The spent steam leaving the steam turbine plant passes to air cooled condensers as described in the "Whole Installation" paragraph below. This configuration gives two further major emission points to air from the King's Lynn B plant - the two gas turbine stacks, which have emissions continuously monitored.

In addition to these main generating units, one or two small auxiliary gas-fired boilers may be installed to provide steam for the start-up of the power station and would operate for a few hours at a time, at intermittent intervals.

Whole Installation

The installation uses dry air-cooled condensers (ACC) to dispose of waste heat from the spent steam from the steam turbines, thus eliminating the requirement for large quantities of cooling water. There is no direct discharge of process water to controlled waters.
Cooling water on site is supplied from a separate closed cooling water system for each plant (King's Lynn A & B), which utilise a mixture of water and glycol. Cooling water is supplied to the generator, common oil system and numerous pumps. It is cooled in the Auxiliary Cooling system for each plant using multiple fans mounted directly above a bank of finned horizontal radiator tubes.
The only water discharged to controlled water is surface water run-off, which passes through interceptors before discharge via the Willows Business Park surface water drainage network to surface water. During normal operation, all process wastewater is normally discharged to the site water tanks for re use. There is a facility to discharge process wastewater to the sewer if required. All water treatment plant effluent is treated in a neutralising tank before being discharged to sewer.

The Operator operates a management system, which is externally certified to ISO14001 which will be extended to cover the King's Lynn B extension when operational. 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 received	Duly made 19/04/06	Application for 335MW Power Station
Request for extension to determination period	16/08/06	
Permit determined EPR/BP3239LA	20/10/06	Permit issued to Centrica KL Limited
Variation application EPR/BP3239LA/V002	Duly made 11/07/2011	
Additional/revised information request	22/08/2011	Revision to AQ data required
Additional information request	30/08/11	Schedule 5 Notice
Requested extension to determination period	08/11/2011	Agreed to 30/03/2012
Second Information request	15/12/2011	Second Schedule 5 notice
Additional information received	08/03/2012	On minor vents and site plan
Permit variation determined	13/07/2012	Variation and consolidation EPR/BP3239LA/V002
Variation determined EPR/BP3239LA/V003	11/03/13	Environment Agency initiated variation to incorporate Eel Regulations improvement condition
Application EPR/BP3239LA/V004	Duly made 09/08/13	Application to reflect plant equipment changes
Variation determined EPR/BP3239LA	23/09/2013	Varied permit issued
Regulation 60 Notice sent to the Operator	31/10/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V. The permit is also updated to modern conditions
Regulation 60 Notice response	31/03/15	Response received from the Operator.
Variation determined EPR/BP3239LA/V005 (PAS Billing ref: XP3434AQ)	18/12/15	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/BP3239LA

Issued to

Centrica KL Limited ("the operator")

whose registered office is

Millstream
Maidenhead Road
Windsor
Berkshire
SL4 5GD

company registration number 04262243

to operate a regulated facility at

Kings Lynn Power Station
Willows Business Park
Kings Lynn
Norfolk
PE34 3RD

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
J Linton	**18/12/2015**

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/BP3239LA

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BP3239LA/V005 authorising,

Centrica KL Limited ("the operator"),

whose registered office is

Millstream
Maidenhead Road
Windsor
Berkshire
SL4 5GD

company registration number 04262243

to operate an installation at

Kings Lynn Power Station
Willows Business Park
Kings Lynn
Norfolk
PE34 3RD

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

Name	Date
J Linton	**18/12/2015**

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: LCP48, LCP399 and LCP400. 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" 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: LCP48, LCP399 and LCP400. 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 S1.5

2.3.6 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.7 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4 shall not commence in the King's Lynn B plant until the measures specified in that table have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 The emission limit values measured during periods of abatement equipment malfunction and breakdown shall be disregarded for compliance purposes.

3.1.4 Total annual emissions from emission point A1 set out in schedule 3 table S3.1, of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.

3.1.5 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, S3.2, S3.3 and S3.4;

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, S3.2 ,S3.3 and S3.4 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 schedule 3, 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; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by 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.

4.2.5 For the following activities referenced in schedule 1, table S1.1: LCP48. Unless otherwise agreed in writing with the Environment Agency, within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form IED RTA1, listed in table S4.4, the information specified on the form relating to the site's mass emissions.

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 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 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.	Production of electricity in three combined cycle gas turbines (CCGT) operating on natural gas	From receipt of raw materials to discharge of combustion gases from the exhausts or despatch of products and waste
	Directly Associated Activity		
A2	Directly associated activity	Surface water drainage via Willows Business Park surface water drainage network to IDB Drain Flood relief Channel	Handling and storage of site drainage from external areas of the site, until discharge to the site surface water system
A3	Directly associated activity	Heat recovery steam generator (HRSG) operation and operation of steam turbines	From input of steam to despatch of products and waste
A4	Directly associated activity	Filtration, ion exchange water treatment	From receipt of raw materials to despatch to chemical effluent and dirty water system
A5	Directly associated activity	Miscellaneous utility systems (including auxiliary boiler, emergency diesel generator/fire pump, lubrication systems, control systems)	From receipt of raw materials or fuels to dispatch for use or discharge of combustion gases from the exhaust
A6	Directly associated activity	Storage and handling of wastes generated by the activities	From generation of waste to despatch from site

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application EPR/BP3239LA/A001	The response to sections 2.1 and 2.2 in the application.	30/03/06
Application EPR/BP3239LA/V002	The submission in sections C2 2.1 to 2.3.10 and C3 3.1 to 3.9.32 in the application	11/07/11 (duly made date)
Response to regulation 60(1) Notice – request for information dated 31/10/14	The Compliance route and operating techniques identified in response to questions 2 (chosen compliance route), 4 (LCP configuration), 5 (Net rated thermal input), 6 (start up /shut down loads), 9ii (ELV's), 11 (monitoring requirements).	Received 31/03/15

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	The Operator shall introduce and implement a documented training programme for spill response procedures, spill kit use and subsequent waste disposal.	Completed
IC2	The operator shall undertake an assessment of the primary, secondary and tertiary containment arrangements against the requirements of section 2.2.9 of the Combustion Technical Guidance Note to identify and address any deficiencies. The review shall include, but not be limited to: • Release of wash water and run-off from the Air Condenser Cooler • Oil transfer pipework • Containment kerbs • Bunding and fill points for chemical tanks. A written report of the assessment, including corrective actions and timescales shall be submitted to the Agency. The corrective actions shall be implemented from the date of approval by the Agency.	Completed
IC3	A written procedure shall be submitted to the agency detailing the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation in accordance with condition 3.6.3. 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.	Completed

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC4	A water efficiency audit shall be submitted to the Agency in accordance with section 2.4.3 of the Combustion Technical Guidance Note. The audit shall contain dates for the implementation of individual improvement measures. The audit shall include, but not be limited to: • An investigation into a replacement for solvent based turbine wash The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the audit.	Completed
IC5	A waste minimisation audit shall be submitted to the Agency in accordance with section 2.4.2 of the Combustion Technical Guidance Note. The audit shall contain dates for the implementation of individual improvement measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the audit.	Completed
IC6	The operator shall produce a REVISED and UPDATED site closure plan covering the whole of the installation. (King's Lynn A and King's Lynn B). The plan should comply with the requirements of the Combustion Technical Guidance note H5 (Guidance on Site Condition Report). The approved site closure plan shall be implemented from the date of approval or such other date as may be specified in that approval. A copy of the site closure plan shall be submitted in writing to the Agency.	Within 12 months after the completion of commissioning of the King's Lynn B plant.
IC7	A report shall be submitted to the Environment Agency detailing the results of commissioning the two CCGT units and associated plant comprising the King's Lynn B extension.	Within 4 months after the completion of commissioning of the King's Lynn B plant.
IC8	The ISO14001 Environmental Management System in use at the King's Lynn A plant shall be extended to the King's Lynn B plant. Confirm progress on this in writing to the Environment Agency.	Within 12 months after the completion of commissioning of the King's Lynn B plant.

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC9	A written report shall be submitted to the Environment Agency at the reporting address for approval. The report shall include the results of noise surveys in accordance with the Combustion Technical Guidance Note and Horizontal Guidance H3 Part 2 (Guidance on Noise Assessment and Control) and, where appropriate, the report shall contain an assessment of whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise noise from the activities covered by this permit. The report shall also contain a time-scale for the implementation of any individual measures identified as appropriate following the review. The approved individual measures shall be implemented from the date of approval or such other date as may be specified in that approval.	Within 12 months after the completion of commissioning of the King's Lynn B plant.
IC10	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. 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:- • 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 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. 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. The proposals shall be implemented in accordance with the Environment Agency's written approval.	Completed

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC11	The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP48, LCP399 & LCP400. The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised). Evidence to support this figure, in order of preference, shall be in the form of:- a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), b) Performance test results after a significant modification (quoting the specified standards or test codes), c) Manufacturer's contractual guarantee value, d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually); e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system; f) Operational efficiency data as verified and used for heat accountancy purposes, g) Data provided as part of Due Diligence during acquisition, *Performance test results shall be used if these are available.	6 months after completion of commissioning
IC12	The Operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a written justification of the "minimum start up load" and "minimum shut-down load", for each unit within LCP48, LCP399 & LCP400 as required by the Implementing Decision 2012/249/EU in terms of: i. The output load (i.e. electricity, heat or power generated) (MW); and ii. This output load as a percentage of the rated thermal output of the combustion plant (%). And / Or iii. At least three criteria (operational parameters and / or discrete processes as detailed in the Annex) or equivalent operational parameters that suit the technical characteristics of the plant, which can be met at the end of start-up or start of shut-down as detailed in Article (9) 2012/249/EU.	3 months after completion of commissioning

Table S1.4 Pre-operational measures	
Reference	**Requirement**
PRE01	At least six months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the King's Lynn B extension, a written commissioning plan shall be submitted to the Environment Agency for approval. The plan shall include written procedures containing actions to be taken to ensure that appropriate measures will be used to minimise releases under all anticipated operating conditions and shall include but not be restricted to: ➢ The timetable for the commissioning of the gas turbines; ➢ The expected emissions to the environment during each of the stages of commissioning; ➢ The mitigation measures that will be taken in respect of emissions to the environment during each stage; ➢ The expected duration of commissioning activities; ➢ Providing detail of the proposed arrangements for managing, manning and maintaining the installation during the commissioning period for King's Lynn B and the initial post-commissioning period of commercial operation. ➢ The actions that will be taken to protect the environment and notify the Environment Agency should emissions exceed the limits specified in the Permit; ➢ Any additional (beyond that required by the Permit) monitoring to be undertaken; ➢ Noise impact assessment measures for test running equipment during the commissioning phase where there is a necessity to run individual items for short periods without full noise control mitigation measures in place, and consideration of the need for temporary attenuators for venting whilst purging of pipework and equipment before normal duty operation. Consideration of scheduling of activities with potential for higher than normal noise levels should be demonstrated being carried out at times of the day to cause the least impact on sensitive receptors. The approved commissioning plan shall be implemented from the date of approval or such other date as may be specified in that approval.
PRE02	At least six months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the King's Lynn B extension, a written procedure shall be submitted to the Environment Agency for approval. The procedure shall confirm the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation in accordance with condition 3.5.3. The approved procedure shall be implemented from the date of approval or such other date as may be specified in that approval.
PRE03	At least six months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the King's Lynn B extension, a written accident management plan shall be submitted to the Environment Agency for approval. The plan should comply with the requirements the Combustion Technical Guidance Note. The approved accident management plan shall be implemented from the date of approval or such other date as may be specified in that approval
PRE04	At least six months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the King's Lynn B extension, a list of all minor and emergency vents together with their location and function and a written emissions management plan shall be submitted to the Environment Agency at the Reporting Address for approval. The report shall confirm the measures to be installed to control emissions of substances at points not controlled by emission limits and shall be accordance with the Combustion Technical Guidance Note and Horizontal Guidance Note H5 (Guidance on Site Condition Report). The approved emissions management plan shall be implemented from the date of approval or such other date as may be specified in that approval

Table S1.4 Pre-operational measures	
Reference	**Requirement**
PRE05	At least six months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the King's Lynn B extension a written noise and vibration management plan shall be submitted to the Environment Agency at the Reporting Address for approval. The report shall detail the measures to be used to control emissions of noise for the specific plant selected in the tendering process and shall be accordance with Appendix 4 (noise management plan) of Horizontal Guidance Note H3 Part 2 (Guidance on Noise Assessment and Control). The approved noise and vibration management plan shall be implemented from the date of approval or such other date as may be specified in that approval
PRE06	At least six months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the King's Lynn B extension a written report shall be submitted to the Environment Agency for approval. The report shall contain plans detailing the location of any underground sumps, pipe-work, culverts, process and surface water drains, sewer system or other sub-surface structures within the installation boundary, along with any associated discharge points. The report shall also contain plans detailing the location and nature of hard-standing, kerbing and secondary containment for raw materials and wastes storage areas. A proposed preventative maintenance schedule for these structures shall be submitted with the plans for approval. The approved preventative maintenance schedule shall be implemented from the date of approval or such other date as may be specified in that approval.
PRE07	At least 2 weeks prior to the date, the Operator shall inform the Environment Agency of the expected date that gas will first be burned in the gas turbines at King's Lynn B
PRE08	At least **twelve** months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the King's Lynn B extension a written report shall be submitted to the Environment Agency for approval. The report should identify and provide details of those appropriate measures (CHP ready) for the provision of future minimum CHP capacity **which do not impose an energy efficiency burden upon it when implemented but not utilised** and should provide a plan for implementing and maintaining those measures so identified. These shall include consideration of but not be restricted to ➢ •Steam extraction and control facilities; ➢ •Space for facilities for generating hot water for export; ➢ •Space for associated pipework and services; ➢ •Space to increase the capacity of the raw water treatment plant; and ➢ •Space for the accommodation of additional instrumentation and control systems. Any approved appropriate measures shall be implemented from the date of approval or such other date as may be specified in that approval.

Table S1.5 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 discrete processes**	**"Minimum shut-down load"** **Load in MW and as percent of rated power output (%)** **and/or discrete processes**
A1(LCP48)	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC12	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC12
A7(LCP399)	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC12	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC12
A8(LCP400)	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC12	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC12

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Natural gas	-
Water treatment plant chemicals	Discharges of mercury as a result of the impurities of raw materials used in the water treatment plant shall be controlled by ensuring that impurity levels are the minimum available in the commercial product.
Water treatment plant chemicals	Discharges of cadmium as a result of the impurities of raw materials used in the water treatment plant shall be controlled by ensuring that impurity levels are the minimum available in the commercial product.

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**
A1 [point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 48 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 48 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 48 Gas turbine fired on natural gas	100 mg/m^3 MSUL/MSDL to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 48 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 48 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon Monoxide	LCP No. 48 Gas turbine fired on natural gas	200 mg/m^3 MSUL/MSDL 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**
A1 [Point A1 on site plan in schedule 7]	Sulphur dioxide	LCP No. 48 Gas turbine fired on natural gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A1 [Point A1 on site plan in schedule 7]	Oxygen	LCP No. 48 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Water Vapour	LCP No. 48 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Stack gas temperature	LCP No. 48 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	Stack gas pressure	LCP No. 48 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 48 Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A2 [Point A2 on site plan in schedule 7]	No parameters set	Auxiliary boiler Kings Lynn A	-	-	-	Permanent sampling access not required
A3 [Point A3 on site plan in schedule 7	No parameters set	Emergency diesel generator	-	-	-	Permanent sampling access not required

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	No parameters set	HCl tank vent scrubber	-	-	-	Permanent sampling access not required
A7 [Point A7 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 399 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A7 [point A7 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 399 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A7 [point A7 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 399 Gas turbine fired on natural gas	100 mg/m^3 MSUL/MSDL to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A7 [point A7 on site plan in schedule 7]	Carbon Monoxide	LCP No. 399 Gas turbine fired on natural gas	100 mg/m^3 MSUL/MSDL to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A7 [Point A7 on site plan in schedule 7]	Carbon Monoxide	LCP No. 399 Gas turbine fired on natural gas	100mg/m^3 MSUL/MSDL to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A7 [Point A7 on site plan in schedule 7]	Carbon Monoxide	LCP No. 399 Gas turbine fired on natural gas	200 mg/m^3 MSUL/MSDL 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**
A7 [Point A7 on site plan in schedule 7]	Sulphur dioxide	LCP No. xxx Gas turbine fired on natural gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A7 [Point A7 on site plan in schedule 7]	Oxygen	LCP No. 399 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A7 [Point A7 on site plan in schedule 7]	Water Vapour	LCP No. 399 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A7 [Point A7 on site plan in schedule 7]	Stack gas temperature	LCP No. 399 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A7 [Point A7 on site plan in schedule 7]	Stack gas pressure	LCP No. 399 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A7 [Point A7 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 399 Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A8 [Point A8 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 400 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL 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**
A8 [point A8 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 400 Gas turbine fired on natural gas	50 mg/m^3 MSUL/MSDL to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A8 [point A8 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	LCP No. 400 Gas turbine fired on natural gas	100 mg/m^3 MSUL/MSDL to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A8 [point A8 on site plan in schedule 7]	Carbon Monoxide	LCP No. 400 Gas turbine fired on natural gas	100 mg/m^3 MSUL/MSDL to base load[1]	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A8 [Point A8 on site plan in schedule 7]	Carbon Monoxide	LCP No. 400 Gas turbine fired on natural gas	100 mg/m^3 MSUL/MSDL to base load[1]	Daily mean of validated hourly averages	Continuous	BS EN 14181
A8 [Point A8 on site plan in schedule 7]	Carbon Monoxide	LCP No. 400 Gas turbine fired on natural gas	200 mg/m^3 MSUL/MSDL to base load[1]	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A8 [Point A8 on site plan in schedule 7]	Sulphur dioxide	LCP No. 400 Gas turbine fired on natural gas	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A8 [Point A8 on site plan in schedule 7]	Oxygen	LCP No. 400 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	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**
A8 [Point A8 on site plan in schedule 7]	Water Vapour	LCP No. 400 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A8 [Point A8 on site plan in schedule 7]	Stack gas temperature	LCP No. 400 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A8 [Point A8 on site plan in schedule 7]	Stack gas pressure	LCP No. 400 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A8 [Point A8 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 400 Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A9 [point A9 on site plan in Schedule 7	Auxiliary boiler B1	-	-	-	-	-
A10 [point A10 on site plan in Schedule 7	Auxiliary Boiler B2	-	-	-	-	-
Natural gas vents	On site distribution system	-	-	-	-	-
Hydrogen vents	Steam turbine generator cooling	-	-	-	-	-
Emergency pressure relief vents	Pressure vessels	-	-	-	-	-
Storage tank Vents	Liquid chemicals and oils storage tank	-	-	-	-	-

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**
Diesel Engine exhausts	Diesel engine exhausts Emergency generator and fire pumps	-	-	-	-	-
HSRG Safety relief valves	From steam heat recovery systems	-	-	-	-	-
Air ejectors on ACC	From air cooled condensers(ACC)	-	-	-	-	-

Note 1: 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 S1.5.

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 on site plan in schedule 7 emission to IDB Drain Flood relief Channel via Willows Business Park surface water drainage network	Oil and grease	Surface water drainage	No visible emission	Spot samples	Monthly	Visual inspection

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
S1 on site plan in schedule 7 emission to Anglian Water foul sewer	No parameters set	No limits set	-	-	-	-

Table S3.4 Annual limits (excluding start up and shut down except where otherwise stated).				
Substance	**Medium**	**Limit (including unit)**		**Emission Points**
Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	LCP 48 (Emission point A1)
		01/01/16 and subsequent years until 31/12/19 01/06/20-30/06/20	Emission allowance figure shown in the TNP Register as at 30 April the following year	

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Oxides of nitrogen	A1, A7, A8	Every 3 months	1 January, 1 April, 1 July, 1 October
Carbon Monoxide	A1, A7, A8	Every 3 months	1 January, 1 April, 1 July, 1 October
Sulphur Dioxide	A1, A7, A8	Every 6 months	1 January, 1 July
Surface water monitoring Parameters as required by condition 3.5.1	S1	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2: Resource Efficiency Metrics	
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

Table S4.3 Chapter III Performance parameters for reporting to DEFRA		
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 matter for each LCP	Annually	t
Operating Hours for each LCP	Annually	hr

Table S4.4 Reporting forms				
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 (LCP48)	Form IED RTA1 –TNP quarterly emissions summary log	01/01/16	National	31/12/15
Air	Form IED CON 2-continous 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
Air (LCP48)	Form Air – 4 TNP allocation log or other form as agreed in writing by the Environment Agency	01/01/16	Area and National Office	31/12/15
Water	Form water 1 or other form as agreed in writing by the Environment Agency	01/01/16	SI	31/12/15

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

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

(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.

“breakdown” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

“CEN” means Commité 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.

“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.

“malfunction” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

“mcr” means maximum continuous rating.

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

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

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

“ncv” means net calorific value.

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

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

“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.

“SI” means site inspector.

“TNP Register” means the register maintained by the Environment Agency in accordance with regulation 4 of the Large Combustion Plants (Transitional National Plan) Regulations 2015 SI2015 No.1973.

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

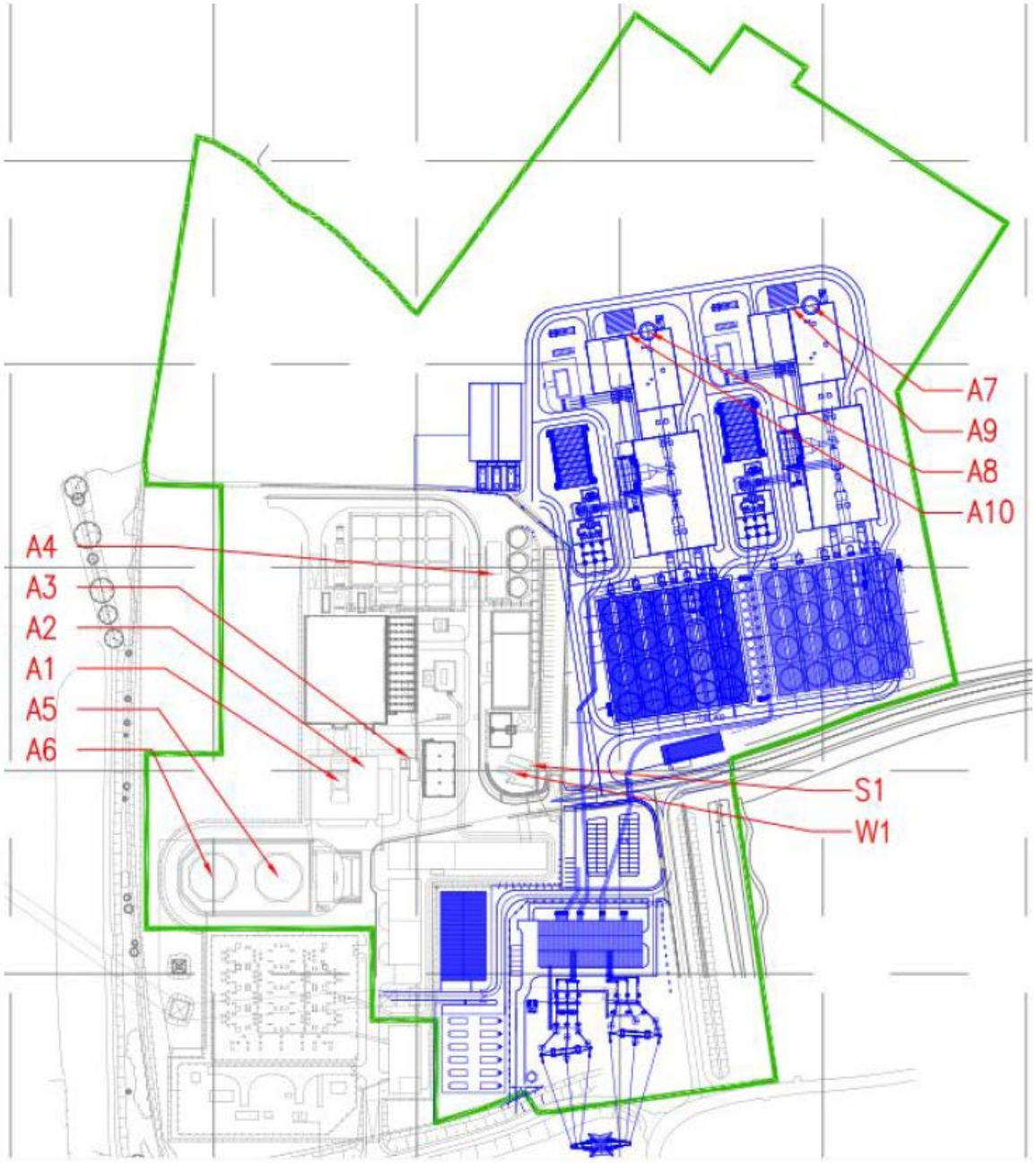
in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or

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



END OF PERMIT