

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

EDF Energy (West Burton Power) Limited
West Burton Power Station
Retford
Nottinghamshire
DN22 9BL

Variation application number

EPR/SP3935LW/V007

Permit number

EPR/SP3935LW

West Burton Power Station

Permit number EPR/SP3935LW

Introductory note

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

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

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

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

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

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

The Operator has chosen to operate LCP130 and LCP131 under the Transitional National Plan (TNP) compliance route. This is a change from the previous operating regime which was the ELV approach.

The thermal input of the LCPs is as follows: LCP130 and LCP131 each consisting of two coal-fired boilers with a total input of 2628 MWth, and LCP456 and LCP457 each consisting of a single 76 MWth open-cycle black start gas turbine.

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

- LCP183 is changed to LCP130
- LCP184 is changed to LCP131
- GT1 (no LCP reference previously) is now LCP456
- GT4 (no LCP reference previously) is now LCP457

We have also updated some of the emission point references in the permit – LCP130 (formally A1/A2) is now emission point A1 and LCP131 (formally A3/A4) is now emission point A3. Emission points A2 and A4 have been removed from the permit.

The variation notice also adds a newly prescribed activity under the IED (processing pulverised fuel ash). This variation also removes the requirement to maintain an air quality management plan to demonstrate compliance with air quality standards, as well as the requirement to assess changes in acidification and eutrophication deposition and ecological effects at appropriate Natura 2000 sites.

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

West Burton Power Station was constructed in the 1960s and is situated in the lower Trent valley, north east of Retford in Nottinghamshire. The station comprises four coal fired generating sets of 500MW output each. The station also maintains two black start gas turbines fired on gas oil (GT1 and GT4). These are used in the event of a grid collapse to restart the station and to provide short term load support as requested by the national grid.

The station is part of a portfolio of plant owned by EDF Energy plc, and is operated by EDF Energy (West Burton Power) Limited.

Coal, limestone and heavy fuel oil (for initial firing of the boilers and load support) are delivered to the station by the use of a dedicated rail system for bulk materials. Some coal, biomass and fuel oil are delivered to the station using road transport.

Solid residue from the combustion of fuel comprises two different types of ash. Furnace bottom ash (FBA) is collected from the base of the boilers and transported to holding areas and sold to the construction industry as a replacement aggregate. Pulverised fuel ash (PFA) leaves the boiler with the flue gases and is collected by electrostatic precipitators. Following the installation of a new PFA processing plant during autumn 2008 (STI plant), the PFA may now be further processed into two separate products; a high carbon ash and low carbon ash. The high carbon ash is reburnt as a fuel in the power station boilers and the low carbon ash is sold as a cement replacement product.

The design of the boilers is to use corner firing rather than wall firing. This design imparts a vortex to the burning zone. Emissions of sulphur dioxide from the combustion of coal are abated by the use of limestone flue gas desulphurisation (FGD), one unit to each boiler. The units are of the regenerative heating design, which allows the absorbers to be bypassed during start up and shutdown when the use of oil to initiate firing could cause problems in the absorbers. Boilers at West Burton use primary measures to reduce emissions of nitrogen oxides.

The operation of the FGD units produces a by-product known as desulphogypsum (DSG), which is recovered in a purpose built plant. This material, produced to a specification, is sold to the building industry for the manufacture of plasterboard or for the formulation of cement.

The main emissions from the regulated facility to air result from the combustion of fuel in the boilers and to water from the use of cooling water and the treatment of FGD wastewater. Treated flue gases from the four boiler units are released to air via separate flues and two identical chimneys, each chimney stack containing two flues housed within a common windshield which is 200 m high. The power station is cooled using cooling towers. Treated emissions to water discharge to the River Trent.

The permit takes account of the impact of the regulated facility both on the local area and nationally with appropriate permit conditions set accordingly. Emissions to air and water from the regulated facility have been considered individually and in combination with other sources and conditions imposed to prevent and reduce environmental impact.

The installation is a lower tier COMAH site. The installation has a Major Accident Plan to ensure that the COMAH aspects of the installation are addressed. Procedures are in place to control other potential risks at 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 SP3935LW	Duly made 31/03/06	
Additional information received	10/08/06	Revised list of release points (RFI sent 05/07/06)
Additional information received	05/09/06	Review ASR (RFI sent 14/07/06)
Additional information received	01/10/06	Submission of revised and additional application documents, including a study of the thermal discharges to the River Trent.
Additional information received	04/04/07	Submission of changes to the Dust plant compressor cooling system
Permit determined SP3935LW	30/10/07	
Variation application EPR/SP3935LW/V002 (PAS link ZP3738XN)	Duly made 03/09/08	STI & minor amendments

Status log of the permit		
Description	Date	Comments
Additional information received	03/11/08	Submission of revised site plan
Variation determined EPR/SP3935LW/V002	21/11/08	
Variation application EPR/SP3935LW/V003	Duly made 14/05/10	
Variation determined EPR/SP3935LW	20/05/10	
Agency variation determined EPR/SP3935LW/V004	11/03/13	Environment Agency initiated variation, to incorporate Eel Regulations improvement condition
Agency variation determined EPR/SP3935LW/V005	13/12/13	Environment Agency variation to implement the changes introduced by IED
Variation application EPR/SP3935LW/V006	29/09/14	Administrative variation to carry out a newly prescribed activity under the Industrial Emissions Directive
Variation determined EPR/SP3935LW/V006	Issued 29/09/14	Environment Agency Initiated Variation, to add an improvement condition requiring a cost benefit appraisal to ensure compliance with the Eels Regulations. Effective 1/10/14.
Regulation 60 Notice sent to the Operator	09/12/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V. The permit is also updated to modern conditions.
Regulation 60 Notice response	31/03/15	Response received from the Operator.
Additional information received	28/05/15	Response to request for further information (RFI) dated 13/05/15
Additional information received	25/08/15	Updated values for MSUL and MSDL originally provided in Regulation 60 Notice response.
Additional information received	09/11/15, 16/11/15	Updated values and justification for LCP thermal input
Additional information received	13/11/15	Site plan showing main emissions points
Variation determined EPR/SP3935LW/V007 (PAS Billing ref: RP3834AB)	30/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/SP3935LW

Issued to

EDF Energy (West Burton Power) Limited ("the operator")

whose registered office is

**40 Grosvenor Place
Victoria
London
SW1X 7EN**

company registration number **04267569**

to operate a regulated facility at

**West Burton Power Station
Retford
Nottinghamshire
DN22 9BL**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
Anne Nightingale	30/12/2015

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/SP3935LW

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/SP3935LW/V007 authorising,

EDF Energy (West Burton Power) Limited (“the operator”)

whose registered office is

40 Grosvenor Place

Victoria

London

SW1X 7EN

company registration number **04267569**

to operate an installation at

West Burton Power Station

Retford

Nottinghamshire

DN22 9BL

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

Name	Date
Anne Nightingale	30/12/2015

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
- (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (d) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities;
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 For the following activities referenced in schedule 1, table S1.1: A5, A6 and A7. Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

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: LCP130, LCP131, LCP456 and LCP457. Without prejudice to condition 2.3.1, the activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” revision 1 dated February 2015 or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.5 For the following activities referenced in schedule 1, table S1.1: LCP456 and LCP457. The activities shall not operate for more than 500 hours per year.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP130, LCP131, LCP456 and LCP457. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4.
- 2.3.7 For the following activities referenced in schedule 1, table S1.1: LCP130 and LCP131. 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;
 - (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.

- 2.3.8 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2 and S2.3; 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 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 The emission values from emission points A1 and A3 listed in schedule 3 table S3.1, measured during periods of abatement equipment malfunction and breakdown shall be disregarded for the purposes of compliance with table S3.1 emission limit values.
- 3.1.4 Total annual emissions from the emission points set out in schedule 3 tables S3.1 and S3.2 of a substance listed in schedule 3 table S3.3 shall not exceed the relevant limit in table S3.3.
- 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 and S3.2; and
- (b) process monitoring specified in table S3.4.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continuous), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring for the purposes of the Industrial Emissions Directive Chapter III

- 3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.
- 3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:
- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
 - (b) implement the approved proposals.
- 3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.
- 3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.
- 3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.
- 3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1; the Continuous Emission Monitors shall be used such that:
- (a) for the continuous measurement systems fitted to the LCP release points defined in Table S3.1 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;
 - (b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;
 - (c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;
 - (d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;
 - (e) an invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing; and
 - (f) any day, in which more than three hourly average values are invalid shall be invalidated.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the resource efficiency metrics set out in schedule 4 table S4.2;
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- (d) where condition 2.3.5 applies, the hours of operation in any year; and
- (e) where condition 2.3.7 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 2.3.7) 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: LCP130 and LCP131. 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 2.3.7, 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.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.7 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	<p>LCP130: Operation of two boilers (each 1314 MWth) burning coal and biomass for production of steam and electricity (2628 MW aggregated net thermal input)</p> <p>LCP131 Operation two of boilers (each 1314 MWth) burning coal and biomass for production of steam and electricity (2628 MW aggregated net thermal input)</p> <p>LCP456: Operation of an open cycle gas turbine (OCGT) burning gas oil to produce electricity (76 MW net thermal input)</p> <p>LCP457: Operation of an open cycle gas turbine (OCGT) burning gas oil to produce electricity (76 MW net thermal input)</p>	<p>From receipt of coal, gas oil, heavy fuel oil, biomass or propane to discharge of exhaust gases and wastes, and the generation and export of electricity. Wastes as specified in Table 2.2</p> <p>LCP456 and LCP457 shall only be used during emergency conditions or for testing less than 500 hours per year.</p>
A2	Section 4.2 Part A(1)(a)(iv): Producing inorganic chemicals such as – salts	Operation of four lime stone slurry flue gas desulphurisation (FGD) units	Receipt of limestone to dispatch of gypsum off site and discharge of waste water to the wastewater treatment plant
A3	Section 5.4 Part A(1)(a)(ii): Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day - physico-chemical treatment;	Treatment of waste water from the flue gas desulphurisation plant (FGD)	Discharge of wastewater from the FGD process to the discharge from site

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A4	Section 3.5 Part B (f): Loading, unloading or storing pulverised fuel ash in bulk prior to further transportation in bulk	Pulverised fuel ash (PFA) handling and storage	From removal of PFA and FBA from the combustion process to dispatch from site, excluding the treatment of PFA carried out as part of activity A5, A6 or A7 Wastes as specified in Table 2.3
A5	Section 5.4 Part A(1)(b)(iii): treatment of slags and ashes	Classifying PFA	From receipt of PFA from the combustion process to dispatch of classified PFA for onward handling
A6	Section 5.4 Part A(1)(b)(iii): treatment of slags and ashes	Separating high carbon PFA from low carbon PFA	Separating high carbon PFA from low carbon PFA with the use of the Separation Technology Inc (STI) plant as part of the ash production process.
A7	Section 5.4 Part A(1)(b)(iii): treatment of slags and ashes	Ash process plant	Blending FBA with PFA and grading the product into different grades according to particle sizes.
Directly Associated Activity			
A8	Directly associated activity	Surface water drainage	Handling and storage of site drainage until discharge to the site surface water system.
A9	Directly associated activity	Water treatment	From receipt of raw materials to dispatch to chemical effluent and site drainage systems.
A10	Directly associated activity	Fuel Storage	From receipt of raw materials to dispatch for use

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A11	Directly associated activity	The use of water from the River Trent to condense steam	The pumping, filtering and chemical treatment of the water, its use in the condensers and cooling water system to the discharge of the water back to the River Trent.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to section 2.1 and 2.2 in the Application.	31/03/06
Submission of revised site report information	All parts	05/09/06
Submission of revised list of emission points	All parts	23/08/06
Submission of revised and updated application documents, including a study of the impact of thermal discharges to the River Trent	All parts (revised organogram, update of progress on projects. Revised diagrams of release points)	03/01/07
Submission of changes to the Dust plant compressor cooling system	All parts	04/04/07
Fugitive Emissions Monitoring plan, Odour Management plan and Noise Management plan	All parts	30/01/08
Variation application EA/EPR/SP3935LW/V002 (STI & minor amendments) (PAS link ZP3738XN)	Section 2 and 3 of submitted variation application document. Answers and submission against variation application form Part C, Question 1 & 2 (proposed changes and operating techniques).	03/09/08
Submission of revised site plan	All parts	03/11/08
Variation application EA/EPR/SP3935LW/V003	3.2 In process controls.	10/05/10
Submission of revised application document 16	Section 3.5 "The FGD Effluent Treatment System" change to substitute the use of tri-mercapto triazine (TMT15) instead of sodium sulphide	01/04/09
Submission of revised application document regarding biomass handling plant	Installation of additional Dust extraction and filtration system in the biomass handling plant.	01/04/09

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application to Broaden Biomass Fuel Specification and increase Biomass Substitution Rate	The proposed biomass specification as detailed in Section 2 and an increase to 10% thermal substitution rate from the current 5% to be appended to document 23 "Raw materials"	13/08/09
Submission of revised operations for Sludge dewatering	Change of operations as detailed	25/07/2013
Submission of revised operations for re-firing of sludge from the FGD WWTP	Change of operations as detailed in email submissions	25/07/2013 & 07/08/2013
Variation Application to carry out a newly prescribed activity	Parts 3 and 4 of "Administrative Variation – September 2014 Supporting Information"	29/09/14
Submission of revised site plan included in document "Additional information in relations to Environment Agency comments received on 11/08/2015"	All parts	28/08/15
Response to regulation 60(1) Notice – request for information dated 09/12/14	Compliance route(s) and operating techniques identified in response to questions 2 (compliance route), 4 (configuration of each LCP), 5 (net thermal input of each LCP), 6 (MSUL and MSDL) and 7 (sector approach) Excluding LLD compliance route for LCP183 (now LCP130) and LCP184 (now LCP131) and related operating techniques	Received 31/03/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 13/05/15	Compliance route(s) and operating techniques identified in response to questions 2 (compliance route), 5 (net thermal input of each LCP) and 6 (MSUL and MSDL).	Received 28/05/15
Receipt of additional information to the regulation 60(1) Notice.	Revised MSUL and MSDL figures	Received 25/08/15
Receipt of additional information to the regulation 60(1) Notice.	Revised LCP thermal input figures	Received 09/11/15
Receipt of additional information to the regulation 60(1) Notice.	Confirmation of the compliance routes chosen for LCP183 (now LCP130) and LCP184 (now LCP131)	Received 21/12/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>A written report shall be submitted to the Agency for approval. The report shall include the results of an assessment of whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution for the activities covered by this permit. The report shall be in sufficient detail to allow a permit review. The report shall also contain a timescale for the implementation of any individual measures identified to improve the performance of the installation, including emissions control performance, as appropriate following the review.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The individual measures detailed in the report shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Complete
IC2	<p>A written report shall be submitted to the Agency for approval. The report shall contain a protocol detailing the methodology for measuring the fraction of PM₁₀ and PM_{2.5} within the release of total Dust from the combustion process. The protocol shall include but not be restricted to a variety of operating scenarios including start up and shut down, changes in operating loads and patterns and types of abatement. The report shall also contain a proposed time-scale within which the proposed sampling program contained within the protocol will be completed.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The program shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete
IC3	<p>A written report shall be submitted to the Agency for approval. The report shall include a detailed assessment, including economic factors, of the options to increase firing of biomass fuels.</p> <p>Where appropriate, the report shall contain dates for the implementation of individual measures. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The individual measures detailed in the report shall be implemented by the operator from the date of approval by the Environment Agency</p>	Complete
IC4	<p>A written report shall be submitted to the Agency for approval. The report shall include the results of a water efficiency audit in accordance with section 2.4.3 of IPPC Sector Guidance Note for the Combustion Sector. The report shall also contain a timescale for the implementation of any individual measures identified to address any deficiencies.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The individual measures detailed in the report shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Complete
IC5	<p>A written report shall be submitted to the Agency for approval. The report shall include the results of a waste minimisation audit in accordance with section 2.4.2 of IPPC Sector Guidance Note for the Combustion Sector. The report shall also contain a timescale for the implementation of any individual measures identified to address any deficiencies.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The individual measures detailed in the report shall be implemented by the operator from the date of approval by the Environment Agency.</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC6	Provide a written plan of how this installation will contribute to total emissions of SO ₂ from existing major coal-fired power stations in England and Wales being minimised and in any case not exceeding 70 kt/y by 2020. The report should consider scenarios for electricity demand in 2020 and give the planned arrangements for SO ₂ emissions control at this installation. (Existing coal-fired stations comprise LCP that might still be operating in 2020. These are at Aberthaw, Cottam, Drax, Eggborough, Ferrybridge, Fiddlers Ferry, Ratcliffe, Rugeley, Uskmouth and West Burton). The plan should be implemented after approval by the Environment Agency.	01/04/16
IC7	A written report shall be submitted to the Agency for approval. The report shall contain a protocol for a monitoring programme to assess changes in acidification and eutrophication deposition and ecological effects at appropriate Natura 2000 sites. The protocol will include the selection of the Natura 2000 sites and a time scale for implementation of the programme. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report. The protocol detailed in the report shall be implemented by the Operator from the date of approval by the Environment Agency.	31/12/16
IC8	The Operator shall complete the improvements to the site infrastructure identified in document 11 of the Application. The completion of each action shall be reported to the Agency in writing. The report shall include an assessment of the condition of the ground immediately surrounding the area improved.	Complete
IC9	A written procedure shall be submitted to the agency detailing the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation in accordance with condition 3.6.3. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure. The procedure shall be implemented by the operator from the date of approval in writing by the Agency	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC10	<p>The Operator shall undertake a review of the existing screening measures at the intakes and outfalls which provide and discharge water to and from the Installation. The review shall be undertaken with reference to the Eels (England and Wales) Regulations 2009 (SI 2009/3344) and the Environment Agency "Safe Passage of Eel" Regulatory Position Statement version 1 dated July 2012.</p> <p>The Operator shall submit details of the arrangement suitable to meet the requirements for the safe passage of eels [of the Eels (England and Wales) Regulations 2009 (SI 2009/3344)] by either:-</p> <ul style="list-style-type: none"> • Providing a written proposal for the installation of an eel screen. • Providing a written proposal to the modification of existing screening arrangements. • Providing a written response with an explanation and description of how the existing screening arrangements can be regarded to meet the requirements for the safe passage of eels [of SI 2009/3344] either without change or with mitigation measures. • Providing a written response setting out a case for an exemption <p>In all cases, the proposal shall be submitted in writing for the approval of the Environment Agency. Where appropriate, each proposal shall contain an assessment of alternative options considered including impacts on other fish species and an explanation of why the proposed option has been chosen.</p> <p>Where installation of eel screen; modification of existing arrangements; or mitigation measures are proposed, the submission shall contain relevant timescales for installation in accordance with the Safe Passage of Eel Regulatory Position Statement version 1 dated July 2012.</p> <p>The proposals shall be implemented in accordance with the Environment Agency's written approval.</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC11	<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 IC10.</p> <p>The Environment Agency has determined that the site does not comply with the requirements for safe passage of eel and the Operator is now required to complete a cost benefits appraisal of best available technique with reference to the Environment Agency "Safe Passage for Eel: Guidance on Exemptions" as a screening tool.</p> <p>a) If the Cost Benefit Assessment shows that the Benefits are greater than the costs by a factor of 1.5 or more, then the Operator shall submit to the Environment Agency for review a report setting out the costs and the technical and economic feasibility to introduce the improvements to achieve best available technique.</p> <p>b) If the Cost Benefit Assessment shows that the Benefits are not greater than the costs by a factor of 1.5 or more, then the Operator shall, with reference to the Environment Agency "Safe Passage for Eel: Guidance on exemptions, assess which alternative measure, or combination of alternative measures, could be implemented under a case of a conditioned Exemption. The Operator shall submit a report to the Environment Agency setting out the costs and the technical and economic feasibility of implementing their proposed alternative measure or measures.</p> <p>In all cases, the submission shall contain relevant timescales in accordance with the Safe Passage for Eel Regulatory Position Statement version 1 dated July 2012 (as amended 2013).</p> <p>The proposals shall be implemented following written approval of the Environment Agency.</p> <p>Whilst undertaking this Improvement Condition, the Operator shall be operating under exemption from the requirements to place eel screen diversion structures pursuant to Regulation 17(5)(a) of the Eels (England and Wales) Regulations 2009. The exemption will remain in place until the Environment Agency has provided written approval that the Improvement Condition has been deemed complete.</p>	Received 25/06/15, under assessment by the Environment Agency
IC12	For LCPD LCP130, LCP131, LCP456 and LCP457: Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LCPD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.	28/01/16
IC13	The operator shall submit a copy of the air quality monitoring and modelling results to demonstrate compliance with air quality standards for sulphur dioxide, oxides of nitrogen and particulate (PM10) during 2015, following the format and requirements of previous years submissions to the Environment Agency.	30/06/16

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum start up load” Load in MW and as percent of rated power output (%) Or when the criteria listed below have been met	“Minimum shut-down load” Load in MW and as percent of rated power output (%) Or when the criteria listed below have been met
A1 LCP130 Unit 1	260 MW; 54.2%	260 MW; 54.2%
A1 LCP130 Unit 2	260 MW; 52.8%	260 MW; 52.8%
A3 LCP131 Unit 1	260 MW; 52.8%	260 MW; 52.8%
A3 LCP131 Unit 2	260 MW; 54.2%	260 MW; 54.2%
A5a LCP456 GT1	As soon as the gas turbine start-up is initiated	As soon as the gas turbine is off-load
A5b LCP457 GT4	As soon as the gas turbine start-up is initiated	As soon as the gas turbine is off-load

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Heavy fuel oil	Not exceeding 1.0% w/w sulphur content
Gas oil	Not exceeding 0.1% w/w sulphur content
Tall Oil	Not exceeding 1.0% w/w sulphur content

Table S2.2 Permitted waste types and quantities for combustion in steam boilers	
Waste code	Description
Relevant exempt biomass	Biomass fuels exempt from the requirements of the Waste Incineration Directive and Large Combustion Plant Directive (as defined in Article 2(11) of EU Directive 2001/80/EC and Article 2 of EU Directive 2000/76/EC) and included in the application or otherwise agreed in writing by the Agency
Other exempt waste	Other fuels exempt from the requirements of the Waste Incineration Directive 2000/76/EC and approved in writing by the Agency for use in the installation

Table S2.3 Permitted waste types and quantities for ash processing	
Waste code	Description
10 01 01	Bottom ash, slag and boiler Dust (excluding boiler Dust mentioned in 10 01 04) produced at West Burton power station
10 01 02	Pulverised fuel ash (PFA) produced at West Burton power station and/or recovered from Bole lngs ash disposal site
10 01 02	Pulverised Fuel Ash [PFA] produced at Cottam Power Station for processing at the STI facility.

Schedule 3 – Emissions and monitoring

Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 130 Coal fired boiler plant	450 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 130 Coal fired boiler plant	550 mg/m ³	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in Schedule 7]	Sulphur Dioxide	LCP No. 130 Coal fired boiler plant	350 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Sulphur Dioxide	LCP No. 130 Coal fired boiler plant	440 mg/m ³	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Dust	LCP No. 130 Coal fired boiler plant	20 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Dust	LCP No. 130 Coal fired boiler plant	35 mg/m ³	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Oxygen	LCP No. 130 Coal fired boiler plant	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Water Vapour	LCP No. 130 Coal fired boiler plant	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Stack gas temperature	LCP No. 130 Coal fired boiler plant	-	-	Continuous As appropriate to reference	Traceable to national standards

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in schedule 7]	Stack gas pressure	LCP No. 130 Coal fired boiler plant	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan in schedule 7]	Stack gas volume flow	LCP No. 130 Coal fired boiler plant	-	-	Continuous	BS EN 16911 & TGN M2
A1 [Point A1 on site plan in schedule 7]	Total mercury	LCP No. 130 Coal fired boiler plant	-	-	Annual	BS EN13211
A1 [Point A1 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 130 Coal fired boiler plant	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A3 [Point A3 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 131 Coal fired boiler plant	450 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 131 Coal fired boiler plant	550 mg/m ³	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Sulphur Dioxide	LCP No. 131 Coal fired boiler plant	350 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Sulphur Dioxide	LCP No. 131 Coal fired boiler plant	440 mg/m ³	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Dust	LCP No. 131 Coal fired boiler plant	20 mg/m ³	Calendar monthly mean	Continuous	BS EN 14181

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A3 [Point A3 on site plan in Schedule 7]	Dust	LCP No. 131 Coal fired boiler plant	35 mg/m ³	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Oxygen	LCP No. 131 Coal fired boiler plant	-	-	Continuous As appropriate to reference	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Water Vapour	LCP No. 131 Coal fired boiler plant	-	-	Continuous As appropriate to reference	BS EN 14181
A3 [Point A3 on site plan in Schedule 7]	Stack gas temperature	LCP No. 131 Coal fired boiler plant	-	-	Continuous As appropriate to reference	Traceable to national standards
A3 [Point A3 on site plan in Schedule 7]	Stack gas pressure	LCP No. 131 Coal fired boiler plant	-	-	Continuous As appropriate to reference	Traceable to national standards
A3 [Point A3 on site plan in schedule 7]	Stack gas volume flow	LCP No. 131 Coal fired boiler plant	-	-	Continuous	BS EN 16911 & TGN M2
A3 [Point A3 on site plan in Schedule 7]	Total mercury	LCP No. 131 Coal fired boiler plant	-	-	Annual	BS EN13211
A3 [Point A3 on site plan in Schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP No. 131 Coal fired boiler plant	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A5a [Point A5a on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 456 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency
A5a [Point A5a on site plan in Schedule 7]	Sulphur dioxide	LCP No. 456 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency
A5a [Point A5a on site plan in Schedule 7]	Dust	LCP No. 456 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency
A5a [Point A5a on site plan in Schedule 7]	CO	LCP No. 456 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency
A5b [Point A5b on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 457 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A5b [Point A5b on site plan in Schedule 7]	Sulphur dioxide	LCP No. 457 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency
A5b [Point A5b on site plan in Schedule 7]	Dust	LCP No.457 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency
A5b [Point A5b on site plan in Schedule 7]	CO	LCP No. 457 Gas turbine fired on gas oil	-	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner	Agreed in writing with the Environment Agency
A6 (I) to (VI)	-	Release points from dry ash handling system (4 x storage silos, transfer pipework & tanker filling chute),	-	-	-	No permanent access required
A7	-	Vent on FGD limestone and gypsum loading and unloading system	-	-	-	No permanent access required
A8(I) to (III)	-	Limestone and gypsum handling system vents (conveyor	-	-	-	No permanent access required

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
		junction tower vent, limestone mill building & feeder vents)				
A9 (I) to IV)	-	Over pressurisation vents on Dust bunkers and conditioners	-	-	-	No permanent access required
A10 (I) to (IX)	-	Vents on biomass storage building	-	-	-	No permanent access required
A11 (I) to (LXXXVIII)	-	Steam safety valves on boiler house roof (6 boiler drum, 2 superheater, 11 reheater, 1 sootblower, 1 HP flash vessel, 1 blowdown vessel, per unit)	-	-	-	No permanent access required
A12 (I) to (CXII)	-	Furnace explosion relief valves (4 boiler furnace, 24 boiler top dead space, per unit)	-	-	-	No permanent access required
A13 (I) to (XXXII)	-	Steam safety valves on boiler house south wall (100' level) (1 LP heaters, 5 deaerator, 2 HP heaters, per unit)	-	-	-	No permanent access required
A14 (I) to (VI)	-	Vents on fuel oil storage tanks 1 & 2	-	-	-	No permanent access

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
						required
A15	-	Vent on gas oil storage tank 4	-	-	-	No permanent access required
A16 (I) to (III)	-	Vents on east end, west end & coal plant conveyor fire pump gas oil storage tanks	-	-	-	No permanent access required
A17 (I) to (IV)	-	Vents on E20 & T68 lubricating oil and waste oil tanks 1 & 2	-	-	-	No permanent access required
A18	-	Vent on coal plant mobile gas oil storage tank	-	-	-	No permanent access required
A19	-	Vents on hydraulic oil tanks at track hopper & reclaim paddle feeder	-	-	-	No permanent access required
A20	-	Vent on ash handling plant mobile gas oil storage tank	-	-	-	No permanent access required
A21 (I) to (VI)	-	Vents on water treatment plant storage tanks (2 x sulphuric acid, 2 x sodium hydroxide, hydrochloric acid and sodium bisulphite)	-	-	-	No permanent access required
A22	-	Vents on east end & west end sodium hypochlorite Tanks	-	-	-	No permanent access required

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A23	-	Vent on molten sulphur storage tank	-	-	-	No permanent access required
A24 (I) to (III)	-	Vents on FGD waste water treatment plant chemical storage tanks (sodium hydroxide, ferric chloride, sodium sulphide)	-	-	-	No permanent access required
A25	-	Vent on STI high carbon PFA storage silo	-	-	-	No permanent access required

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 site plan in Schedule 7]	Total suspended solids	Cooling water, water treatment plant effluent and site drainage	Inlet concentration +100mg/l	Instantaneous	Weekly	BS EN 872
W1 [Point W1 on site plan in Schedule 7]	pH	Cooling water, water treatment plant effluent and site drainage	Min 5.0 Max 9.5	Instantaneous	Continuous	BS ISO 10523
W1 [Point W1 on site plan in Schedule 7]	Temperature	Cooling water, water treatment plant effluent and site drainage	30 °C Oct-Apr 35 °C May-Sept	Instantaneous	Continuous	Standard thermocouple
W1 [Point W1 on site plan in Schedule 7]	Residual chlorine	Cooling water, water treatment plant effluent and site drainage	0.25 mg/l	Instantaneous	Continuous	Proprietary instrument
W1 [Point W1 on site plan in Schedule 7]	Oil or grease	Cooling water, water treatment plant effluent and site drainage	None visible	Spot sample	Daily	Visual inspection
W2 [Point W2 on site plan in Schedule 7] sampled at outlet of the FGD waste water treatment plant retention pond	Flow	FGD waste water treatment plant	6048 m ³	Daily	Continuous	Flow meter
	Total suspended solids		30 mg/l	Flow proportional sample	Weekly	BS EN 872
	pH		6 -10	Instantaneous	Continuous	BS ISO 10523
	Oil or grease		None visible	Spot sample	Daily	Visual inspection
	Temperature		40°C	Instantaneous	Continuous	Standard thermocouple
W2 [Point W2 on site plan in Schedule 7] sampled at outlet of the FGD waste water treatment plant	Ammoniacal Nitrogen	FGD waste water treatment plant	10 mg/l	FGD waste water treatment plant		
	Fluoride		20 mg/l			
	Chloride		40,000 mg/l			
	Cadmium		25µg/l			
	Mercury		30µg/l			
	Arsenic		100µg/l			
	Chromium		500µg/l			

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
retention pond	Copper		150µg/l	Flow proportional sample	Weekly	Method as specified in current edition of M18 guidance
	Lead		200µg/l			
	Nickel		200µg/l			
	Zinc		500µg/l			
	Vanadium		100µg/l			
	Iron		1800µg/l			
	Selenium		500µg/l			
	Antimony		80µg/l			
	Silver		50µg/l			
	Aluminium		3600µg/l			
	Molybdenum		2000µg/l			
	Boron		175mg/l			
W3 [Point W3 on site plan in Schedule 7]	No parameter set	Cooling tower purge and drain	-	-	-	-
W4 [Point W4 on site plan in Schedule 7]	Total suspended solids	Discharge from the coal stocking and fuel unloading areas	75mg/l	Instantaneous	Weekly	BS EN 872
W4 [Point W4 on site plan in Schedule 7]	Oil or grease	Discharge from the coal stocking and fuel unloading areas	None visible	Spot sample	Daily	Visual inspection

Table S3.3 Annual limits				
Emissions to air (excluding start up and shut down except where otherwise stated)				
Substance	Medium	Limit (including unit)		Emission Points
Dust, Sulphur dioxide and Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	LCP130, LCP131
		01/01/16 and subsequent years until 31/12/19	Emission allowance figure shown in the TNP Register as at 30 April the following year	
		01/01/20-30/06/20		
Emissions to water				
Substance	Medium	Limit (including unit)		Emission points
		Monthly load Kg	Annual load Kg	
Cadmium	Water	1.8	11	W2
Mercury	Water	2.5	13	W2
Antimony	Water	10	56	W2

Table S3.3 Annual limits				
Emissions to air (excluding start up and shut down except where otherwise stated)				
Substance	Medium	Limit (including unit)		Emission Points
Arsenic	Water	10	56	W2
Boron	Water	22000	135000	W2
Chromium	Water	45	275	W2
Copper	Water	20	110	W2
Iron	Water	272	1650	W2
Lead	Water	20	110	W2
Molybdenum	Water	272	1650	W2
Nickel	Water	20	110	W2
Selenium	Water	20	110	W2
Silver	Water	5	28	W2
Vanadium	Water	10	56	W2
Zinc	Water	45	275	W2

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Inlet to Flue Gas Absorbing units 1 to 4	Sulphur dioxide	Continuous	BS EN 14181	To be used as part of the determination of removal efficiency

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, A3	Every 3 months	1 January, 1 April, 1 July, 1 October
	A5a, A5b	Every 2 years	1 January
Dust	A1, A3	Every 3 months	1 January, 1 April, 1 July, 1 October
	A5a, A5b	Every 2 years	1 January
Sulphur dioxide	A1, A3	Every 3 months	1 January, 1 April, 1 July, 1 October
	A5a, A5b	Every 2 years	1 January
Carbon Monoxide	A5a, A5b	Every 2 years	1 January
Mercury	A1, A3	Annually	1 January
Emissions to water Parameters as required by condition 3.5.1	W1, W2, W4	Every 3 months	1 January, 1 April, 1 July, 1 October

Parameter	Units
Electricity Exported	GWhr
Heat Exported	GWhr
Mechanical Power Provided	GWhr
Fossil Fuel Energy Consumption	GWhr
Non-Fossil Fuel Energy Consumption	GWhr
Annual Operating Hours	hr
Water Abstracted from Fresh Water Source	m ³
Water Abstracted from Borehole Source	m ³
Water Abstracted from Estuarine Water Source	m ³
Water Abstracted from Sea Water Source	m ³
Water Abstracted from Mains Water Source	m ³
Gross Total Water Used	m ³
Net Water Used	m ³

Parameter	Units
Hazardous Waste Transferred for Disposal at another installation	t
Hazardous Waste Transferred for Recovery at another installation	t
Non-Hazardous Waste Transferred for Disposal at another installation	t
Non-Hazardous Waste Transferred for Recovery at another installation	t
Waste recovered to Quality Protocol Specification and transferred off-site	t
Waste transferred directly off-site for use under an exemption / position statement	t

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

Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
Air & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy	01/01/16	National and area	31/12/15
Air	Form IED RTA1 –TNP quarterly emissions summary log	01/01/16	National and area	31/12/15
LCP	Form IED HR1 – operating hours	01/01/16	National and area	31/12/15
Air	Form IED CON 1 - continuous monitoring.	01/01/16	Area Office	31/12/15
CEMs	Form IED CEM – Invalidation Log	01/01/16	Area Office	31/12/15
LCP	Form IED BD1 - Cumulative annual rolling malfunction and breakdown hours	01/01/16	Area Office	31/12/15
Air	Form IED MF1 – pollutant concentrations during any day with malfunction or breakdown of abatement plant	01/01/16	Area Office	31/12/15
Air	Form IED PM1 - discontinuous monitoring and load.	01/01/16	Area Office	31/12/15

Table S4.4 Reporting forms				
Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
Resource Efficiency	Form REM1 – resource efficiency annual report	01/01/16	National	31/12/15
Water	Form water 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	31/12/15

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

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

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

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

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.

“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.

“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.

“Emergency conditions” means black start or when this is a potential national loss of supply.

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

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

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

“Hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“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.

“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.

“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.

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

“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.

“off load” means that no electricity is being generated

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

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

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

“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

Drafting note: To be amended once the Regulations are available

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, 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.

Drafting note: only use above definition for chapter 5 installations

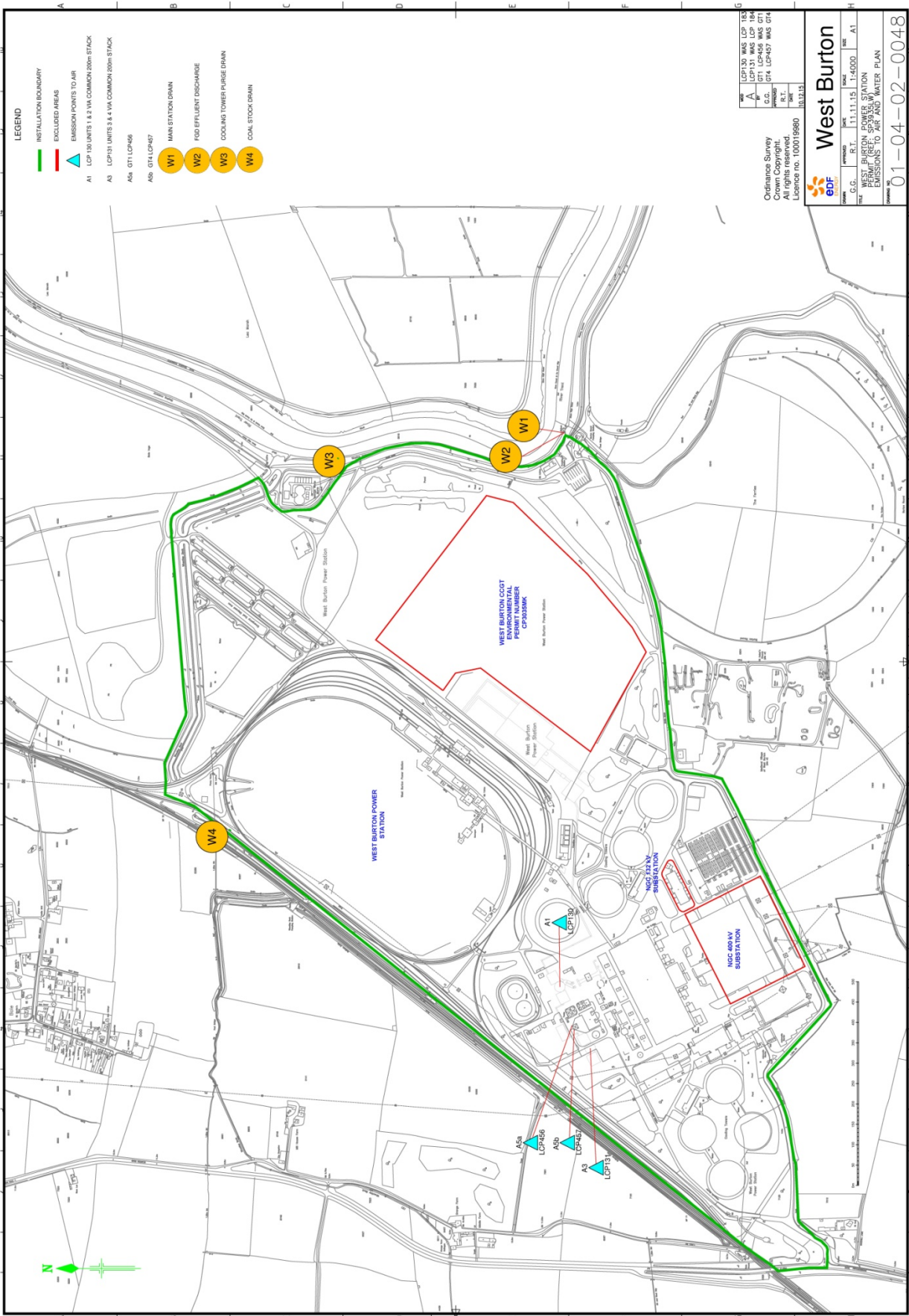
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

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

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



END OF PERMIT

Permit number
 SP3935LW