

# Notice of variation and consolidation with introductory note

## The Environmental Permitting (England & Wales) Regulations 2010

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Uniper UK Limited

Ratcliffe on Soar Power Station  
Ratcliffe on Soar  
Nottingham  
Nottinghamshire  
NG11 0EE

### **Variation application number**

EPR/EP3133RZ/V002

### **Permit number**

EPR/EP3133RZ

# Ratcliffe on Soar Power Station

## Permit number EPR/EP3133RZ

### 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 LCP116 under the Transitional National Plan (TNP) compliance route and LCP455 under the Limited Hours Derogation (LHD) 500 hours compliance route.

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

- LCP 167 is changed to LCP 116; and
- LCP (no LCP reference previously) GT2 and GT4 is now LCP 455.

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

The installation is situated 7 miles south west of Nottingham between the rivers Trent and Soar, on the Leicestershire/Nottinghamshire border. The installation comprises 4 pulverised coal fired boilers with associated turbine and generator sets. Each generating unit has a net thermal input of 1326 MW which equates to an electrical output of 500MW and together constitute LCP116. The station also maintains two gas turbine generating sets fired on gas oil which each have a net thermal input of 75 MW. These are black start turbines which 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 gas turbines are a separate LCP which is operated under the 500 hour derogation, LCP number LCP455.

The Central Electricity Generating Board constructed the plant in the 1960's as part of a major modernisation of the power generating capacity of the country. The location of the Station was determined by the access to cooling water from the River Trent, the proximity of coalfields and the 400KV transmission lines. The current Operator is Uniper UK Limited who operates a number of facilities in the UK.

The exhaust emissions are abated using electrostatic precipitators which remove over 99% of the particulate emissions from the exhaust gases before they enter the flue gas desulphurisation plant.

The boilers have the burners on the front wall and have been up-graded over the years and are fitted with low NOx burners. In addition all of the boilers have been modified to utilise a boosted over fire air (BOFA) system to further reduce emissions of nitrogen oxides to air. Selective catalytic reduction (SCR) has also been fitted to each unit and is in the process of being commissioned.

The sulphur dioxide emissions are abated using flue gas desulphurisation plant, one unit fitted to each boiler plant. This equipment operates by reacting limestone slurry with the acid flue gases to produce gypsum

which is a saleable product. This material is sold to the gypsum industry for the manufacture of plasterboard or for the formulation of cement.

Materials mainly coal, petcoke and all limestone are delivered to the Station by the use of a dedicated rail system for bulk materials. Coal and petcoke are delivered to the station using road transport, along with biomass and oil.

Ash from the boilers consists of Furnace Bottom Ash collected from the bottom of the boilers and transported to holding areas and thence sold to the building industry to manufacture building blocks. Pulverised Fuel Ash leaves the top of the boiler and is collected by electrostatic precipitators. This material is also sold for use in the construction industry; however, if no market can be found then this material can also be sent to a landfill site.

Emissions from the installation are to air from the boilers and to water from the use of cooling water and ancillary process plant including the FGD plant. Emissions to air from the boilers are through a common 199m high windshield containing 4 flues. The gas turbines exhaust through separate flues within a common 96 m windshield.

Cooling water make up is abstracted from the River Trent and is cooled in eight evaporative cooling towers.

There are no emissions to sewer from the site - water emissions are to the River Trent after suitable treatment to meet various quality control requirements. Two emergency bypass discharge points exist so that water can be discharged to the River Soar in emergencies.

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.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application AP3330LB	Duly made 31/03/06	
Supplementary Information regarding EPOPRA	21/11/06	
Permit determined	30/10/07	
Application YP3530XW received	19/11/07	Variation to permit the trial of Selective Catalytic Reduction of emissions of nitrogen oxides from one boiler
Schedule 7 Notice issued	04/04/08	
Response to Schedule 7 Notice received	09/10/08	
Commercial-in-confidence claim submitted	09/10/08	
Commercial-in-confidence claim agreed	21/10/08	
Variation notice YP3530XW issued	24/04/09	
Variation determined EPR/AP3330LB/V003 (HP3032ZD)	11/03/13	Environment Agency Initiated Variation, to incorporate Eel Regulations improvement condition.
Agency variation determined EPR/AP3330LB/V004 (JP3336NP)	05/08/13	Agency variation to implement the changes introduced by IED
Variation application received EPR/AP3330LB/V005	01/05/14	
Variation determined EPR/AP3330LB/V005 (billing ref AP3336VQ)	22/05/14	Admin variation to implement the changes to Schedule 4 Table S4.2

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application received	04/08/14	Administrative variation to carry out a newly prescribed activity (5.4 (b)(iii)) under the Industrial Emissions Directive.
Application EPR/EP3133RZ/T001 (full transfer of permit EPR/AP3330LB)	Duly made 09/07/15	Application to transfer the permit in full to Uniper UK Limited.
Transfer determined EPR/EP3133RZ	26/08/15	Full transfer of permit complete.
Regulation 60 Notice sent to the Operator	31/10/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary and update the permit to modern conditions.
Regulation 60 Notice response	27/03/15	Response received from the Operator.
Additional information received	Dated 20/08/2015	Response to request for further information (RFI) dated 07/08/2015.
Additional information received	08/10/15	Confirmation of compliance route under TNP.
Variation determined EPR/EP3133RZ/V002 (PAS Billing ref: XP3532RN)	24/12/15	Varied and consolidated permit issued in modern condition format. Administrative variation to update activity A5 in accordance with the IED. 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/EP3133RZ

### Issued to

**Uniper UK Limited** (“the operator”)

whose registered office is

**Westwood Way  
Westwood Business Park  
Coventry  
CV4 8LG**

company registration number 2796628

to operate a regulated facility at

**Ratcliffe on Soar Power Station  
Ratcliffe on Soar  
Nottingham  
Nottinghamshire  
NG11 0EE**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
Anne Nightingale	24/12/2015

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/EP3133RZ**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/EP3133RZ/V002 authorising,

**Uniper UK Limited** (“the operator”),

whose registered office is

**Westwood Way  
Westwood Business Park  
Coventry  
CV4 8LG**

company registration number 2796628

to operate an installation at

**Ratcliffe on Soar Power Station  
Ratcliffe on Soar  
Nottingham  
Nottinghamshire  
NG11 0EE**

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

Name	Date
Anne Nightingale	24/12/2015

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 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 red on the site plan at schedule 7 to this permit.

### **2.3 Operating techniques**

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 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 LCP 455 Gas turbines. 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: LCP116 and LCP455. 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
- 2.3.7 For the following activities referenced in schedule 1, table S1.1: LCP 116. 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 table 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, A2, A3 and A4 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 table 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, S3.2 and S3.3;
- (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.
- 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: LCP116. 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 Part A(1)(a): Burning any fuel in an appliance with a net rated thermal input of 50MW or more.	LCP 116: Operation of four boilers (each with a net rated thermal input of 1326 MWth) burning coal, petroleum coke, biomass and PFO and LFO for support for production of steam and electricity.  (The total aggregated net rated thermal input is 5304MWth)  LCP 455: Operation of two open cycle gas turbines (OCGT) burning gas oil to produce electricity (150MW total aggregated net rated thermal input)	From receipt of coal, petroleum coke, biomass, PFO and LFO to discharge of exhaust gases and wastes and the generation and export of electricity.  LCP 455 shall be used as emergency plant for up to 500 hours per year.
A2	Section 4.2 Part A(1)(a)(iv): Producing inorganic chemicals such as salts.	Operation of 4 Flue Gas Desulphurisation (FGD) units.	From receipt of raw materials to despatch of products and waste.
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.	From receipt of raw materials to despatch of products and waste.
A4	Section 3.5 Part B(f): loading, unloading or storing pulverised fuel ash in bulk prior to further transportation in bulk.	Removal of ash from the combustion process to dispatch from site.	From receipt of raw materials to despatch of products and waste.
A5	Section 5.4 Part A(1)(b)(iii): treatment of slags and ashes	Treating pulverised fuel ash (PFA)	From receipt of PFA from the combustion process to dispatch of classified PFA for onward handling
A6	Section 4.8 Part B (a)	The storage in tanks of more than 100 tonnes of anhydrous ammonia.	From receipt of anhydrous ammonia to injection into the combustion flue gases upstream of the SCR plant.



<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
	<b>Directly Associated Activity</b>		
A7	Surface water drainage & process effluent	Surface water drainage & process effluent.	Handling and storage of site drainage and process effluent until discharge to the River Trent.
A8	Water treatment	Treatment of water.	From receipt of raw materials and river water to dispatch of Demineralised Water (DMW) to the process and chemical effluent to the drainage system.
A9	Fuel Storage	Storage of fuel.	Receipt and handling of coal, petcoke, oil and biomass up to the delivery of coal, petcoke and solid biomass to the coal mills and delivery of oil to the combustion units.
A10	Use of water to condense steam	The use of water from the River Trent in the process, primarily to condense steam.	The pumping, filtering and chemical treatment of the water, its use in the condensers and eight natural draught evaporative cooling towers to the discharge of the water back to the River Trent.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application	The response to section B2.1 and 2.2 in the Application, including cross-referenced material.	31/03/06
Further information	Letter and report re. disposal of boiler acid cleaning effluent, reference CS/2852	05/04/06
Application received	Administrative variation to carry out a newly prescribed activity under the Industrial Emissions Directive	04/08/14
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance routes and operating techniques identified in response to questions 2 (LHD), 3 (net rated thermal input), 4(MSUL/MSDL), 5 (ELV option), 6 (SCR update).  Excluding compliance routes ELV, LHD for LCP167 (now LCP 116) and related operating techniques.	Received 27/03/15

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 07/08/15	Compliance route(s) and operating techniques identified in response to questions 1(mothballed OCGTs, LCP455) 2(compliance route), 3(TNP/LLD notification, 4(configuration of each LCP), 5(net rated thermal input), 6, 7, 9ii, 10, 11. Excluding compliance routes ELV, LHD for LCP167 (now LCP116) and related operating techniques.	Received 20/08/15
Receipt of additional information to the regulation 60(1) Notice.	Confirmation of the compliance routes chosen for LCP116	Received 08/10/15

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
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 PM2.5 within the release of total particulate matter from the combustion process. The protocol shall include but not be restricted to a variety of operating scenario 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.</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

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
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.</p> <p>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.</p> <p>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
IC6	<p>Provide a written plan of how this installation will contribute to total emissions of SO<sub>2</sub> 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<sub>2</sub> 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.</p>	01/04/08 With updated versions by 01/04/12 & 01/04/16
IC7	<p>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.</p> <p>The notification requirements of condition 2.4.2 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.</p>	31/12/16
IC8	<p>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.</p> <p>The procedure shall be implemented by the operator from the date of approval in writing by the Agency</p>	Complete

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC 9	<p>A written report shall be submitted to the Agency for approval. The report shall include the results of an energy efficiency audit in accordance with section 2.7 of IPPC Sector Guidance Note for the Combustion Sector.</p> <p>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
IC 10	<p>A written report shall be submitted to the Agency for approval. The report shall include a detailed assessment, including economic factors, of available techniques or operating conditions for the reduction in concentrations of metal and non-metal compounds in the process effluent discharged from the installation, and in particular emission point WS7 .</p> <p>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
IC 11	<p>A written plan shall be submitted to the Agency for approval detailing the results of a survey of hard-standing, kerbing, drainage and secondary containment for raw material, intermediate, product and waste storage areas and any necessary measures to comply with the requirements of section 2.2.5 of the Combustion Sector TGN.</p> <p>Where appropriate, the plan 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 plan.</p> <p>The plan shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete
IC 12	<p>The Operator shall incorporate into the site protection and monitoring programme, as required by condition 2.8.1 of this permit, the following information;</p> <ol style="list-style-type: none"> <li>1. a detailed large scale drawing clearly and accurately showing the location and extent of all potentially polluting relevant activities.</li> <li>2. a large scale version of the site drainage plan.</li> <li>3. a drawing showing the locations of historic site investigation boreholes, referenced to the borehole logs provided in the Application Site Report.</li> <li>4. Provide information on the nature of the high voltage cable oil, including its polluting potential, environmental fate and transport behaviour.</li> </ol>	Complete

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC 13	<p>The operator shall design and implement a site investigation to obtain reference data from any land potentially impacted by leachate emissions from the Coal Stock Storage Area activity. This investigation shall:</p> <ol style="list-style-type: none"> <li>1. Review and refine the Conceptual Site Model and describe in detail the fate and transport in the subsurface of pollutants potentially generated by the coal stockpile. The operator must ensure that pathways and receptors are amended from those assumed in the Application Site Report in order to account for the reported presence of permeable strata beneath the stockyard (the Hemington Terrace Deposit and the weathered Cropwell Bishop Formation), and the presence of a Minor Aquifer beneath part of the stockyard.</li> <li>2. Review any existing site investigation reports and data for the area of the installation.</li> <li>3. Design an investigation and environmental monitoring programme to collect Reference Data to quantify land quality (including groundwater) at and beneath the installation in the vicinity of the coal storage activity.</li> <li>4. Obtain the reference data, including intrusive investigations as required.</li> <li>5. Report on the findings of the investigation.</li> </ol> <p>The investigation to obtain reference data shall be designed, implemented and reported in accordance with Environment Agency Technical Guidance Note IPPC H7: 'Guidance on the Protection of Land Under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme'.</p>	Complete
IC14	<p>A written report on the SCR trial shall be submitted to the Agency. The report shall summarise the progress of the SCR trial over the preceding calendar year. In particular, the report shall quantify (i) the NO<sub>x</sub> abatement performance of the SCR plant, and (ii) any changes in releases to the environment that are attributed to the operation of the SCR plant.</p> <p>Further written reports on the SCR trial shall be submitted to the Agency. The reports shall update the previous SCR trial report.</p>	Condition varied, see IC19
IC15	<p>The operator shall carry out a review of the Accident Management Plan to take account of the addition of the SCR plant and associated equipment, in particular the bulk ammonia storage tanks.</p> <p>If the review extends to the entire installation then it will be deemed to have met the requirement of Condition 1.1.2 (b)</p>	Complete
IC16	<p>The operator shall carry out a review of the Site Protection and Monitoring Programme to take account of the addition of the SCR plant and associated equipment, in particular the bulk ammonia storage tanks.</p> <p>If the review extends to the entire installation then it will be deemed to have met the requirement of Condition 2.8.2</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC17	<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"> <li>• Providing a written proposal for the installation of an eel screen.</li> <li>• Providing a written proposal to the modification of existing screening arrangements.</li> <li>• 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.</li> <li>• Providing a written response setting out a case for an exemption</li> </ul> <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
IC18	<p>For LCPD LCP116 and LCP455. 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.</p>	28/01/16
IC19	<p>The operator shall provide a written report on the commissioning and operation of the SCR systems on each boiler. In particular, the report shall quantify:</p> <ol style="list-style-type: none"> <li>a. the NOx abatement performance of the SCR plant;</li> <li>b. any changes in releases to the environment that are attributed to the operation of the SCR plant, including the extent of any ammonia slippage, the fate of ammonia which is not released to air in the flue gasses, and the impact on the environment of the ammonia in the releases to air and water using the H1 software tool; and</li> <li>c. any impact of the operation of the SCR system on overall station energy efficiency.</li> </ol>	Within 6 months of commissioning of the first SCR phase

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC20	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

<b>Table S1.4 Pre-operational measures</b>		
<b>Reference</b>	<b>Pre-operational measures</b>	<b>Notes</b>
POC 1	<p>A written report shall be submitted to the Agency for approval not less than three months before the SCR plant is brought into operation. The report shall specify the proposed trial programme and proposed operational techniques relating to the trial of Selective Catalytic Reduction (SCR) of emissions of Nitrogen Oxides.</p> <p>The trial programme shall not start until written approval for the operational techniques has been received from the Environment Agency.</p>	Completed 01/10/12

<b>Table S1.5 Start-up and Shut-down thresholds</b>		
<b>Emission Point and Unit Reference</b>	<b>“Minimum start up load” Load in MW and as percent of rated power output (%) Or when the criteria listed below have been met</b>	<b>“Minimum shut-down load” Load in MW and as percent of rated power output (%) Or when the criteria listed below have been met</b>
LCP116 Boiler Units 1 – 4 A1, A2, A3 and A4	250MW; 46%	220 MW; 40%
LCP455 2 x OCGTs A13 and A15	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

<b>Table S2.1 Raw materials and fuels</b>	
<b>Raw materials and fuel description</b>	<b>Specification</b>
Light fuel oil	Less than 1.0% w/w sulphur content
Gas oil	Less than 0.1% w/w sulphur content
Processed fuel oil	Produced to WRAP QP
Biomass fuels	as defined in Article 2(11) of the EU Directive 2001/80/EC) and included in the application or otherwise agreed in writing by the Agency

<b>Table S2.2 Permitted waste types and quantities for combustion in boilers</b>	
<b>Maximum quantity</b>	<b>Non specified</b>
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 included in the application or otherwise agreed in writing by the Agency.

<b>Table S2.3 Permitted waste types and quantities for ash processing</b>	
<b>Waste code</b>	<b>Description</b>
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	Coal fly ash



## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air.						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1, A2, A3 and A4. [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Oxides of Nitrogen  (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 116  Coal fired boiler plant	450mg/m <sup>3</sup>	Calendar monthly mean	Continuous	BS EN 14181
A1, A2, A3 and A4. [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Oxides of Nitrogen  (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 116  Coal fired boiler plant	550mg/m <sup>3</sup>	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1, A2, A3 and A4. [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Sulphur Dioxide	LCP No. 116  Coal fired boiler plant	350mg/m <sup>3</sup>	Calendar monthly mean	Continuous	BS EN 14181
A1, A2, A3 and A4. [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Sulphur Dioxide	LCP No. 116  Coal fired boiler plant	440mg/m <sup>3</sup>	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1, A2, A3 and A4. [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Dust	LCP No. 116  Coal fired boiler plant	20mg/m <sup>3</sup>	Calendar monthly mean	Continuous	BS EN 14181

**Table S3.1 Point source emissions to air.**

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A1, A2, A3 and A4.  [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Dust	LCP No. 116  Coal fired boiler plant	35mg/m <sup>3</sup>	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1, A2, A3 and A4.  [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Oxygen	LCP No. 116  Coal fired boiler plant	-		As appropriate to reference	BS EN 14181
A1, A2, A3 and A4.  [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Water Vapour	LCP No. 116  Coal fired boiler plant	-		As appropriate to reference	BS EN 14181
A1, A2, A3 and A4.  [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Stack gas temperature	LCP No. 116  Coal fired boiler plant	-		As appropriate to reference	Traceable to national standards
A1, A2, A3 and A4.  [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Stack gas pressure	LCP No. 116  Coal fired boiler plant	-		As appropriate to reference	Traceable to national standards

<b>Table S3.1 Point source emissions to air.</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A1, A2, A3 and A4.  [Points A1, A2, A3 and A4 on site plan in Schedule 7]	Total mercury	LCP No. 116  Coal fired boiler plant	-	-	Annual	BS EN 13211
A1, A2, A3 and A4.  [Points A1, A2, A3 and A4 on site plan in Schedule 7]	-	LCP No. 116  Coal fired boiler plant	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A13 and A15 [Points A13 and A15 on site plan in Schedule 7]	Oxides of Nitrogen  (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 455  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
A13 and A15 [Points A13 and A15 on site plan in Schedule 7]	Sulphur dioxide	LCP No. 455  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
A13 and A15 [Points A13 and A15 on site plan in Schedule 7]	Dust	LCP No. 455  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

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)-these limits do not apply during start up or shut down.</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A13 and A15 [Points A13 and A15 on site plan in Schedule 7]	CO	LCP No. 455 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
A5 to A8	No parameters set	No. 1 to No. 4 PFA dust silo's bag filters respectively	-	-	-	
A9	No parameters set	Lime / gypsum road / railhead dust collection bag filter	-	-	-	
A10, A11	No parameters set	FGD lime silo 1 and 2 bag filters respectively	-	-	-	
A16	No parameters set	No. 5 and 6 PFA dust silo's bag filters	-	-	-	

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source<sup>a</sup></b>	<b>Limit (incl. unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
<b>WS7</b> discharging to W1 on site plan in schedule 7	Oil	FGD Waste water treatment	None visible	24 hour flow proportional sample	Daily	Visual inspection
	Flow rate		70 l/s	Instantaneous	Continuous	Flow meter

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source <sup>a</sup>	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
<b>WS7</b> discharging to W1 on site plan in schedule 7	Mercury	FGD Waste water treatment	0.025 mg/l	24 hour flow proportional sample	Weekly	Method as specified in the Ratcliffe Laboratory Manual
	Cadmium		0.05 mg/l			
	Arsenic		0.5 mg/l			
	Chromium		1 mg/l			
	Copper		0.5 mg/l			
	Lead		0.5 mg/l			
	Nickel		0.4 mg/l			
	Zinc		1 mg/l			
	Vanadium		0.5 mg/l			
	Iron		2 mg/l			
	Selenium		1 mg/l			
	Antimony		0.5 mg/l			
	Silver		0.05 mg/l			
	Aluminium		3 mg/l			
	Molybdenum		5 mg/l			
Chlorides	40 000 mg/l					
Fluoride	20 mg/l					
<b>W1</b> on site plan in schedule 7	Total daily flow	Combined installation discharge (WS7 FGD waste water, WS5 sewage treatment plant, WS2 ash lagoon / coal stock area, WS1 cooling water purge)	136 000 m <sup>3</sup>	24 hours	Continuous	Flow meter
	Maximum flow rate		1580 l/s	Instantaneous	Continuous	Flow meter
	Temperature		30° C	Instantaneous	Continuous	Traceable to national standards
	pH		6 to 10	Instantaneous	Daily spot sample	BS EN ISO 10523:2012
	Total oxidant as chlorine		0.25 mg/l	Instantaneous	Continuous	Continuous monitor
	Suspended solids		75 mg/l <sup>b</sup>	Weekly composite	Weekly	Method as specified in the Ratcliffe Laboratory Manual
<b>W3</b> on site plan in schedule 7	Oil	Ash lagoon storm water bypass	None visible	Instantaneous	Daily spot sample <sup>c</sup>	Visual inspection

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source<sup>a</sup></b>	<b>Limit (incl. unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
<b>W4</b> on site plan in schedule 7	Suspended solids	Emergency Site drainage (southern) bypass	30 mg/l	Instantaneous	Daily spot sample <sup>c</sup>	Method as specified in the Ratcliffe Laboratory Manual
	Oil		None visible	Instantaneous	Daily spot sample <sup>c</sup>	Visual inspection

a - WS numbers refer to internal release points as indicated in water circuits and releases block diagram in appendix 7 to the application

b - The limit for suspended solids applies to the measured value minus the background concentration of the receiving waters.

c -Measurements only during operation of discharge point.

<b>Substance</b>	<b>Medium</b>	<b>Limit (including unit)</b>		<b>Emission Points</b>
Particulate Matter, Sulphur dioxide and Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	A1, A2, A3, A4
		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	LCP 116
		01/01/20-30/06/20		
		<b>Monthly Load kg</b>	<b>Annual Load kg</b>	
Mercury	Water	2.0	13	<b>WS7</b> (discharging to W1 on site plan in appendix 4 of application emission to River Trent)
Cadmium	Water	3.2	22	
Arsenic	Water	40	260	
Chromium	Water	47	310	
Copper	Water	21	155	
Lead	Water	21	155	
Nickel	Water	26	175	
Zinc	Water	65	435	
Vanadium	Water	65	435	
Iron	Water	260	1800	
Selenium	Water	105	700	
Antimony	Water	60	400	
Silver	Water	6.5	44	
Molybdenum	Water	590	4000	
Boron	Water	22 700	152 000	

<b>Table S3.4 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Inlets to Flue gas desulphurisation units 1 to 4	Sulphur dioxide	Continuous	BS EN 14181	To be used as part of the determination of removal efficiency.
ID fan outlet	Carbon monoxide	Continuous	As application	N/A

## Schedule 4 – Reporting

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

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Oxides of nitrogen	A1/A2/A3/A4	Every 3 months	1 January, 1 April, 1 July, 1 October
	A13, A15	Every 2 years	1 January
Carbon Monoxide	A13, A15	Every 2 years	1 January
Sulphur dioxide	A1/A2/A3/A4	Every 3 months	1 January, 1 April, 1 July, 1 October
	A13, A15	Every 2 years	1 January
Particulate Matter	A1/A2/A3/A4	Every 3 months	1 January, 1 April, 1 July, 1 October
	A13, A15	Every 2 years	1 January
Mercury	A1/A2/A3/A4	Annually	1 January
Surface water monitoring Parameters as required by condition 3.5.1	WS7, W1, W3 and W4.	Every 3 months	1 January

<b>Table S4.2: Resource Efficiency Metrics</b>	
<b>Parameter</b>	<b>Units</b>
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 <sup>3</sup>
Water Abstracted from Borehole Source	m <sup>3</sup>
Water Abstracted from Estuarine Water Source	m <sup>3</sup>
Water Abstracted from Sea Water Source	m <sup>3</sup>
Water Abstracted from Mains Water Source	m <sup>3</sup>
Gross Total Water Used	m <sup>3</sup>
Net Water Used	m <sup>3</sup>
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



Parameter	Units
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 <sub>x</sub> for each LCP	Annually	t
Total Emissions to Air of SO <sub>2</sub> 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 <sub>2</sub> , NO <sub>x</sub> 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 when 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
Resource Efficiency	Form REM1 – resource efficiency annual report Only for ESI installations	01/01/16	National	31/12/15
Water	Form water W1, W2, W3, W4 or other form as agreed in writing by the Environment Agency	01/01/16	Area Office	01/11/07

# 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	

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

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
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.	

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* 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	

<b>(a) Notification requirements for any malfunction and breakdown of abatement equipment as defined by the Industrial Emission Directive*.</b>	
<b>To be notified within 48 hours of abatement equipment malfunction and breakdown</b>	
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)	
<b>Name**</b>	
<b>Post</b>	
<b>Signature **</b>	
<b>Date</b>	

\* 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.

“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.

“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.

“emissions to land” includes emissions to groundwater.

“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 or background concentration limit.

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

“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.

“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

“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.

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

“year” means calendar year ending 31 December.

# Schedule 7 – Site plan

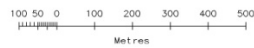
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