



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

EPR Ely Limited
Elean Power Station
Elean Business Park
Sutton
Ely
Cambridgeshire
CB6 2QE

Variation application number

EPR/AP3130LY/V005

Permit number

EPR/AP3130LY

Elean Power Station

Permit number EPR/AP3130LY

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.

This variation makes the below changes:

Chapter III limits

This Permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED), was varied by the Environment Agency to implement the special provisions for LCP given in the IED. The Operator chose to operate **LCP 135** under the Transitional National Plan (TNP) compliance route until 30/06/2020. This variation introduces the Chapter III, Annex V limits into table S3.1 which will be applicable at the end of the TNP, from 01/07/2020.

Review against the BAT Conclusions:

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.

Following the review under Article 21(3) of the Industrial Emissions Directive (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;
- An improvement condition requiring electrical efficiency of the plant to be provided following performance testing of the plant;
- Inclusion of process monitoring for energy efficiency in table S3.4;
- An improvement condition requiring a plan characterising the fuel to be in place by 2021;
- An improvement condition requiring an updated Environment Management System (EMS) which includes procedures relating for other than normal operating conditions (OTNOC);
- Inclusion of the emergency diesel generator (0.83MWth) in the permit in tables S1.1 and S3.1 and S3.1a, updated site plan included in schedule 7.
- Permit condition 2.3.7 has been included in the permit with corresponding improvement condition IC006 requiring the operator to submit a report in relation to potential black start operation of the plant.

The rest of the installation will continue to be operated as follows:

The installation comprises one boiler with a thermal input of 114 MWth and an electrical output of 38 MWe. It includes heat recovery, steam turbine operation, flue gas treatment, water treatment, raw and waste material handling and storage and general installation utilities.

The installation is located approximately 9km west of Ely town centre, centred on NGR 545188 279962. The majority of the site is located within a depression, some 8m below the level of the surrounding land and covers

approximately 7.7 hectares. To the north, west and east is rough grassland/agricultural land and to the south is Elean Business Park. The New Bedford River lies 1.5km to the northwest of the site, beyond which is the Old Bedford River. The site is situated over a non-aquifer and due to the excavation carried out to create the depression, sits within the clay layer. There is a SSSI within 2km and Natura 2000 sites within 10km of the installation as follows:

Ouse Washes SSSI – 1712 m north-west of site
Ouse Washes SPA – 1709 m north-west of site
Ouse Washes SAC – 1972 m north-west of site
Ouse Washes Ramsar – 1712 m north-west of site

A habitats assessment concluded that there is no likely significant effect on any of these sites from the installation.

Elean Power Station contains a single combustion line which processes approximately 250,000 tonnes of straw per year as its primary fuel, generating electricity and exporting it to the local electricity company.

Gas is used as a secondary fuel for start-up and for maintaining good combustion. There is a diesel oil tank on site for an emergency generator, a standby fire pump and site plant vehicles.

Straw is delivered by road in Hesstons (bales) and unloaded and stored in one of two enclosed straw barns. Straw is fed in whole bales, by a system of conveyors, into an enclosed feed line where scarifiers cut the twine and break up the bales to feed the vibrating grate combustor. Straw is automatically tested for moisture content, bales over 25% moisture, overlength or broken are rejected.

Staged combustion air ensures accurate control of the process. Two auxiliary natural gas burners also fire into the combustion chamber to provide start-up and furnace stability for NO_x control. Hot gases from combustion are passed through a boiler to produce steam to drive a steam turbine. Spent steam is condensed in an air cooled condenser and recirculated back to the boiler.

Potential emissions to air are carbon monoxide, nitrogen oxides, hydrogen chloride, dust, sulphur dioxide, VOCs, dioxins & furans and heavy metals. Emissions of nitrogen oxides, VOCs, dioxins & furans and carbon monoxide are controlled by the use of good combustion and the staged injection of air into the furnace. The combustion gases are cleaned in a flue gas treatment plant, which includes a fabric filter for removal of particulates and heavy metals, and the injection of solid alkali sorbent (hydrated lime) to remove acid gases.

The cleaned exhaust gases are released to atmosphere via a 46.7m stack, which is the only point release to air.

Continuous monitoring is carried out to ensure good process control and to monitor the emissions to air. Continuous monitors are MCERTS accredited. Periodic measurements and analyses are carried out by specialist companies who are UKAS accredited and hold MCERTS certification.

There are no process releases to controlled waters from the installation. Surface run-off from the site with the exception of the ash lorry drainage area is released to the surface water drainage system of the adjacent business park and ultimately to controlled waters. Raw water is treated in the reverse osmosis water treatment plant to provide boiler feed-water. Effluent from the water treatment plant, boiler blow-down water, run off from ash lorries and turbine drains is discharged to sewer. There is a sediment trap in place to prevent emissions of solids. A trade effluent agreement with Anglian Water is in place.

There is a spillage procedure in place and no below ground tanks or pipework apart from drainage. All above ground tanks are bunded with the exception of the diesel oil tank for the emergency generator which is double skinned. Fly ash from the process is sent for reuse as agricultural fertiliser and bottom ash is reused in the construction industry.

There is no history of odour or noise complaints from the installation.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application AP3130LY	Duly made 12/04/2006	
Additional Information Received	27/06/2006	Response Date 26/07/2009
Permit determined EPR/AP3130LY	28/12/2006	Permit issued to EPR Ely Limited
Variation EPR/AP3130LY/V002	16/07/2009	Variation issued to EPR Ely Limited
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	31/03/2015	Response received from the Operator.
Additional information received	03/07/2015	Response to request for further information (RFI) dated 12/06/2015
Variation determined EPR/AP3130LY/V003 (PAS Billing ref: RP3338AQ)	21/12/2015	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.
Notified of change of registered office address	22/04/2016	Registered office address changed to 6 th Floor 33 Holborn, London, EC1N 2HT.
Variation issued EPR/AP3130LY/V004	09/06/2016	Varied permit issued to EPR Ely 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.
Regulation 61 Notice response	29/10/2018	Response received from the Operator.
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	26/09/2019	Response to request for information providing further information regarding OTNOC and justification for not being able to meet the indicative CO limit in the BAT conclusions.
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	06/03/2020	Response to request for information providing an outline of costs for upgrades would be required to meet the indicative CO limit, based on total annual budget.
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	27/03/2020	Response to request for information providing an outline of costs for upgrades would be required to meet the indicative CO limit, based on total annual maintenance budget.
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	24/04/2020	Response to request for information providing a feasibility study outlining high level cost of upgrades that would be required to meet the indicative CO limit.

Status log of the permit		
Description	Date	Comments
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	01/05/2020	Response to request for information providing details regarding the emergency diesel generator and a revised site plan included in schedule 7.
Variation determined EPR/AP3130LY/V005 (Billing ref: NP3109PL)	04/06/2020	Varied and consolidated permit issued. Effective from 01/07/2020

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/AP3130LY

Issued to

EPR Ely Limited (“the operator”)

whose registered office is

**6th Floor
33 Holborn
London
EC1N 2HT**

company registration number 03401618

to operate a regulated facility at

**Elean Power Station
Elean Business Park
Sutton
Ely
Cambridgeshire
CB6 2QE**

to the extent set out in the schedules.

The notice shall take effect from 01/07/2020

Name	Date
Anne Lloyd	04/06/2020

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/AP3130LY

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/AP3130LY/V005 authorising,

EPR Ely Limited (“the operator”),

whose registered office is

**6th Floor
33 Holborn
London
EC1N 2HT**

company registration number 03401618

to operate a regulated facility at

**Elean Power Station
Elean Business Park
Sutton
Ely
Cambridgeshire
CB6 2QE**

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

Name	Date
Anne Lloyd	04/06/2020

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 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: LCP135. 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: LCP135. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.5.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP135. The following conditions apply where there is a malfunction or breakdown of any abatement equipment:
Unless otherwise agreed in writing by the Environment Agency:
- (i) if a return to normal operations is not achieved within 24 hours, the operator shall reduce or close down operations [, or shall operate the activities using low polluting fuels]; do not include the text in brackets where natural gas is the only LCP fuel;
 - (ii) the cumulative duration of breakdown in any 12-month period shall not exceed 120 hours; and
 - (iii) the cumulative duration of malfunction in any 12-month period shall not exceed 120 hours.
- 2.3.7 The emission limit values from emission points A1 listed in tables 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 in accordance with the report submitted in response to improvement condition IC 006.

- 2.3.8 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.9 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.10 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.1a, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 The emission values from emission point(s) A1 listed in schedule 3 tables S3.1 and S3.1a measured during periods of abatement equipment malfunction and breakdown shall be disregarded for the purposes of compliance with Tables S3.1 and S3.1a emission limit values.
- 3.1.4 Total annual emissions from the LCP emission point set out in schedule 3 tables S3.1, S3.1a, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.
- 3.1.5 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

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

3.3.2 The operator shall:

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

3.4 Noise and vibration

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

3.4.2 The operator shall:

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

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1, S3.1a, S3.2 and S3.3; 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, S3.2, S3.3 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 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.
 - (d) where condition 2.3.6 applies, the cumulative duration of breakdown and cumulative duration of malfunction in any 12 month period.
- 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 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.
- 4.2.6 Within 10 days of the notification of abatement equipment malfunction or breakdown (condition 2.3.13) the operator shall submit an Air Quality Risk Assessment as outlined in the IED Compliance Protocol (condition 2.3.2).
- 4.2.7 For the following activities referenced in schedule 1, table S1.1: LCP135. 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.
- (d) of any malfunction or breakdown of abatement equipment relating to condition 2.3.6, the operator shall notify the Environment Agency within 48 hours unless notification has already been made under (a) to (c) above.

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 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.
- 4.3.8 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately”, in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	Section 1.1 Part A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	LCP135: Boilers for the production of steam and electricity. 114 MWth Emergency diesel generator 0.83MWth	From receipt of fuel and raw materials to generation of electricity and despatch of products and waste including emissions to air through A1 stack & air cooling. Emergency diesel generator is to maintain site services only.
Directly Associated Activity			
AR2	Directly associated activity	Demineralisation of water	Receipt of water and other raw materials through to export to boiler feed system and drains.
AR3	Directly associated activity	Receipt, storage and handling of water treatment chemicals, fuel & lubricating oils, turbine cleaning chemicals and other raw materials.	From receipt of raw materials to their point of use.
AR4	Directly associated activity	Handling & storage of waste	From generation to the removal from the installation.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to Section 2.1 and 2.2 in the Application	29/03/2006
Receipt of additional information to the application	Responses to question 1 detailing assessment of noise from the installation.	26/07/2006
Response to regulation 60(1) Notice – request for information dated 31/10/2014	Compliance route Annex V, Part 1, Items 2 and 7 for sulphur dioxide and dust and TNP for oxides of Nitrogen and operating techniques identified in response to questions 2 & 4.	31/3/2015
Receipt of additional information to the regulation 60(1) Notice requested by letter dated 12/06/2015	The operating techniques identified in response to questions 6 (start up and shut down).	03/07/2015
Receipt of additional information requested by email dated 21/10/2015	Confirmation of the MSUL/MSDL in terms of load in MWe and as percentage of rated power output.	22/10/2015

Table S1.2 Operating techniques		
Description	Parts	Date Received
Response to regulation 61(1) Notice – request for information dated 01/05/2018 EPR/AP3130LY/V005	Compliance and operating techniques identified in response to the BAT Conclusions for large combustion plant published on 17th August 2017.	29/10/2018
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	Response to request for information providing further information regarding. OTNOC and justification for not being able to meet the indicative CO limit in the BAT conclusions.	26/09/2019
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	Response to request for information providing an outline of costs for upgrades would be required to meet the indicative CO limit, based on total annual budget.	06/03/2020
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	Response to request for information providing an outline of costs for upgrades would be required to meet the indicative CO limit, based on total annual maintenance budget.	27/03/2020
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	Response to request for information providing a feasibility study outlining high level cost of upgrades that would be required to meet the indicative CO limit.	24/04/2020
Additional information in response to regulation 61(1) Notice EPR/AP3130LY/V005	Response to request for information providing details regarding the emergency diesel generator and a revised site plan included in schedule 7.	01/05/2020

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 001	For LCPD LCP 185 (now LCP 135 under IED). Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LCPD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.	28/01/2016
IC 002	<p>The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP123, LCP 456 etc. . The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised).</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:-</p> <ul style="list-style-type: none"> a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), b) Performance test results after a significant modification (quoting the specified standards or test codes), c) Manufacturer's contractual guarantee value, d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually); e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system; f) Operational efficiency data as verified and used for heat accountancy purposes, g) Data provided as part of Due Diligence during acquisition, <p>*Performance test results shall be used if these are available.</p>	31/12/2016
IC 003	<p><u>BAT Conclusions 2, 12, Table 8</u></p> <p>The operator shall provide a report detailing the net electrical efficiency for the plant, which shall be in accordance with the BAT-AEEL range specified in table 8 of the Large Combustion Plant (LCP) BAT Conclusions document, which for this plant is between 28-38%. This shall be based upon performance testing of the plant.</p>	01/06/2021

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 004	<p><u>BAT Conclusion 9</u></p> <p>The operator shall submit a procedure for approval outlining how the Biomass will be characterised in line with Best Available Techniques Conclusion 9 in order to improve general performance of combustion and to reduce emissions to air. This shall include characterisation of all substances/parameters as specified for Biomass under this BAT conclusion. The procedure must include, but is not limited to, the following elements:</p> <ul style="list-style-type: none"> i) Initial fuel characterisation; ii) Regular testing of the fuel quality to check that it is consistent with the initial characterisation and according to the plant design specifications; and <p>Subsequent adjustments of the plant settings as and when needed and practicable.</p>	01/06/2021
IC 005	<p><u>BAT Conclusion 10</u></p> <p>The operator shall submit an update to their Environment Management System (EMS) to include procedures for other than normal operating conditions (ONTOC).</p>	01/06/2021
IC 006	<p><u>Black start</u></p> <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 2.3.7 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>	01/06/2021

Table S1.5 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum start up load”	“Minimum shut-down load”
	28.5 MWe; 75% of rated power output; and/or when two of the criteria listed below for the LCP or unit have been met.	15.2 MWe; 40% of rated power output; and/or when two of the criteria listed below for the LCP or unit have been met.
A1 (LCP 135)	<ol style="list-style-type: none"> 1. All 4 straw lines in operation. 2. Steam Temperature exiting the boiler is at 500° C. 3. Flue gas temperature downstream of super heater is at 400° C. 4. Flue gas Oxygen < LCP O₂ reference limit of 6 Vol%. 	<ol style="list-style-type: none"> 1. Two or more straw lines out of service. 2. Flue gas Oxygen > 9 Vol%

Schedule 2 – Raw materials and fuels

Raw materials and fuel description	Specification
Natural Gas	-
Gas oil	Not exceeding 0.1% w/w sulphur content
Water treatment plant chemicals	Discharges of mercury and cadmium as a result of the impurities of raw materials used in the water treatment plant shall be controlled by ensuring that impurity levels are the minimum available in the commercial product.

Maximum quantity	250,000 tonnes
Waste code	Description
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 03	Biomass fuel (Chapter IV excluded agricultural waste in the form of baled straw)

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air - emission limits and monitoring requirements shall apply from 01 July 2020 until 16 August 2021						
Emission point ref. & location	Source	Parameter	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]	LCP No. 135 Boiler plant fired on biomass	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	250 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	275 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Sulphur dioxide	200 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Sulphur dioxide	220 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Sulphur dioxide	400 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Dust	20 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Dust	22 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181

Table S3.1 Point source emissions to air - emission limits and monitoring requirements shall apply from 01 July 2020 until 16 August 2021

Emission point ref. & location	Source	Parameter	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]	LCP No. 135 Boiler plant fired on biomass	Dust	40 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Hydrogen chloride	25 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Flow	-	-	Continuous As appropriate to reference	EN ISO 16911
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Oxygen	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Water vapour	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Stack gas temperature	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Stack gas pressure	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	As required by the Method Implementation Document for BS EN 15259	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Table S3.1 Point source emissions to air - emission limits and monitoring requirements shall apply from 01 July 2020 until 16 August 2021

Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
Emergency diesel generator [Labelled 'Emergency diesel generator' on 'Site Plan' in schedule 7]	Emergency diesel generator	No parameter set	No limit set	-	-	-

Table S3.1a Point source emissions to air - emission limits and monitoring requirements shall apply from 17 August 2021						
Emission point ref. & location	Source	Parameter	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]	LCP No. 135 Boiler plant fired on biomass	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	220 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	220 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/Nm ³	Yearly average	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Sulphur dioxide	200 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Sulphur dioxide	215 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Sulphur dioxide	400 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Sulphur dioxide	100 mg/Nm ³	Yearly	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Dust	18 mg/Nm ³	Monthly mean of validated hourly averages	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	Source	Parameter	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]	LCP No. 135 Boiler plant fired on biomass	Dust	18 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Dust	40 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Dust	12 mg/Nm ³	Yearly	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Hydrogen chloride	25 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Hydrogen chloride	25 mg/Nm ³	Yearly	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Hydrogen fluoride	< 1 mg/Nm ³	Average over the sampling period	At least once per year	BS EN 15317
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Mercury	5 µg/Nm ³	Average over the sampling period	At least once per year	BS EN 13211
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Flow	-	-	Continuous As appropriate to reference	EN ISO 16911
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Oxygen	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Water vapour	-	-	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	Source	Parameter	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]	LCP No. 135 Boiler plant fired on biomass	Stack gas temperature	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	Stack gas pressure	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	LCP No. 135 Boiler plant fired on biomass	As required by the Method Implementation Document for BS EN 15259	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
Emergency diesel generator [Labelled 'Emergency diesel generator' on 'Site Plan' in schedule 7]	Emergency Diesel Generator	No parameter set	No limit set	-	-	-

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 on site plan in schedule 7 emission to business park surface drainage system)	Surface water	Oil or grease	No visible emission	Visual check	Monthly	-

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 on site plan in schedule 7 emission to Anglian Water Witcham Sewage Treatment Works	Site effluent treatment plant	-	-	-	-	-

Table S3.4 Annual limits (excluding start up and shut down except where otherwise stated)				
Substance	Medium	Limit (including unit)		Emission point
Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	A1 LCP 135
		01/01/2020 – 30/06/2020	Emission allowance figure shown in the TNP Register as at 30 April the following year	

Table S3.5 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
LCP 135	Net electrical efficiency	After each modification which that could significantly affect these parameters	EN Standards or equivalent	-
A1 [Point A1 on site plan in schedule 7]	Carbon Monoxide	Continuous	EN 14181	-

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 year	1 January
Sulphur dioxide	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every year where there is a yearly average	1 January
Hydrogen chloride	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every year where there is a yearly average	1 January
Hydrogen fluoride	A1	Annually	1 January
Dust	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every year where there is a yearly average	1 January
Mercury	A1	Annually	1 January
Emissions to Water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July
Number of periods, and duration, of LCP 135 within start-up configuration.	LCP 135	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2 Resource Efficiency Metrics		
Parameter		Units
Electricity Exported		GWhr
Heat Exported		GWhr
Mechanical Power Provided		GWhr
Fossil Fuel Energy Consumption		GWhr
Non-Fossil Fuel Energy Consumption		GWhr
Annual Operating Hours		hr
Water Abstracted from Fresh Water Source		m ³
Water Abstracted from Borehole Source		m ³
Water Abstracted from Estuarine Water Source		m ³
Water Abstracted from Sea Water Source		m ³
Water Abstracted from Mains Water Source		m ³
Gross Total Water Used		m ³
Net Water Used		m ³
Hazardous Waste Transferred for Disposal at another installation		t
Hazardous Waste Transferred for Recovery at another installation		t
Non-Hazardous Waste Transferred for Disposal at another installation		t
Non-Hazardous Waste Transferred for Recovery at another installation		t
Waste recovered to Quality Protocol Specification and transferred off-site		t
Waste transferred directly off-site for use under an exemption / position statement		t

Table S4.3 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 NOx for each LCP	Annually	t
Total Emissions to Air of SO2 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 LCPBREF AR1 – SO ₂ , NO _x and dust mass emission and energy Form as agreed in writing by the Environment Agency.	National and Area Office
Air	Form LCPBREF RTA1 – TNP quarterly emissions summary log Form as agreed in writing by the Environment Agency.	National and Area Office
LCP	Form LCPBREF HR1 – operating hours Form as agreed in writing by the Environment Agency.	National and Area Office
Air	Form LCPBREF CON 1 – continuous monitoring. Form as agreed in writing by the Environment Agency.	Area Office
CEMs	Form LCPBREF CEM – Invalidation Log Form as agreed in writing by the Environment Agency.	Area Office
LCP	Form LCPBREF BD1 - Cumulative annual rolling malfunction and breakdown hours Form as agreed in writing by the Environment Agency.	Area Office
Air	Form LCPBREF MF1 – pollutant concentrations when during any day with malfunction or breakdown of abatement plant Form as agreed in writing by the Environment Agency.	Area Office
Air	Form LCPBREF 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
Sewer	Form sewer 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

Part C Malfunction or Breakdown of LCP abatement equipment

Permit Number	
Name of operator	
Location of Facility	
LCP Number	
Malfunction or breakdown	
Date of malfunction or breakdown	

(a) Notification requirements for any malfunction and breakdown of abatement equipment as defined by the Industrial Emission Directive*.	
To be notified within 48 hours of abatement equipment malfunction and breakdown	
Time at which malfunction or breakdown commenced	
Time at which malfunction or breakdown ceased	
Duration of the breakdown event in hours and minutes	
Reasons for malfunction or breakdown	
Where the abatement plant has failed, give the hourly average concentration of all measured pollutants.	
Cumulative breakdown operation in current year (at end of present event)	
Cumulative malfunction operation in current year (at end of present event)	
Name**	
Post	
Signature **	
Date	

* See section 3.6 and Appendix E of ESI Compliance Protocol for guidance

** authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

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

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“average of samples obtained during one year” means the average of the values obtained during one year of the periodic measurements taken with the monitoring frequency set for each parameter.

“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.

“biomass” means:

- (a) vegetable matter from agriculture and forestry;
- (b) vegetable waste from the food processing industry, if the heat generated is recovered;
- (c) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered;
- (d) cork waste; and
- (e) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste.

“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.

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

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

“CEN” means 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.

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

“DLN” means dry, low NO_x burners.

“dynamic emission limit value” (DELV) means an emission limit that varies in accordance with Article 40 of the Industrial Emissions Directive.

“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.

“hazardous property” has the meaning in Annex III of the Waste Framework Directive.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“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.

“low polluting fuels” means biomass or coal with an average as-received sulphur content of less than 0.4% by mass as described in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

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

“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.

“pests” means Birds, Vermin and Insects.

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

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

“SI” means site inspector.

“Standby fuel” means alternative liquid fuels that are used in emergency situations when the gas fuel which is normally used, is not available.

“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

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

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

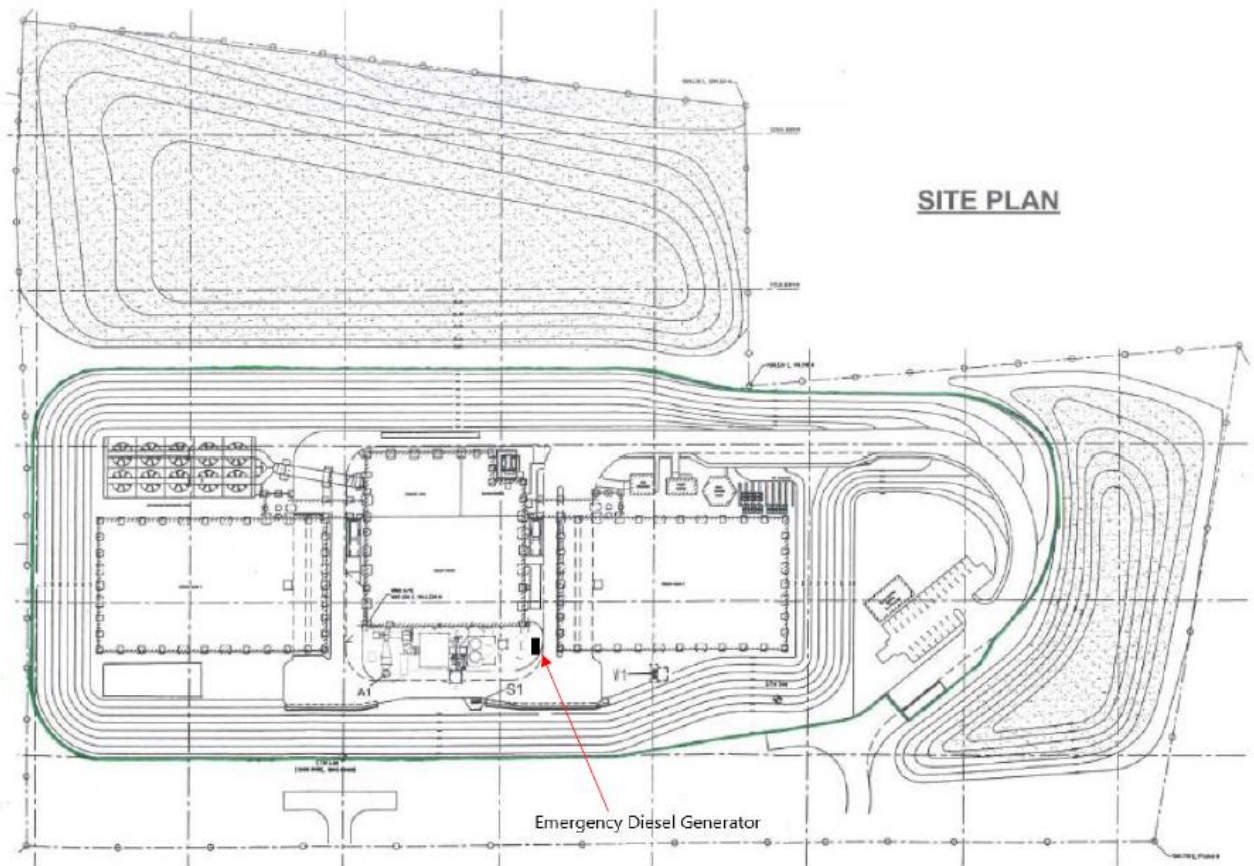
Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

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

Schedule 7 – Site plan



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END OF PERMIT