



# Notice of variation and consolidation with introductory note

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

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Centrica KPS Limited

Centrica Killingholme Power Station  
Chase Hill Road  
North Killingholme  
Immingham  
North Lincolnshire  
DN40 3EH

### **Variation application number**

EPR/SP3133LY/V006

### **Permit number**

EPR/SP3133LY

# Centrica Killingholme Power Station

## Permit number EPR/SP3133LY

### 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 this LCP under the Transitional National Plan (TNP) compliance route.

The net thermal input of the LCPs is as follows: LCP 52 – one 428MWth Combined Cycle Gas Turbine (CCGT), LCP 53 one 428MWth and LCP 54 one 452MWth CCGT.

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 117 is changed to LCP 52; and
- LCP 118 is changed to LCP 53; and
- LCP 119 is changed to LCP 54

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

Centrica Killingholme Power Station is located north east of North Killingholme in North Lincolnshire and occupies a site of approximately 10.5 hectares. It is located in an industrial area bordered to the south by E-on CCGT Power Station, beyond which is an oil refinery. Open land lies to the west with residential properties a further 400m away. An access road is situated to the east, beyond which is a wood which extends for 250m and then open land and an oil terminal. The land to the north is open undeveloped land. The site is in the floodplain of the Humber Estuary. The surrounding area is predominantly flat. The chalk underlying the site is classed as a major aquifer, under soil with a low leaching potential.

There is a SSSI within 2km and a Natura 2000 site within 15km of the installation as follows:

- North Killingholme Haven Pits SSSI – 900m away
- Humber Estuary Ramsar & SPA – 3500m away

The power station has an electrical output of 665MW and consists of one CCGT module, comprising three gas turbines, three heat recovery boilers and one steam turbine. Exhaust gases from the gas turbines are used to produce steam in the boilers to drive the steam turbine. The station burns natural gas only. The gas turbines are fitted with dry low NOx burners to minimise the formation of oxides of nitrogen.

There are eleven point source emissions to air from the installation. The emission points for the three main combustion plant are three separate 75m stacks, which are continuously monitored for oxides of nitrogen and oxygen.

The installation uses a water-cooled condenser to dispose of waste heat from the spent steam from the steam turbine. Cooling water is abstracted from the Humber Estuary and passes through the Silt Removal

Plant (SRP) before use. Silt is removed in four settling tanks after injection with the coagulant ferric sulphate. The purge from the system is released back into the river without treatment. Cooling is carried out in two induced draught cooling towers.

Drainage within the installation is separated into two active systems; surface water drains and plant drains. All water from the installation is released to the Humber Estuary via a Purge Pit to one release point and is continuously monitored. The release consists of cooling water purge, neutralised Water Treatment Plant (WTP) effluent, effluent from the SRP and plant floor and surface runoff. Plant floor runoff passes through oil interceptors prior to release. There is no further treatment on any of the effluent streams. There is also the option to discharge surface water run-off which has passed through an oil interceptor directly into the Lindsey Land drain.

Mains water is demineralised in the Water Treatment Plant (WTP) prior to use in the boilers to prevent scaling or corrosion of the boiler tubes. The WTP comprises two identical independent streams including a carbon filter, cartridge filter, semi treated water break tanks, cation and anion exchange units and a hydrogen ion polishing unit. Sulphuric acid and caustic soda are used for regeneration of the ion exchange units. These are stored within bunded tanks (20 tonne and 28 tonne capacity respectively) within the WTP building and a further sulphuric acid tank (93 tonne capacity) is located to the east of the Steam Turbine building. Sodium hypochlorite is used to dose the cooling water system to prevent any organic growth. The sodium hypochlorite tank is fully bunded and is located within the cooling water pump house on the main site. There is an additional sodium hypochlorite tank located in the Pump House by the Humber Estuary; however this has not been used for a number of years.

Ferric sulphate is a coagulant used to settle out the silt from the water abstracted from the Humber Estuary. This is stored within a bunded tank southwest of the South Cooling Tower.

Boiler feed water is treated with trisodium phosphate (TSP) and carbonylhydrazide, which are stored within IBCs within a concrete bund. Carbonylhydrazide and ammonia are used to control dissolved oxygen and pH in the boiler water feed, which are also stored within bunded IBCs.

There are no odorous substances used on the site and no odour complaints have been received.

The Operator holds Greenhouse Gas Emissions Permit No UK-E-IN-11815 and operates a Business Management System, which is externally certified to ISO14001.

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 received	Duly made 17/03/06	
Permit determined EPR/SP3133LY	22/12/06	
Variation Application EPR/SP3133LY/V002	Duly made 29/09/10	
Variation Issued	22/12/10	
Variation Application EPR/SP3133LY/V003	Duly made 24/05/11	
Variation Determined	22/07/11	
Application EPR/SP3133LY/V004	Duly made 03/10/11	Environment Agency initiated variation
Variation Determined	20/10/11	Varied and Consolidated permit Issued
Variation Determined EPR/SP3133LY/V005	11/03/13	Environment Agency Initiated variation, to incorporate Eel Regulations improvement condition

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
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 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	24/11/15	Response to request for further information (RFI) dated 20/10/15
Variation determined EPR/SP3133LY/V006 (PAS Billing ref: GP3034AJ)	21/12/15	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/SP3133LY

### Issued to

**Centrica KPS Limited** (“the operator”)

whose registered office is

**Millstream  
Maidenhead Road  
Windsor  
Berkshire  
SL4 5GD**

company registration number 5006144

to operate an installation at

**Centrica Killingholme Power Station  
Chase Hill Road  
North Killingholme  
Immingham  
North Lincolnshire  
DN40 3EH**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
J Linton	21/12/2015

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/SP3133LY**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/SP3133LY/V006 authorising,

**Centrica KPS Limited** (“the operator”),

whose registered office is

**Millstream  
Maidenhead Road  
Windsor  
Berkshire  
SL4 5GD**

company registration number 5006144

to operate an installation at

**Centrica Killingholme Power Station  
Chase Hill Road  
North Killingholme  
Immingham  
North Lincolnshire  
DN40 3EH**

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

Name	Date
J Linton	21/12/2015

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”).

### **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 7 to this permit.

### **2.3 Operating techniques**

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 For the following activities referenced in schedule 1, table S1.1: LCP 52, LCP 53 and LCP 54. 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 52, LCP 53 and LCP 54. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4
- 2.3.6 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.
- 2.3.7 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

### **2.4 Improvement programme**

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

### **3 Emissions and monitoring**

#### **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Total annual emissions from the LCP emission points set out in schedule 3 tables S3.1 of a substance listed in schedule 3 table S3.3 shall not exceed the relevant limit in table S3.3.
- 3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

#### **3.2 Emissions of substances not controlled by emission limits**

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

#### **3.3 Odour**

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

### **3.4 Noise and vibration**

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

### **3.5 Monitoring**

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2.
- 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; and
  - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
  - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
  - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 For the following activities referenced in schedule 1, table S1.1: LCP 52, LCP 53 and LCP 54. Unless otherwise agreed in writing with the Environment Agency, within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form IED RTA1, listed in table S4.4, the information specified on the form relating to the site's mass emissions.

## 4.3 Notifications

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

- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
  - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (c) any change in the operator's name or address; and
  - (d) any steps taken with a view to the dissolution of the operator.
- 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

<b>Table S1.1 activities</b>		
<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more	Production of electricity in one combined cycle gas turbine (CCGT) module comprising three gas turbines. LCP52 (GT1) 428MWth CCGT LCP53 (GT2) 428MWth CCGT LCP54 (GT3) 452MWth CCGT	From receipt of raw materials to despatch of electricity and waste.
<b>Directly Associated Activity</b>		
Directly associated activity	Surface water and process effluent drainage via Purge pit to Humber Estuary.	Handling and storage of site drainage until discharge to Humber estuary.
Directly associated activity	Operation of one steam turbine.	From input of steam to dispatch of electricity and waste.
Directly associated activity	Operation of three Heat Recovery Steam Generators (HSRGs).	From receipt of gas turbine exhaust gases to dispatch of steam and waste.
Directly associated activity	Filtration, ion exchange water treatment.	From receipt of mains water & raw materials to dispatch of treated water for use in process.
Directly associated activity	Waste handling and storage.	From production of waste to dispatch for disposal off site.
Directly associated activity	Miscellaneous utility systems (including lubrication systems, control systems and oil storage).	From receipt of raw materials to dispatch for use.
Directly associated activity	Cooling system	From abstraction and screening of water in the pump house to the use in the main cooling water system and subsequent return via the purge pit to the Humber Estuary.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application	The response to sections 2.1 and 2.2 in the Application.	17/03/06
Variation Application EPR/SP3133LY/V004	All parts	29/09/10

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Response to regulation 60(1) Notice – request for information dated 31/10/14	Compliance route(s) and operating techniques identified in response to questions 2 (compliance route), 4 (LCP configuration), 5 (Net rated Thermal Input), 6 (Start up & Shut down loads), 9ii (ELV's, and 11 (monitoring requirements).	Received 31/03/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 20/10/2015	Further information received on net rated thermal input and start up and shutdown loads on the gas turbines.	Received 24/11/15

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC 1	<p>The operator shall undertake an assessment of the primary, secondary and tertiary containment arrangements against the requirements of section 2.2.9 of the Combustion Technical Guidance Note to identify and address any deficiencies. The review shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>- Potential for fugitive emissions to ground from storage and transfer of diesel for Emergency Diesel Generator and Diesel Firewater Tank.</li> <li>- Confirmation that all bunding/containment measures are of an appropriate capacity and are impervious to the substances stored within.</li> </ul> <p>A written report of the assessment, including corrective actions and timescales shall be submitted to the Agency.</p> <p>The corrective actions shall be implemented from the date of approval by the Agency.</p>	Completed
IC2	<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.</p> <p>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>	Completed
IC3	<p>The operator shall carry out a water efficiency audit in accordance with section 2.4.3 of the Combustion Technical Guidance Note. A written report of the audit shall be submitted to the Agency and shall include a plan for completion of any improvements identified. Where appropriate the plan 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 audit report.</p> <p>The plan shall be implemented by the operator from the date of approval by the Agency.</p>	Completed



<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, detailing the results of an options appraisal of available techniques for the reduction of emissions of nitrogen dioxide from emissions points A1, A2 and A3 to below the benchmark levels listed in the Combustion Technical Guidance Note. The report shall include a timetable to implement any proposed changes as appropriate.</p> <p>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 by the Agency.</p>	Completed
IC5	<p>The operator shall carry out a waste minimisation audit in accordance with section 2.4.2 of the Combustion Technical Guidance Note. A written report of the audit shall be submitted to the Agency and shall include a plan for completion of any improvements identified.</p> <p>Where appropriate the plan 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 audit report</p> <p>The plan shall be implemented by the operator from the date of approval by the Agency.</p>	Completed
IC6	<p>The operator shall produce an energy efficiency plan in accordance with section 2.7.2 of the Combustion Technical Guidance Note. A copy of this plan shall be submitted for approval by the Agency.</p> <p>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 by the Agency.</p>	Completed
IC7	<p>The operator shall produce a written site closure plan in accordance with the requirements of section 2.11 of the Combustion Technical Guidance Note. A copy of the site closure plan shall be submitted for the approval of the Agency.</p>	Completed

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC8	<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>	Completed
IC9	<p>'For LCPD LCP 117, LCP 118 and LCP 119 (now LCP 52, LCP 53 and LCP 54 under IED). Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LCPD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.'</p>	28/01/16

<b>Table S1.4 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 (%)</b>	<b>“Minimum Shut-Down Load” Load in MW and as percent of rated power output (%)</b>
A1 LCP 52 (GT1)	68 MW; 47%	68 MW; 47%
A2 LCP 53 (GT2)	68 MW; 47%	68 MW; 47%
A3 LCP 54 (GT3)	68 MW; 43%	68 MW; 43%

## 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>
Water treatment plant chemicals	Discharges of mercury as a result of the impurities of raw materials used in the water treatment plant shall be controlled by ensuring that impurity levels are the minimum available in the commercial product.
Water treatment plant chemicals	Discharges of cadmium as a result of the impurities of raw materials used in the water treatment plant shall be controlled by ensuring that impurity levels are the minimum available in the commercial product.

## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air from Gas Turbines >100MWth						
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 Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 52 Gas turbine GT1 fired on natural gas	100 mg/m <sup>3</sup> 70% load and above	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 52 Gas turbine GT1 fired on natural gas	110mg/m <sup>3</sup> 70% load and above  140 mg/m <sup>3</sup> MSUL/MSDL to base load	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 52 Gas turbine GT1 fired on natural gas	200mg/m <sup>3</sup> 70% load and above	95% of hourly averages within a calendar year	Continuous	BS EN 14181
A1 [Point A1 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 52 Gas turbine GT1 fired on natural gas	100 mg/m <sup>3</sup> 70% load and above	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 52 Gas turbine GT1 fired on natural gas	110mg/m <sup>3</sup> 70% load and above  110 mg/m <sup>3</sup> MSUL/MSDL to base load	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 52 Gas turbine GT1 fired on natural gas	200mg/m <sup>3</sup> 70% load and above	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181

<b>Table S3.1 Point source emissions to air from Gas Turbines &gt;100MWth</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 [Point A1 on site plan Figure 3.1 of application]	Sulphur dioxide	LCP No. 52 Gas turbine GT1 fired on natural gas	-	-	At least every 6 months	Concentration by calculation as agreed with the Environment Agency
A1 [Point A1 on site plan Figure 3.1 of application]	Oxygen	LCP No. 52 Gas turbine GT1 fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan Figure 3.1 of application]	Water vapour	LCP No. 52 Gas turbine GT1 fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [Point A1 on site plan Figure 3.1 of application]	Stack gas temperature	LCP No. 52 Gas turbine GT1 fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan Figure 3.1 of application]	Stack gas pressure	LCP No. 52 Gas turbine GT1 fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [Point A1 on site plan Figure 3.1 of application]	Stack gas Volume Flow	LCP No. 52 Gas turbine GT1 fired on natural gas	-	-	Continuous	BS EN 16911 & TGN M2
A1 [Point A1 on site plan Figure 3.1 of application]	As required by the Method Implementation Document for BS EN 15259	LCP No. 52 Gas turbine GT1 fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

<b>Table S3.1 Point source emissions to air from Gas Turbines &gt;100MWth</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>
A2 [Point A2 on site plan Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 53 Gas turbine GT2 fired on natural gas	100 mg/m <sup>3</sup> 70% load and above	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 53 Gas turbine GT2 fired on natural gas	110mg/m <sup>3</sup> 70% load and above  140 mg/m <sup>3</sup> MSUL/MSDL to base load	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 53 Gas turbine GT2 fired on natural gas	200mg/m <sup>3</sup> 70% load and above	95% of hourly averages within a calendar year	Continuous	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 53 Gas turbine GT1 fired on natural gas	100 mg/m <sup>3</sup> 70% load and above	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 53 Gas turbine GT2 fired on natural gas	110mg/m <sup>3</sup> 70% load and above  110 mg/m <sup>3</sup> MSUL/MSDL to base load	Daily mean of validated hourly averages	Continuous	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 53 Gas turbine GT2 fired on natural gas	200mg/m <sup>3</sup> 70% load and above	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Sulphur dioxide	LCP No. 53 Gas turbine GT2 fired on natural gas	-	-	At least every 6 months	Concentration by calculation as agreed with the Environment Agency

<b>Table S3.1 Point source emissions to air from Gas Turbines &gt;100MWth</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>
A2 [Point A2 on site plan Figure 3.1 of application]	Oxygen	LCP No. 53 Gas turbine GT2 fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Water vapour	LCP No. 53 Gas turbine GT2 fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A2 [Point A2 on site plan Figure 3.1 of application]	Stack gas temperature	LCP No. 53 Gas turbine GT2 fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A2 [Point A2 on site plan Figure 3.1 of application]	Stack gas pressure	LCP No. 53 Gas turbine GT2 fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A2 [Point A2 on site plan Figure 3.1 of application]	Stack gas Volume Flow	LCP No. 53 Gas turbine GT2 fired on natural gas	-	-	Continuous	BS EN 16911 & TGN M2
A2 [Point A2 on site plan Figure 3.1 of application]	As required by the Method Implementation Document for BS EN 15259	LCP No. 53 Gas turbine GT2 fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A3 [Point A3 on site plan Figure 3.1 of application]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 54 Gas turbine GT3 fired on natural gas	100 mg/m <sup>3</sup> 70% load and above	Monthly mean of validated hourly averages	Continuous	BS EN 14181



Table S3.1 Point source emissions to air from Gas Turbines >100MWth						
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 Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 54 Gas turbine GT3 fired on natural gas	110mg/m <sup>3</sup> 70% load and above  140 mg/m <sup>3</sup> MSUL/MSDL to base load	95% of validated daily means within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan Figure 3.1 of application]	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	LCP No. 54 Gas turbine GT3 fired on natural gas	200mg/m <sup>3</sup> 70% load and above	95% of hourly averages within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 54 Gas turbine GT3 fired on natural gas	100 mg/m <sup>3</sup> 70% load and above	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A3 [Point A3 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 54 Gas turbine GT3 fired on natural gas	110mg/m <sup>3</sup> 70% load and above  110 mg/m <sup>3</sup> MSUL/MSDL to base load	Daily mean of validated hourly averages	Continuous	BS EN 14181
A3 [Point A3 on site plan Figure 3.1 of application]	Carbon monoxide	LCP No. 54 Gas turbine GT3 fired on natural gas	200mg/m <sup>3</sup> 70% load and above	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A3 [Point A3 on site plan Figure 3.1 of application]	Sulphur dioxide	LCP No. 54 Gas turbine GT3 fired on natural gas	-	-	At least every 6 months	Concentration by calculation as agreed with the Environment Agency
A3 [Point A3 on site plan Figure 3.1 of application]	Oxygen	LCP No. 54 Gas turbine GT3 fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181

<b>Table S3.1 Point source emissions to air from Gas Turbines &gt;100MWth</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>
A3 [Point A3 on site plan Figure 3.1 of application]	Water vapour	LCP No. 54 Gas turbine GT3 fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A3 [Point A3 on site plan Figure 3.1 of application]	Stack gas temperature	LCP No. 54 Gas turbine GT3 fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A3 [Point A3 on site plan Figure 3.1 of application]	Stack gas pressure	LCP No. 54 Gas turbine GT3 fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A3 [Point A3 on site plan Figure 3.1 of application]	Stack gas Volume Flow	LCP No. 54 Gas turbine GT3 fired on natural gas	-	-	Continuous	BS EN 16911 & TGN M2
A3 [Point A3 on site plan Figure 3.1 of application]	As required by the Method Implementation Document for BS EN 15259	LCP No. 54 Gas turbine GT3 fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A4	No parameters set	No 1 gas turbine fuel gas vent pipe	-	-	-	No permanent sampling access required
A5	No parameters set	No 2 gas turbine fuel gas vent pipe	-	-	-	No permanent sampling access required

<b>Table S3.1 Point source emissions to air from Gas Turbines &gt;100MWth</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>
A6	No parameters set	No 3 gas turbine fuel gas vent pipe	-	-	-	No permanent sampling access required
A8	No parameters set	Diesel fire pumps	-	-	-	No permanent sampling access required
A9	No parameters set	North cooling tower	-	-	-	No permanent sampling access required
A10	No parameters set	South cooling tower	-	-	-	No permanent sampling access required
A11	No parameters set	Hydrogen vent	-	-	-	No permanent sampling access required
A12	No parameters set	New hydrogen vent (on H2 skid)	-	-	-	No permanent sampling access required
Miscellaneous process and building vents	No parameters set	-	-	-	-	No permanent sampling access required

<b>Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (incl. unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
W1 Emission to Humber Estuary	Hourly purge flow rate	Cooling water purge, boiler blowdown, effluent from water treatment plant, effluent from silt removal plant, surface water run off	1650m <sup>3</sup> /h	Hourly	Continuous	Note 1
W1 Emission to Humber Estuary	Daily purge flow rate	Cooling water purge, boiler blowdown, effluent from water treatment plant, effluent from silt removal plant, surface water run off	31,500m <sup>3</sup> /day	24 hour period beginning 00.01	Continuous	Note 1
W1 Emission to Humber Estuary	Purge Temperature	Cooling water purge, boiler blowdown, effluent from water treatment plant, effluent from silt removal plant, surface water run off	31°C	Hourly Average	Continuous	Note 1
W1 Emission to Humber Estuary	Oil & Grease	Cooling water purge, boiler blowdown, effluent from water treatment plant, effluent from silt removal plant, surface water run off	No visible emission	Instantaneous	Daily	Visual inspection

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (incl. unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
W1 Emission to Humber Estuary	Total oxidant as chlorine	Cooling water purge, boiler blowdown, effluent from water treatment plant, effluent from silt removal plant, surface water run off	0.5mg/l	Daily average	Continuous	Note1
W1 Emission to Humber Estuary	pH	Cooling water purge, boiler blowdown, effluent from water treatment plant, effluent from silt removal plant, surface water run off	6-9	Hourly average	Continuous	Note1
W2 Emission to Lindsey Land Drain	Oil & Grease	Surface water run off	No visible emission	Instantaneous	Daily	Visual Inspection

Note 1 Monitoring method to be agreed in writing with the Environment Agency

<b>Substance</b>	<b>Medium</b>	<b>Limit (including unit)</b>		<b>Emission Points</b>
Oxides of nitrogen	Air	Assessment year	LCP TNP Limit	LCP 52(A1), LCP 53(A2) & LCP 54(A3)
		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		

## Schedule 4 – Reporting

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

<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Oxides of nitrogen	A1, A2, A3	Every 3 months	1 January, 1 April, 1 July, 1 October
Carbon monoxide	A1, A2, A3	Every 3 months	1 January, 1 April, 1 July, 1 October
Sulphur dioxide	A1, A2, A3	Every 6 months	1 January, 1 July,
Surface water monitoring Parameters as required by condition 3.5.1	SWMP 1 and SWMP2	Every 3 months	1 January, 1 April, 1 July, 1 October

<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
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

<b>Table S4.3 Chapter III Performance parameters for reporting to DEFRA</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
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

<b>Table S4.4 Reporting forms</b>				
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Starting Point</b>	<b>Agency recipient</b>	<b>Date of form</b>
LCP	Form IED HR1 – operating hours	01/01/16	National	31/12/15
Air & Energy	Form IED AR1 – SO <sub>2</sub> , NO <sub>x</sub> and dust mass emission & energy	01/01/16	National	31/12/15
Air	Form IED RTA1 –TNP quarterly emissions summary log	01/01/16	National	31/12/15
Air	Form IED CON 2 – continuous monitoring	01/01/16	Area Office	31/12/15
CEMS	Form IED CEM – Invalidation Log	01/01/16	Area Office	31/12/15
Resource Efficiency	Form REM1 – resource efficiency annual report	01/01/16	Area Office	31/12/15
Water	Form water 1 or other form as agreed in writing by the Environment Agency	01/01/16	Area office	01/01/07

# 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

## 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.

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

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

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

“CEN” means Comité Européen de Normalisation.

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

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

“DLN” means dry, low NO<sub>x</sub> burners.

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

“emissions to land” includes emissions to groundwater.

“Energy efficiency” the ISO base load net plant efficiency means the performance value established by acceptance testing following commissioning or performance testing following improvements made to the plant that could affect the efficiency.

“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.

“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.

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

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

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

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

“MCR” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“ncv” means net calorific value.

“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.

“SI” means site inspector.

“TNP Register” means the register maintained by the Environment Agency in accordance with regulation 4 of the Large Combustion Plants (Transitional National Plan) Regulations 2015 SI2015 No.1973.

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

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

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or

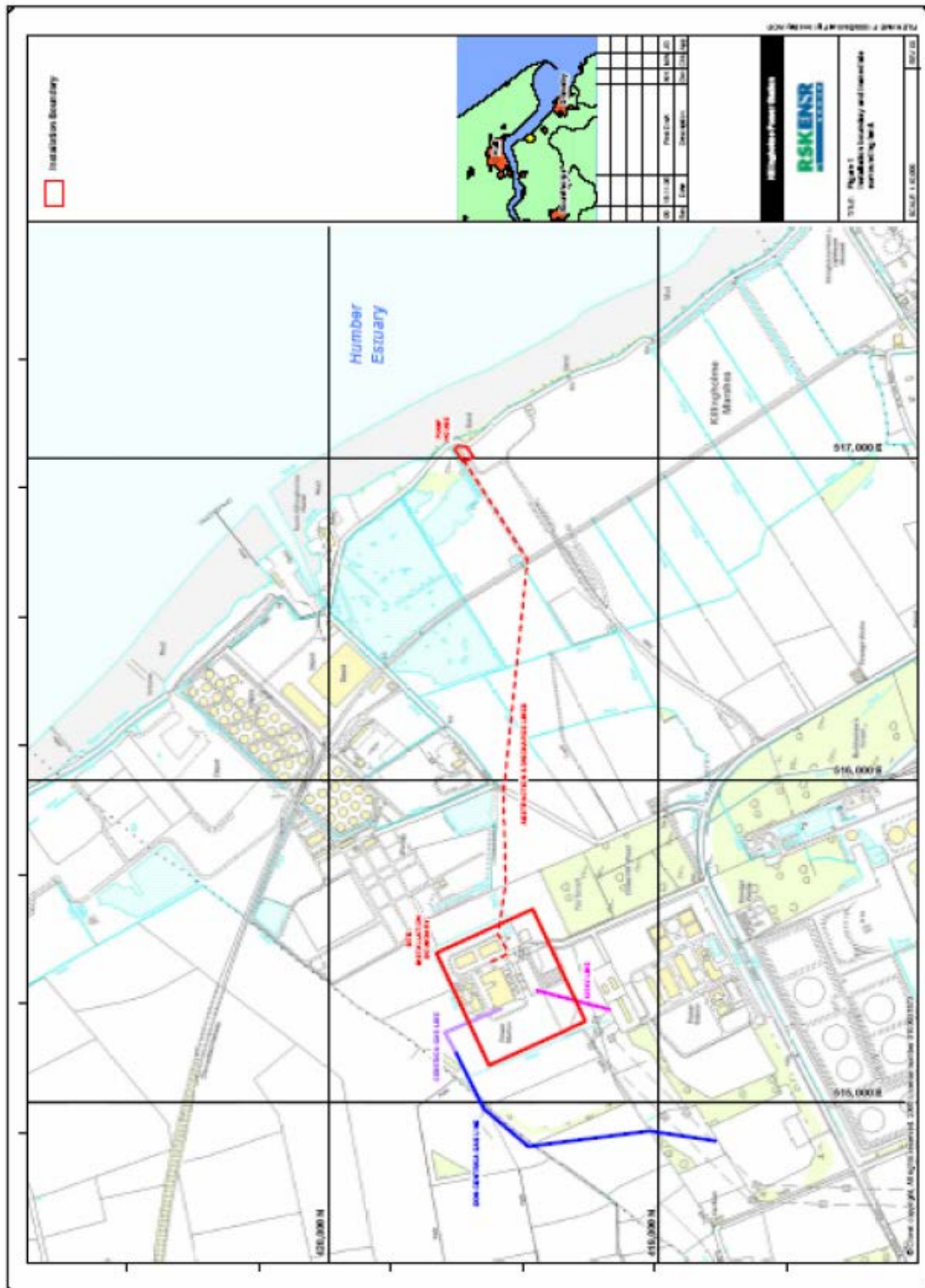
in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or

in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels; and/or

- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

# Schedule 7 – Site plan



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