



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

RWE Generation UK Plc

Hythe Power Station
Cadland Road
Hardley
Hythe
Southampton
SO45 3YY

Variation application number

EPR/CP3139QJ/V002

Permit number

EPR/CP3139QJ

Hythe Power Station

Permit number EPR/CP3139QJ

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2016 (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 2 of the notice comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions. We have reviewed the permit for this installation against the revised BAT Conclusions for the large combustion plant sector published on 17th August 2017. Only activities covered by this BAT Reference Document have been reviewed and assessed.

This variation makes the below changes following the review under Article 21(3) of the IED and the consolidation of the Environmental Permitting Regulations that came into force on the 4 January 2017:

- The Operator chose to operate the LCPs on site under the Transitional National Plan (TNP) compliance route. The TNP ends on 30 June 2020, after which the emission limits set out in Chapter III of IED will be applicable to the plant. These have been included in emission table S3.1;
- Revised emission limits and monitoring requirements for emissions to air applicable from 17 August 2021 in line with the BAT Conclusions have been included in table S3.1a;
- Following the Bat Conclusions implementation date the package boiler plant on site (LCP 268) will operate for a maximum of 1500 hours per annum. This restriction is specified by condition 2.3.5;
- Inclusion of process monitoring for energy efficiency in table S3.4; and
- Removal of reference to use of fuel oil from the permit as this is no longer used as a standby fuel.

The sampling frequency of the emissions to water set out in table S3.2 has also been amended from weekly to 6 monthly.

Permit condition 2.3.9 has been included in the permit with corresponding improvement condition IC14 requiring the operator to submit a report in relation to potential black start operation of the plant.

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

The net thermal input of the LCPs are as follows: LCP 269: comprising 1 x 133MWth CHP and LCP 268: comprising 4 x 20.75MWth (83MWth) gas fired package boilers in one windshed. LCP268 and LCP269 will operate under the TNP compliance route until June 2020.

The facility was designed as a natural gas fired Combined Heat and Power (CHP) system to generate electricity and to provide steam to local industrial customers who have now closed down.

LCP 269 is also permitted to operate in open cycle mode in the Short Term Operating Reserve (STOR)/TRIAD (This identifies peak demand at points during the winter in order to minimise energy consumption) markets for a maximum of 500 hours per year, using the steam turbine to generate additional electricity. The plant currently operates in open cycle mode rather than CHP mode, however CHP mode may commence again in the future if steam customers are identified. The plant is defined as 'non emergency' in relation to the BAT Conclusions due to the services it provides to the National Grid.

LCP269 in CHP mode consists of a combined cycle gas turbine (CCGT), a heat recovery steam generator (HRSG) and a steam turbine. The steam turbine is sized to reduce the steam pressure of the steam being supplied to customers and is not capable of using all the steam produced by the HRSG. Continuous operation in this mode (partial CCGT mode) is inefficient and therefore uneconomic.

National Grid services require the generating plant to be available at short notice and for this purpose OCGT operation gives a more rapid start up. The longer start up in CCGT mode is due to the need to slowly bring the HRSG and the steam turbine up to operating temperature.

When operating in OCGT mode the exhaust from the turbine is discharged through a 3m diameter, 25m high windshield (release point LCP269: A3) directly to atmosphere without passing through the HRSG. The bypass design will provide for the retrospective installation of a damper system which will divert exhaust gas from the windshield to the HRSG and therefore allow for fast alteration from one mode to the other. Individual run times in OCGT mode are expected to be less than 2 hours.

As the plant will operate for less than 500 hour operation in OCGT mode per year, no continuous emissions monitoring is installed on the bypass windshield.

If the plant operates in CHP mode or partial CCGT mode then the ELVs, monitoring and reporting requirements will apply to the emissions from the HRSG (release point LCP269: A1).

Following the Bat Conclusions implementation date the package boiler plant on site (LCP 268) will operate for a maximum of 1500 hours per annum.

No standby fuel is used on site.

The facility also includes the use of a reverse osmosis plant to supply demineralised water for the spray intercooling power augmentation system (SPRINT), which injects water into the compressor stage inlet of the gas turbine to cool the incoming air.

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 EPR/BK1732IQ/A001	Duly made 12/02/2001	As amended in letters dated 01/06/2001 and 09/08/2001.
Additional information received	Request date 06/06/2001	Responses dated 04/07/2001 and 22/10/2001.
Permit determined EPR/BK1732IQ	24/12/2001	Permit issued to BP Energy Ltd.
Application Variation EPR/BK1732IQ/V002	Duly made 17/10/2002	Application to change company name to BP CHP (UK) Limited.
Variation determined EPR/CP3139QJ/V002	24/10/2002	Varied permit issued.
Application Variation EPR/BK1732IQ/V003 (regulation 17(5) variation)	Effective 27/11/2004	Introduction of monitoring and reporting requirements for large combustion plant for compliance with the LCPD (2001/80/EC).
Application Variation EPR/BK1732IQ/V004	Duly Made 13/10/2014	Addition of liquid effluent discharge point. This variation also incorporates the changes required by the Industrial Emissions Directive.
Variation determined EPR/CP3139QJ/V004	04/03/2015	Varied permit issued to Npower Cogen (Hythe) Limited.
Application Variation EPR/BK1732IQ/V005	Duly made 10/04/2015	Application for normal variation to permit OCGT or CHP operation and installation of a demineralised water plant.

Status log of the permit		
Description	Date	Comments
Variation determined EPR/CP3139QJ/V005	09/07/2015	Varied permit issued.
Regulation 60 Notice sent to the Operator	18/11/2014	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 response	09/04/2015	Response received from the Operator.
Additional information received	30/06/2015	Response to request for further information (RFI) dated 03/06/2015.
Additional information received	23/07/2015	Response to request for further information (RFI) dated 17/07/2015.
Variation determined EPR/BK1732IQ/V006 (Billing ref: BP3034AW)	21/12/2015	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.
Notified of change of company name	12/07/2016	Name changed to RWE Cogen UK (Hythe) Limited
Variation issued EPR/BK1732IQ/V007	16/09/2016	Varied permit issued to RWE Cogen UK (Hythe) Limited
Regulation 61 Notice sent to the Operator	01/05/2018	Issue of a Notice under Regulation 61(1) of the EPR. Environment Agency initiated review and variation to vary the permit under IED to implement Chapter II following the publication of the revised Best Available Techniques (BAT) Reference Document for large combustion plant.
Application EPR/CP3139QJ/T001 (full transfer and variation of permit EPR/BK1732IQ)	Duly made 16/07/2018	Application to transfer the permit to RWE Generation UK PLC, and change the name of the site to Hythe Power Station.
Transfer and variation determined EPR/CP3139QJ	24/07/2018	Full transfer and variation of permit complete.
Regulation 61 Notice response	12/11/2018	Response received from the Operator.
Revised regulation 61 Notice response	17/01/2019	Response received from the Operator.
Further information received in response to information request dated 19/10/19	31/10/2019	Information on operating hours and energy efficiency.
Variation determined EPR/CP3139QJ/V002 (Billing ref: EP3406PD)	08/01/2020	Varied and consolidated permit issued. Effective from 17/01/2020

End of introductory note

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/CP3139QJ

Issued to

RWE Generation UK Plc (“the operator”)

whose registered office is

Windmill Hill Business Park

Whitehill Way

Swindon

Wiltshire

SN5 6PB

company registration number 03892782

to operate a regulated facility at

Hythe Power Station

Cadland Road

Hardley

Hythe

Southampton

SO45 3YY

to the extent set out in the schedules.

The notice shall take effect from 08/01/2020.

Name	Date
Sifelani F Mpofo	08/01/2020

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 2016

Permit number

EPR/CP3139QJ

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/CP3139QJ/V002 authorising,

RWE Generation UK Plc (“the operator”),

whose registered office is

Windmill Hill Business Park

Whitehill Way

Swindon

Wiltshire

SN5 6PB

company registration number 03892782

to operate a regulated facility at

Hythe Power Station

Cadland Road

Hardley

Hythe

Southampton

SO45 3YY

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

Name	Date
Sifelani F Mpofu	08/01/2020

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: LCP268 and LCP269. The activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” dated December 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: LCP268. The activities shall operate for less than 1,500 hours per year as a rolling average over a period of five years with a maximum of 2,250 hours operated in any one year in line with Section 4.0 of Version 5.1: The Protocol for IED Annex V 1500 Limited Hours Derogation July 2015 or any later version.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP269 (operating in open cycle mode). The activities shall not operate for more than 500 hours per year.
- 2.3.7 For the following activities referenced in schedule 1, table S1.1: LCP268 and LCP269. 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.
- 2.3.8 For the following activities referenced in schedule 1, table S1.1: LCP269. The effective Dry Low NOx threshold shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.5.
- 2.3.9 The emission limit values from emission points A1 and A3 listed in tables S3.1 and S3.1(a) of Schedule 3 following the issue of a Black Start Instruction by the National Grid shall be disregarded for the purposes of compliance whilst that instruction remains effective and in accordance with the report submitted in response to improvement condition IC14.

- 2.3.10 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.
- 2.3.11 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 S3.1a and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Total annual emissions from the LCP emission points 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 S3.3.
- 3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

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

3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

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

3.4.2 The operator shall:

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

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1, S3.1a and S3.2; and
- (b) process monitoring specified in table 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, S3.1a and S3.2 unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring for Large Combustion Plant

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 and the Large Combustion Plant Best Available Techniques Conclusions.

- 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(s) S3.1 and S3.1a; the Continuous Emission Monitors shall be used such that:
- (a) for the continuous measurement systems fitted to the LCP release points defined in table(s) S3.1 and S3.1a the validated hourly, monthly, yearly 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. 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 conditions 2.3.5 and 2.3.6 apply 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.

4.2.5 For the following the following activities referenced in schedule 1, table S1.1: LCP268 and LCP269. 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 (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.
- In any other case:
- (e) the death of any of the named operators (where the operator consists of more than one named individual);
 - (f) any change in the operator's name(s) or address(es); and
 - (g) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 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
AR1	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more	<p>LCP269 (combined cycle mode):- The operation of a Combined Cycle Gas Turbine with a net rated thermal input of 133MW for the generation of electricity.</p> <p>LCP 269: (open cycle mode):- The operation of an Open Cycle Gas Turbine with a net rated thermal input of 133MW for the generation of electricity</p> <p>LCP268 Hythe Package Boilers: The operation of four gas fired boilers each with a net rated thermal input of 20.75MW for the generation of steam.</p>	<p>The operation of a gas fired combined heat and power station fired on natural gas (including gas turbine, heat recovery steam generator, electrical generator, steam turbine, package steam boilers, oil lubrication system, water treatment, air compressors, and high voltage switchgear).</p> <p>From receipt, handling and on-site storage of raw materials to despatch of products and waste.</p> <p>LCP268: Operating hours limited to 1,500 per year as per Condition 2.3.5.</p> <p>LCP269: Operating hours in open cycle mode limited to 500 per year as per Condition 2.3.6.</p>
		Diesel powered fire pump	<p>Production of pressurised water for fire fighting.</p> <p>Including receipt, handling and storage of diesel fuel in day tank located above bunded base of package unit.</p>
Directly Associated Activity			
AR2	Effluent treatment system	Effluent discharge via an oil interceptor to a neutralisation tank for pH correction and settlement prior to discharge to Southampton Water.	Handling and storage of site drainage until discharge to the site surface water system.
AR3	Water treatment plant	Addition of boiler water chemicals and treatment of condensate by activated carbon filtration and mixed bed ion exchange.	From receipt of raw materials to dispatch to effluent treatment system.
AR4	Reverse osmosis water treatment plant	Production of demineralised water from town's water supply.	From receipt of raw materials to discharge to effluent treatment and storage of demineralised water.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to questions 2.3 given in section 2.3 of the application.	12/02/2001 (as amended by letter dated 01/06/2001)
Response to Schedule 4 Part 1 Notice.	Response to questions 5, 9 and 10.	04/07/2001
Additional information	Letter (ref. 10352/0001) and attachments.	23/10/2001
Variation application EPR/BK1732IQ/V004	The response to question 3 in Application Form EPC Part C3 given in Sections 1, 2, 3, 4, 5 and 6 of the Supporting Information to the Application.	13/10/2014
Variation application EPR/BK1732IQ/V005	The response to question 3 in Application Form EPC Part C3 given in sections 1 to 11 of the Permit Variation Supporting Information and including the response dated March 2015 to the Regulation 60 Notice.	10/04/2015
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 (Compliance routes), 4 (Configuration of LCP), 5 (Net rated thermal input), 6 (Minimum start up and shut down load) Excluding compliance route TNP for LCP 268 and 269 and related operating techniques	Received 31/03/2015
Receipt of additional information to the regulation 60(1) Notice. Requested 03/06/2015	Compliance route(s) and operating techniques identified in response to questions 2 (Compliance routes), 4(configuration of LCP's)	Received 30/06/2015
Receipt of additional information to the regulation 60(1) Notice	Compliance route(s) and operating techniques identified in response to questions 2 (Compliance routes), 4 (configuration of LCP's).	Received 03/12/2015
Receipt of additional information to the regulation 60(1) Notice	Confirmation of the compliance routes chosen for LCP 268 and 269	Received 21/12/2015
Response to regulation 61(1) Notice – request for information dated 01/05/18	Revised compliance and operating techniques identified in response to the BAT Conclusions for large combustion plant published on 17th August 2017.	17/01/2018

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
Improvement conditions 9.1 – 9.8 and 10 have been removed from the permit through variation EPR/CP3139QJ/V002 as they are complete.		
IC9.9	<p>The operator shall review the potential for customers in the area who could be supplied with steam from the facility. A report of the results of the review shall be submitted to the Environment Agency.</p> <p>The review shall be repeated every 2 years and reported to the Environment Agency within 2 months of each review.</p>	Every 2 years commencing 2016
IC11	<p>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 LCP 269 operating in CHP mode as required by the Implementing Decision 2012/249/EU in terms of:</p> <p>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.</p>	Within 3 months of recommencing CHP operation
IC12	<p>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 LCP 268 as required by the Implementing Decision 2012/249/EU in terms of:</p> <p>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.</p>	Within 3 months of recommencing operation of LCP 268
IC13	<p>The Operator shall submit a report in writing to the Environment Agency for approval. The report shall define an output load or operational parameters for LCP 269 when operating in CHP mode and provide a written justification for when the dry low NO_x operation is effective. The report shall also include the NO_x profile through effective dry low NO_x to full load.</p>	Within 6 months of recommencing CHP operation
IC14	<p>A written report shall be submitted to the Environment Agency for approval. The report shall contain an impact assessment demonstrating that there is no significant environmental risk associated with black start operations and propose a methodology for minimisation of environmental impact during such a period of operation and for reporting instances of black start operation.</p> <p>The plant can be operated as set out in condition 2.3.9 of the permit once the report has been approved by the Environment Agency. The methodology for operation and reporting set out in the report shall be implemented by the Operator from the date of approval by the Environment Agency.</p>	12 months from issue of variation EPR/CP3139QJ/V002

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 (%)	“Minimum shut-down load” Load in MW and as percent of rated power output (%)
A2: LCP268 Boilers 1,2,3,4	To be agreed in writing by the Environment Agency, following the outcome of pre-operational measure IC12	To be agreed in writing by the Environment Agency, following the outcome of pre-operational measure IC12
A3: LCP269 (OCGT mode)	5 MWe, 10.8%	5 MWe, 10.8%
A1: LCP269 (CHP mode)	To be agreed in writing by the Environment Agency, following the outcome of pre-operational measure IC11	To be agreed in writing by the Environment Agency, following the outcome of pre-operational measure IC11

Table S1.5 Dry Low NOx effective definition	
Emission Point and Unit Reference	Dry Low NOx effective definition Load in MW and as percent of rated power output (%)
A1: LCP269	Load: 35 MW; 70%

Schedule 2 – Raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
-	-

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air - emission limits and monitoring requirements shall apply until 16 August 2021						
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)	LCP269 Gas turbine fired on natural gas	60 mg/m ³	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)	LCP269 Gas turbine fired on natural gas	60 mg/m ³	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP269 Gas turbine fired on natural gas	120 mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine fired on natural gas	50 mg/m ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine fired on natural gas	50 mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine fired on natural gas	100 mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Sulphur dioxide	LCP269 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	Oxygen	LCP269	-	-	Continuous	BS EN 14181

Table S3.1 Point source emissions to air - emission limits and monitoring requirements shall apply until 16 August 2021

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
in schedule 7]		Gas turbine fired on natural gas			As appropriate to reference	
A1 [Point A1 on site plan in schedule 7]	Water vapour	LCP269 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	LCP269 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	LCP269 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	LCP269 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]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP268 Boiler plant fired on natural gas	140 mg/m ³ Note 1	-	At least every 6 months	BS EN 14792
			110 mg/m ³ Note 2			
A2 [Point A2 on site plan in schedule 7]	Carbon monoxide	LCP268 Boiler plant fired on natural gas	60 mg/m ³	-	At least every 6 months	BS EN 15058
A2 [Point A2 on site plan in schedule 7]	Sulphur dioxide	LCP268 Boiler plant fired on natural gas	35mg/m ³	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A2 [Point A2 on site plan in schedule 7]	Dust	LCP268 Boiler plant fired on natural gas	5mg/m ³	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency

Table S3.1 Point source emissions to air - emission limits and monitoring requirements shall apply until 16 August 2021

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]	Oxygen	LCP268 Boiler plant fired on natural gas	-	-	Periodic As appropriate to reference	BS EN 14789
A2 [Point A2 on site plan in schedule 7]	Water vapour	LCP268 Boiler plant fired on natural gas	-	-	Periodic As appropriate to reference	BS EN 14790
A2 [Point A2 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP268 Boiler plant fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A3 [Point A3 on site plan in Schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP269 Gas turbine by-pass stack fired on natural gas (open cycle mode)	-	-	Concentration by calculation, every 2 years	Agreed in writing with the Environment Agency
A3 [Point A3 on site plan in schedule 7]	Sulphur dioxide	LCP269 Gas turbine by-pass stack fired on natural gas (open cycle mode)	-	-	Concentration by calculation, every 2 years	Agreed in writing with the Environment Agency
A3 [Point A3 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine by-pass stack fired on natural gas (open cycle mode)	-	-	Concentration by calculation, every 2 years	Agreed in writing with the Environment Agency

Note 1: Limit applies until 30 June 2020.

Note 2: Limit applies from 01 July 2020.

Table S3.1(a) Point source emissions to air - emission limits and monitoring requirements shall apply from 17 August 2021

Emission point ref. & location	Parameter	Source	Limit (including unit)	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)	LCP269 Gas turbine fired on natural gas	60 mg/m ³ When DLN is effective ^{Note 2}	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)	LCP269 Gas turbine fired on natural gas	60 mg/m ³ When DLN is effective ^{Note 2}	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)	LCP269 Gas turbine fired on natural gas	120 mg/m ³ When DLN is effective ^{Note 2}	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP269 Gas turbine fired on natural gas	55 mg/m ³ When DLN is effective ^{Note 2}	Yearly average	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine fired on natural gas	50 mg/m ³ When DLN is effective ^{Note 3}	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine fired on natural gas	50 mg/m ³ When DLN is effective ^{Note 2}	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine fired on natural gas	100 mg/m ³ When DLN is effective ^{Note 2}	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine fired on natural gas	30 mg/m ³ When DLN is effective ^{Note 2}	Yearly average	Continuous	BS EN 14181

Table S3.1(a) Point source emissions to air - emission limits and monitoring requirements shall apply from 17 August 2021						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in schedule 7]	Sulphur dioxide	LCP269 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]	Flow	LCP269 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	EN ISO 16911 and M2
A1 [Point A1 on site plan in schedule 7]	Oxygen	LCP269 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	LCP269 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	LCP269 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	LCP269 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	LCP269 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]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP268 Boiler plant fired on natural gas	110 mg/m ³ MSUL/MSDL to base load	-	At least every 6 months	BS EN 14792
A2 [Point A2 on site plan in schedule 7]	Carbon monoxide	LCP268 Boiler plant fired on natural gas.	60 mg/m ³ MSUL/MSDL to base load	-	At least every 6 months	BS EN 15058

Table S3.1(a) Point source emissions to air - emission limits and monitoring requirements shall apply from 17 August 2021						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A2 [Point A2 on site plan in schedule 7]	Sulphur dioxide	LCP268 Boiler plant fired on natural gas	35mg/m ³	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A2 [Point A2 on site plan in schedule 7]	Dust	LCP268 Boiler plant fired on natural gas	5mg/m ³	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency
A2 [Point A1 on site plan in schedule 7]	Flow	LCP268 Boiler plant fired on natural gas	-	-	Periodic As appropriate to reference	EN ISO 16911 and M2
A2 [Point A2 on site plan in schedule 7]	Oxygen	LCP268 Boiler plant fired on natural gas	-	-	Periodic As appropriate to reference	BS EN 14789
A2 [Point A2 on site plan in schedule 7]	Water vapour	LCP268 Boiler plant fired on natural gas	-	-	Periodic As appropriate to reference	BS EN 14790
A2 [Point A2 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP268 Boiler plant fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A3 [Point A3 on site plan in Schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP269 Gas turbine by-pass stack fired on natural gas (open cycle mode)	140mg/m ³	-	Concentration by calculation, every 2 years	Agreed in writing with the Environment Agency
A3 [Point A3 on site plan in schedule 7]	Sulphur dioxide	LCP269 Gas turbine by-pass stack fired on natural gas (open cycle mode)	-	-	Concentration by calculation, every 2 years	Agreed in writing with the Environment Agency

Table S3.1(a) Point source emissions to air - emission limits and monitoring requirements shall apply from 17 August 2021

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A3 [Point A3 on site plan in schedule 7]	Carbon monoxide	LCP269 Gas turbine by-pass stack fired on natural gas (open cycle mode)	-	-	Concentration by calculation, every 2 years	Agreed in writing with the Environment Agency

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 S1.4 of this permit.

Note 2: This ELV applies when DLN is effective as defined in Table S1.5 of this permit.

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 The Solent)	Total suspended solids	Effluent Treatment plant	200 mg/l	Spot sample	At least every 6 months	Gravimetric
W1 (on site plan in schedule 7, emission to The Solent)	pH	Effluent Treatment plant	6-9	Spot sample	At least every 6 months	BS6068-2.50
W1 (on site plan in schedule 7, emission to The Solent)	Temperature	Effluent treatment plant	30°C	Spot sample	At least every 6 months	Mercury in glass thermometer

Substance	Medium	Limit (including unit)		Emission Points
Dust, Sulphur dioxide and Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	LCP 268 LCP269
		01/01/16 and subsequent years until 31/12/19	Emission allowance figure shown in the TNP Register as at 30 April the following year	
		01/01/20-30/06/20		

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
LCP268 and LCP269	Net electrical efficiency	After each modification which that could significantly affect these parameters	EN Standards or equivalent	-

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	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every 6 months	1 January, 1 July
		Every year	1 January
	A2	Every 6 months	1 January, 1 July
	A3	Every 2 years	1 January
Carbon Monoxide	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every 6 months	1 January, 1 July
		Every year	1 January
	A2	Every 6 months	1 January, 1 July
	A3	Every 2 years	1 January
Sulphur dioxide	A1	Every 6 months for periodic monitoring	1 January, 1 July
	A2	Every 6 months	1 January, 1 July
	A3	Every 2 years	1 January
Dust	A2	Every 6 months for periodic monitoring	1 January, 1 July
Emissions to Water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July

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

Table S4.2 Resource Efficiency Metrics	
Parameter	Units
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 Large Combustion Plant 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 for each LCP	Annually	t
Operating Hours for each LCP	Annually	hr
Operating Hours as a five yearly rolling average for LCP 268	Annually	hr

Table S4.4 Reporting forms			
Media/ parameter	Reporting format	Starting Point	Agency recipient
Air & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy Form as agreed in writing by the Environment Agency.	01/01/16	National
Air	Form IED RTA1 – TNP quarterly emissions summary log Form as agreed in writing by the Environment Agency.	01/01/16	National
LCP	Form IED HR1 – operating hours Form as agreed in writing by the Environment Agency.	01/01/16	National
Air	Form IED CON 2 – continuous monitoring Form as agreed in writing by the Environment Agency.	01/01/16	Area Office

Table S4.4 Reporting forms			
Media/ parameter	Reporting format	Starting Point	Agency recipient
CEMs	Form IED CEM – Invalidation Log Form as agreed in writing by the Environment Agency.	01/01/16	Area Office
Air	Form IED PM1 – discontinuous monitoring and load. Form as agreed in writing by the Environment Agency.	01/01/16	Area Office
Resource Efficiency	Form REM1 – resource efficiency annual report Form as agreed in writing by the Environment Agency.	01/01/16	National
Water	Form water 1 or other form as agreed in writing by the Environment Agency Form as agreed in writing by the Environment Agency.	01/01/16	Area Office

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	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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.

“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.

“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.

“commissioning” means testing of the installation that involves any operation of a Large Combustion Plant referenced in schedule 1, table S1.1.

“daily average” means the average over a period of 24 hours of validated hourly averages obtained by continuous measurements.

“DLN” means dry, low NO_x burners.

“emergency plant” means a plant which operates for the sole purpose of providing power at a site during an onsite emergency and/or during a black start and which does not provide balancing services or demand side response services.

“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 limit.

“emissions to land” includes emissions to groundwater.

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

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“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 windshaft 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.

“Net electrical efficiency” means the ratio between the net electrical output (electricity produced minus the imported energy) and the fuel/feedstock energy input (as the fuel/feedstock lower heating value) at the combustion unit boundary over a given period of time.

“non-emergency plant” means a plant which provides balancing services or demand side response services.

“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.

“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.

“yearly average” means the average over a period of one year of validated hourly averages obtained by continuous measurements.

