



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Drax Generation Enterprise Limited
Shoreham Power Station
Basin Road South
Portslade
East Sussex
BN41 1WF

Variation application number

EPR/DP3433DM/V003

Permit number

EPR/DP3433DM

Shoreham Power Station

Permit number EPR/DP3433DM

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:

- Revised emission limits and monitoring requirements for emissions to air applicable from 17 August 2021 in table S3.1a;
- Inclusion of process monitoring for energy efficiency in table S3.3; and
- A definition of dry low NO_x effectiveness (DLN-e) in table S1.5.

The following changes have been made that are outside of the review, as follows:

- Permit condition 2.3.7 has been included in the permit with corresponding improvement condition IC12 requiring the operator to submit a report in relation to potential black start operation of the plant;
- Table S3.2 has been amended to include a revised methodology for measuring flow in the discharge.

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

The net thermal input of the LCP is as follows: LCP 306 – one 716MWth CCGT

The DEFRA LCP reference is LCP 306.

A Combined Cycle Gas Turbine is operated at Shoreham Power Station on Shoreham Harbour, East Sussex on the South Coast of England. The power station provides power to the national grid.

The power plant consists of a single ABB GT26 Gas Turbine that has been set up to operate in a combined cycle format. The gas turbine is fuelled by natural gas, which is delivered to the site from the national grid National Grid distribution network. Once the gas is delivered to the installation it is pressurised from 5-6 barg to 50 barg by a compressor for feeding to the turbine.

The exhaust gases from the gas turbine are passed through a heat recovery steam generator (HRSG) to generate steam. The generated steam is passed to 3 steam turbines located on the same shaft as the gas turbine. The total maximum generating capacity for the combined cycle is 420 MWe.

The exhaust gases coming out of the HSRG are emitted to the atmosphere through a 100m high stack. The emissions are monitored using a continuous environmental monitoring system (CEMS).

The steam exiting from the steam turbines is condensed in a condenser served by a primary cooling system that consists of a closed loop with deionised water. The deionised water is cooled by mean of a secondary system consisting of a one through non-evaporative system using saline water extracted from the adjacent harbour and discharged to the English Channel. The saline cooling water is dosed with Sodium Hypochlorite to restrict bio fouling of the system. The extraction of the saline water is from the dock side of Shoreham Harbour, and employs a series of screens and acoustic deterrents to prevent fish impingement and entrapment.

The closed loop of the cooling water/steam system is made up of de-ionised water that is made up of the towns water treated on site. The on-site treatment consists of a reverse osmosis plant followed by ion exchange plant. Sulphuric acid and caustic soda is stored on site to enable the regeneration of the ion beds within the treatment plants.

The installation is located within Shoreham Harbour, which is located on a spit on the outlet of the River Adur. This forms part of the Brighton and Hove conurbation on the South Coast of England. The harbour is sandwiched between the English Channel to the south and the docks of the harbour to the north. The water level within the docks is maintained at high tide level through a series of locks. The buildings immediately adjacent to the power station are industrial, with a Sewage Treatment Works to the south, a timber yard to the west and an open area to the east. There are residential properties to the north of the installation on the mainland (located 150m to the north at an elevation of 5m above the installation).

Effluent from the water treatment plant, steam circuit, boiler blowdown and site drainage is collected within an effluent pit where, if the quality is acceptable based on continuous monitoring and periodic sampling, it is passed to a seal pit prior to discharge to the English Channel. Water from the main cooling water circuit is added to the water within the seal pit, where is it tested for chlorine content, prior to its discharge

There is only one 'Natura 2000' site designated under the Habitats Directive within the vicinity of the site: Castle Hill Candidate Special Area of Conservation located to the northeast of Brighton 12 km from the installation. There are six Sites of Special Scientific Interest (SSSIs) within a 10km radius of the site. The majority of these are located on various parts of the South Downs. The closest of the SSSIs is the Adur Estuary which is located 2.5 km to the west of the installation past the outlet from the estuary and the harbour to the English Channel.

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 XP3038SW	15/05/2006	
Additional information provided	20/07/2006	Details of Water Treatment Plant
Additional information provided	03/08/2006	Information on CO limit
Additional information provided	26/06/2007	Site plans
Permit determined under PPC XP3038SW	29/06/2007	Permit issued to Scottish Power (SOCL) Limited.
Application for substantial variation EPR/XP3038SW/V002	Duly made 20/11/2009	Variation to allow increased temperature difference in discharge on bypass of steam turbine
Variation Issued EPR/XP3038SW/V002	16/02/2010	
Variation determined EPR/XP3038SW/V003	11/03/2013	Environment Agency Initiated Variation, to incorporate Eel Regulations improvement condition.

Status log of the permit		
Description	Date	Comments
Variation determined EPR/XP3038SW/V004	Issued 29/09/2014	Environment Agency Initiated Variation, to add an improvement condition requiring a cost benefit appraisal to ensure compliance with the Eels Regulations. Effective 1/10/2014.
Application EPR/EP3934WC/T001 (full transfer of permit EPR/XP3038SW)	Duly made 11/11/2014	Application to transfer the permit in full to Scottish Power (SPCL) Limited
Transfer determined EPR/EP3934WC	27/11/2014	Full transfer of permit complete.
Regulation 60 Notice sent to the Operator	31/10/2014	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	30/03/2015	Response received from the Operator.
Additional information received	24/06/2015	Response to request for further information (RFI) dated 29/05/2015.
Variation determined EPR/EP3934WC/V002	21/12/2015	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.
Application EPR/DP3433DM/T001 (full transfer of permit EPR/EP3934WC)	Duly made 31/03/2016	Application to transfer the permit in full to Scottish Power Generation Limited.
Transfer determined EPR/DP3433DM	17/05/2016	Full transfer of permit complete.
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.
Regulation 61 Notice response	06/11/2018	Response received from the Operator.
Notified of change of company name and registered office address	12/08/2019	Name and registered office address changed to Drax Generation Enterprise Limited, 13 Queen's Road, Aberdeen, Scotland, AB15 4YL
Variation determined EPR/DP3433DM/V002	10/09/2019	Varied permit issued to Drax Generation Enterprise Limited.
Additional information received EPR/EP3934WC/V003	14/05/2020	MCERTS for flow methodology.
Variation determined EPR/EP3934WC/V003 (Billing ref: VP3703SV)	17/06/2020	Varied and consolidated permit issued.

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/DP3433DM

Issued to

Drax Generation Enterprise Limited (“the operator”)

whose registered office is

**13 Queen's Road
Aberdeen
Scotland
AB15 4YL**

company registration number SC189124

to operate a regulated facility at

**Shoreham Power Station
Basin Road South
Portslade
East Sussex
BN41 1WF**

to the extent set out in the schedules.

The notice shall take effect from 17/06/2020.

Name	Date
Claire Roberts	17/06/2020

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/DP3433DM

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/DP3433DM/V003 authorising,

Drax Generation Enterprise Limited (“the operator”),

whose registered office is

**13 Queen's Road
Aberdeen
Scotland
AB15 4YL**

company registration number SC189124

to operate a regulated facility at

**Shoreham Power Station
Basin Road South
Portslade
East Sussex
BN41 1WF**

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

Name	Date
Claire Roberts	17/06/2020

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 red 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: LCP306. 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: LCP306. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in schedule 1, tables S1.2 and S1.4.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP306. The effective Dry Low NOx threshold shall conform to the specifications set out in schedule 1, tables S1.2 and S1.5.
- 2.3.7 The emission limit values from emission point A1 listed in table S3.1 and S3.1a 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 IC12.
- 2.3.8 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.

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

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
 - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1, S3.1a and S3.2; and
 - (b) process monitoring specified in table S3.3.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continuous), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3, tables S3.1, 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, tables 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 tables 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.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4, table S4.1;
- (b) for the reporting periods specified in schedule 4, table S4.1 and using the forms specified in schedule 4, table S4.4; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

- 4.3.2 Any information provided under condition 4.3.1(a)(i), 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit, or 4.3.1 (d) where the information relates to malfunction or breakdown of abatement equipment shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (c) any change in the operator's name or address; and
 - (d) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (e) the death of any of the named operators (where the operator consists of more than one named individual);
 - (f) any change in the operator's name(s) or address(es); and
 - (g) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Environment Agency shall be given at least 14 days' notice before implementation of any part of the site closure plan.
- 4.3.7 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.	LCP306: The generation of electricity within a combined cycle gas turbine fuelled by natural gas with net rated thermal input of 716 MW and a generation capacity of 420 MWe.	From the delivery of natural gas to the installation, the pressurisation of the gas and delivery to the gas turbine, the combustion of the gas within the gas turbine, the generation of steam within a heat recovery steam generator, the generation of electricity between a minimum stable generation of 200 MW and a base load of 420 MW in the gas turbine and steam turbine to the emission of combustion products through the stack and the condensing of the steam within the once through cooling water system.
		The generation of electricity within a 550 kW emergency generator fuelled by gas oil.	From the receipt of gas oil, storage within a tank through to the generation of electricity, to the supply of the power to the building services and the gas turbine for the purpose of shutting down the plant in the event of an emergency. This also includes the test firing of the generator to ensure that it is running effectively.
Directly Associated Activity			
AR2	Directly associated activity	The purification of the town's water for the purpose of producing make-up water. The process includes the treatment of the water through a Reverse Osmosis plant followed by passing through cation/anion exchange beds.	From the receipt of the town's water into the plant installation, storage of towns water treatment by both processes, storage of the purified water and delivery to the cooling water circuit. The activity also includes the storage of Sulphuric Acid and Caustic Soda for the regeneration of the ion beds.
AR3	Directly associated activity	Effluent water collection and handling systems	Effluent water collection and handling systems from the water treatment plant, steam circuit, boiler blowdown, site drainage and cooling water, until discharge of effluent to the English Channel (via the effluent and seal pit).

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to section 2.1, excluding 2.1.3 and 2.1.5, and 2.2 in the Application	15/05/2006
Additional Information	The contents of the letter from Scottish Power to the Environment Agency, titled 'PPC Permit Application for Shoreham Power Station Change to Water Treatment Plant', dated 20 th July 2006	20/07/2006
Additional Information	The contents of the letter from Scottish Power to the Environment Agency, titled 'PPC Permit Application for Shoreham Power Station Proposal for Variation of Carbon Monoxide Emission Limit', dated 3 rd August 2006	09/08/2006
Additional Information	The contents of the email from Ken Mitchell of Scottish Power (SOCL) Ltd titled 'Shoreham IPPC XP3038SW' dated 26 th June 2007.	26/06/2007
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance routes and operating techniques identified in response to questions 2 (compliance route), 4 (configuration of the LCP), 5 (net thermal rated input), 6 (minimum start-up and shutdown loads), 9ii (Proposed ELV's)	Received 30/03/2015
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 20/05/15	Operating techniques identified in response to questions 5 (net thermal rated input), 9ii (Proposed ELV's)	Received 24/06/2015
Response to regulation 61(1) Notice – request for information dated 01/05/18 EPR/DP3433DM/V003	Compliance and operating techniques identified in response to the BAT Conclusions for large combustion plant published on 17 th August 2017.	06/11/2018

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
Improvement conditions IC1 to IC9 and IC 11 are confirmed completed and therefore are deleted from the permit through variation EPR/DP3433DM/V003.		
IC10	<p>The Operator has undertaken a review of the existing screening arrangements with reference to the Eels (England and Wales) Regulations 2009 (SI 2009/3344) and the Environment Agency "Safe Passage for Eel" Regulatory Position Statement version 1 dated July 2012 (and as amended February 2013) in response to Improvement Programme reference IC9.</p> <p>The Environment Agency has determined that the site does not comply with the requirements for safe passage of eel and the Operator is now required to complete a cost benefits appraisal of best available technique with reference to the Environment Agency "Safe Passage for Eel: Guidance on Exemptions" as a screening tool.</p> <p>a) If the Cost Benefit Assessment shows that the Benefits are greater than the costs by a factor of 1.5 or more, then the Operator shall submit to the Environment Agency for review a report setting out the costs and the technical and economic feasibility to introduce the improvements to achieve best available technique.</p> <p>b) If the Cost Benefit Assessment shows that the Benefits are not greater than the costs by a factor of 1.5 or more, then the Operator shall, with reference to the Environment Agency "Safe Passage for Eel: Guidance on exemptions, assess which alternative measure, or combination of alternative measures, could be implemented under a case of a conditioned Exemption. The Operator shall submit a report to the Environment Agency setting out the costs and the technical and economic feasibility of implementing their proposed alternative measure or measures.</p> <p>In all cases, the submission shall contain relevant timescales in accordance with the Safe Passage for Eel Regulatory Position Statement version 1 dated July 2012 (as amended 2013). The proposals shall be implemented following written approval of the Environment Agency.</p> <p>Whilst undertaking this Improvement Condition, the Operator shall be operating under exemption from the requirements to place eel screen diversion structures pursuant to Regulation 17(5)(a) of the Eels (England and Wales) Regulations 2009. The exemption will remain in place until the Environment Agency has provided written approval that the Improvement Condition has been deemed complete.</p>	30/06/2015 Submitted, under assessment by the Environment Agency
IC12	<p>The operator shall submit a written report 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>	17/06/2021

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 (%)
A1 LCP306	200MWe; 47.62%	200MWe; 47.62%

Table S1.5 Dry Low NOx effective definition	
Emission Point and Unit Reference	Load in MW and as percent of rated power output (%) or when two of the criteria listed below for the LCP or unit have been met
A1 LCP306	CCGT Output Load: 294MWe; 70%

Schedule 2 – Raw materials and fuels

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

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 emission point plan in Schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 306 Gas turbine fired on natural gas	50 mg/m ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on emission point plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 306 Gas turbine fired on natural gas	50 mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on emission point plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 306 Gas turbine fired on natural gas	50 mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [point A1 on emission point plan in schedule 7]	Carbon monoxide	LCP No. 306 Gas turbine fired on natural gas	100 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Carbon monoxide	LCP No. 306 Gas turbine fired on natural gas	110 mg/m ³ 70% to base load ¹ 385 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Carbon monoxide	LCP No. 306 Gas turbine fired on natural gas	200 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181

Table S3.1 Point source emissions to air - emission 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 emission point plan in schedule 7]	Sulphur dioxide	LCP No. 306 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 emission point plan in schedule 7]	Oxygen	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Water vapour	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Stack gas temperature	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on emission point plan in schedule 7]	Stack gas pressure	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on emission point plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 306 Gas turbine fired on oil	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A2 [Point 25 on emission point plan in schedule 7]	-	Diesel standby generator via stack	-	-	-	-
A3 [Point A3 on emission point plan in schedule 7]	-	Heat recovery steam generator via vent	-	-	-	-

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
A4 & A5 [Points A4 & A5 on emission point plan in schedule 7]	-	Lube oil tank via vent	-	-	-	-
A6 [Point A6 on emission point plan in schedule 7]	-	Cation/anion exchange beds in water treatment plant via vent	-	-	-	-
A6 [Point A6 on emission point plan in schedule 7]	-	Start up ejector via vent	-	-	-	-
A8 [Point 2 on emission point plan in schedule 7]	-	Blowdown line via vent	-	-	-	-
A9 [Point 3 on emission point plan in schedule 7]	-	Gland steam fan via exhaust	-	-	-	-
A10 [Point 4 on Emission Plan]	-	Atmospheric drain via vent	-	-	-	-
A11 [Point 5 on emission point plan in schedule 7]	-	Cooling fan on gas turbine via vent	-	-	-	-
A12 [Point 6 on emission point plan in schedule 7]	-	Hydrogen cooling purge via vent	-	-	-	-
A13 [Point 7 on emission point plan in schedule 7]	-	Seal oil room via extractor	-	-	-	-
A14 [Point 8 on emission point plan in schedule 7]	-	Seal oil room via extractor	-	-	-	-

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
A15 [Point 9 on emission point plan in schedule 7]	-	Nitrogen purge line via vent.	-	-	-	-
A16 & A17 [Points 10 & 11 on emission point plan in schedule 7]	-	Dust filter vent line via vent	-	-	-	-
A18 [Point 12 on emission point plan in schedule 7]	-	Condensate drain tank via vent	-	-	-	-
A19 to A21 [Points 13 to 15 on emission point plan in schedule 7]	-	Gas separator line via vent	-	-	-	-
A22 & 23 [Points 16 & 17 on emission point plan in schedule 7]	-	Gas water detection via vent	-	-	-	-
A24 [Point 18 on emission point plan in schedule 7]	-	High pressure/ intermediate pressure purge line via vent	-	-	-	-
A25 to 27 [Points 19 to 21 on emission point plan in schedule 7]	-	Gas seal unit line via vent	-	-	-	-
A28 & 29 [Points 22 & 23 on emission point plan in schedule 7]	-	Cooling water separator via vent	-	-	-	-
A30 [Point 24 on emission point plan in schedule 7]	-	Diesel pump exhaust	-	-	-	-

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

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

Table S3.1a 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)-these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on emission point plan in Schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 306 Gas turbine fired on natural gas	40 mg/m ³ When DLN is effective	Yearly average	Continuous	BS EN 14181
A1 [Point A1 on emission point plan in Schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 306 Gas turbine fired on natural gas	50 mg/m ³ When DLN is effective	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on emission point plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 306 Gas turbine fired on natural gas	50 mg/m ³ When DLN is effective 50 mg/m ³ MSUL/MSDL to baseload	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on emission point plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 306 Gas turbine fired on natural gas	50 mg/m ³ When DLN is effective	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [point A1 on emission point plan in schedule 7]	Carbon monoxide	LCP No. 306 Gas turbine fired on natural gas	50 mg/m ³ When DLN is effective	Yearly average	Continuous	BS EN 14181

Table S3.1a 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)-these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
A1 [point A1 on emission point plan in schedule 7]	Carbon monoxide	LCP No. 306 Gas turbine fired on natural gas	100 mg/m ³ When DLN is effective	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Carbon monoxide	LCP No. 306 Gas turbine fired on natural gas	110 mg/m ³ When DLN is effective 385 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Carbon monoxide	LCP No. 306 Gas turbine fired on natural gas	200 mg/m ³ When DLN is effective	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Sulphur dioxide	LCP No. 306 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 emission point plan in schedule 7]	Flow	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	EN ISO 16911
A1 [Point A1 on emission point plan in schedule 7]	Oxygen	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on emission point plan in schedule 7]	Water vapour	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181

Table S3.1a 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)-these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on emission point plan in schedule 7]	Stack gas temperature	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on emission point plan in schedule 7]	Stack gas pressure	LCP No. 306 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on emission point plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 306 Gas turbine fired on oil	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A2 [Point 25 on emission point plan in schedule 7]	-	Diesel standby generator via stack	-	-	-	-
A3 [Point A3 on emission point plan in schedule 7]	-	Heat recovery steam generator via vent	-	-	-	-
A4 & A5 [Points A4 & A5 on emission point plan in schedule 7]	-	Lube oil tank via vent	-	-	-	-
A6 [Point A6 on emission point plan in schedule 7]	-	Cation/anion exchange beds in water treatment plant via vent	-	-	-	-
A6 [Point A6 on emission point plan in schedule 7]	-	Start up ejector via vent	-	-	-	-

Table S3.1a 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)-these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
A8 [Point 2 on emission point plan in schedule 7]	-	Blowdown line via vent	-	-	-	-
A9 [Point 3 on emission point plan in schedule 7]	-	Gland steam fan via exhaust	-	-	-	-
A10 [Point 4 on Emission Plan]	-	Atmospheric drain via vent	-	-	-	-
A11 [Point 5 on emission point plan in schedule 7]	-	Cooling fan on gas turbine via vent	-	-	-	-
A12 [Point 6 on emission point plan in schedule 7]	-	Hydrogen cooling purge via vent	-	-	-	-
A13 [Point 7 on emission point plan in schedule 7]	-	Seal oil room via extractor	-	-	-	-
A14 [Point 8 on emission point plan in schedule 7]	-	Seal oil room via extractor	-	-	-	-
A15 [Point 9 on emission point plan in schedule 7]	-	Nitrogen purge line via vent.	-	-	-	-
A16 & A17 [Points 10 & 11 on emission point plan in schedule 7]	-	Dust filter vent line via vent	-	-	-	-
A18 [Point 12 on emission point plan in schedule 7]	-	Condensate drain tank via vent	-	-	-	-

Table S3.1a 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)-these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
A19 to A21 [Points 13 to 15 on emission point plan in schedule 7]	-	Gas separator line via vent	-	-	-	-
A22 & 23 [Points 16 & 17 on emission point plan in schedule 7]	-	Gas water detection via vent	-	-	-	-
A24 [Point 18 on emission point plan in schedule 7]	-	High pressure/ intermediate pressure purge line via vent	-	-	-	-
A25 to 27 [Points 19 to 21 on emission point plan in schedule 7]	-	Gas seal unit line via vent	-	-	-	-
A28 & 29 [Points 22 & 23 on emission point plan in schedule 7]	-	Cooling water separator via vent	-	-	-	-
A30 [Point 24 on emission point plan in schedule 7]	-	Diesel pump exhaust	-	-	-	-

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 [Point W1 emission point plan in schedule 7 to English Channel	Heat Load	Effluent from the water treatment plant, steam circuit, boiler blowdown and site drainage via the effluent and seal Pit. Cooling water via the seal pit.	241MW (482MW) ¹	Instantaneous	Continuous	-
W1 [Point W1 on emission point plan in schedule 7 to English Channel	Flow	Effluent from the water treatment plant, steam circuit, boiler blowdown and site drainage via the effluent and seal Pit. Cooling water via the seal pit.	8 m ³ .s ⁻¹	Flow assessed by calculation based on pump rating and run time	Flow assessed by calculation based on pump rating and run time	MCERTS
W1 [Point W1 on emission point plan in schedule 7 to English Channel	Temperature increase over inlet	Effluent from the water treatment plant, steam circuit, boiler blowdown and site drainage via the effluent and seal Pit. Cooling water via the seal pit.	12° C (24) ¹	Instantaneous	Continuous	-

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 [Point W1 on emission point plan in schedule 7 to English Channel	Oil or grease	Effluent from the water treatment plant, steam circuit, boiler blowdown and site drainage via the effluent and seal Pit. Cooling water via the seal pit.	No visible emission	Spot measurement	Twice daily	Visual Inspection
W1 [Point W1 on emission point plan in schedule 7 to English Channel	pH	Effluent from the water treatment plant, steam circuit, boiler blowdown and site drainage via the effluent and seal Pit. Cooling water via the seal pit.	6-9	Instantaneous	Continuous	-
W1 [Point W1 on emission point plan in schedule 7 to English Channel	Residual Chlorine	Effluent from the water treatment plant, steam circuit, boiler blowdown and site drainage via the effluent and seal Pit. Cooling water via the seal pit.	0.1 mg.l ⁻¹	Instantaneous	Continuous	-

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
Note 1: Only where formally agreed with the Agency 10 working days in advance of any steam turbine by-pass operation.						

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
LCP 306	Net electrical efficiency	After each modification 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.

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen	A1	Every 3 months	1 January, 1 April, 1 July, 1 October
		Yearly	1 January
Carbon Monoxide	A1	Every 3 months	1 January, 1 April, 1 July, 1 October
		Yearly	1 January
Sulphur dioxide	A1	Every 6 months	1 January, 1 July
Emissions to Water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July

Parameter	Units
Electricity Exported	GWhr
Heat Exported	GWhr
Mechanical Power Provided	GWhr
Fossil Fuel Energy Consumption	GWhr
Non-Fossil Fuel Energy Consumption	GWhr
Annual Operating Hours	hr
Water Abstracted from Fresh Water Source	m 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 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

Table S4.4 Reporting forms		
Media/parameter	Reporting format	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.	National and Area Office
LCP	Form IED HR1 – operating hours. Form as agreed in writing by the Environment Agency.	National and Area Office
Air	Form IED CON 2 – continuous monitoring. Form as agreed in writing by the Environment Agency	Area Office
CEMs	Form IED CEM – invalidation Log. Form as agreed in writing by the Environment Agency.	Area Office
Air	Form IED PM1 - discontinuous monitoring and load. Form as agreed in writing by the Environment Agency.	Area Office
Resource Efficiency	Form REM1 – resource efficiency annual report Form as agreed in writing by the Environment Agency.	National and Area Office
Water	Form water 1 or other form as agreed in writing by the Environment Agency	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.

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

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

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

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

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

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

“CEN” means Comité Européen de Normalisation.

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

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

“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.

“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.

“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 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.

“Mid-merit” means combustion plant operating between 1,500 and 4,000 hrs/yr.

“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.

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

“SI” means site inspector.

“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.

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.

b) Emission point plan



END OF PERMIT