

# Notice of variation and consolidation with introductory note

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

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Sutton Bridge Power Generation

Sutton Bridge Power Station

Centenary Way

Sutton Bridge

Spalding

Lincolnshire

PE12 9TF

### **Variation application number**

EPR/FP3835LS/V005

### **Permit number**

EPR/FP3835LS

# Sutton Bridge Power Station

## Permit number EPR/FP3835LS

### 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 ELV compliance route. This is a change from the previous operating regime which was operation under emission limits determined by an assessment for the best available techniques (BAT).

The variation notice uses updated LCP numbers in accordance with the most recent DEFRA LCP reference numbers.

The LCP references have changes as follows:

- LCP 181 is changed to LCP 128
- LCP 182 is changed to LCP 129

Each LCP consists of a single 743 MWth CCGT.

Improvement condition (IC5) has been removed.

An improvement condition (IC6) has been included, requiring the Operator to provide a report which demonstrates the net rated thermal input of LCP 128 and LCP 129.

Improvement condition (IC7) has also been added requiring the Operator to provide annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015.

Improvement condition (IC8) requires the Operator to provide a report specifying the details of the upgrade project for the LCP and measures taken to minimise impacts to the environment through the upgrade of the plant.

Improvement condition (IC9) requires the Operator to provide an upgrade commissioning report including final details of the improvements made.

The registered company address has been updated as part of this variation.

This variation removes the 500 hour operating limit for the auxiliary boiler and replaces it with the requirement to report hours used through condition 4.1.

The variation revises table S3.2 to remove monitoring requirements and table S4.1 to remove reporting requirements for emission point S1 and S2, as the discharge has an Anglian Water discharge consent. There is only one discharge point to sewer (S2) and this variation revises the previous error by removing emission point S1.

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

The installation covers an area of around 60,000 m<sup>2</sup> in an area south of Sutton Bridge and east of (and adjacent to) the confluence of the South Holland Main Drain and the Nene Outfall Cut. The Nene Washes (a Site of Special Scientific Interest and listed European site) is approximately 6.5 kilometres north of the installation while the nearest houses are within one kilometre of the installation (to the west and south). There are emissions to air and to sewer from the installation.

The activities covered by the permit are owned and operated by Sutton Bridge Power Generation. The nominal output is 790 MWe of electricity and consists of two gas turbines, two associated electricity generators, two heat recovery steam generators, steam turbine and associated electricity generator.

Boiler feed water is supplied from towns water via a demineralisation plant. Condensate cooling loads are met using an air cooling condenser.

A gas fired auxiliary boiler provides steam during start up of the first gas turbine following a complete shutdown. The auxiliary boiler and gas turbine use low nitrogen oxide technology to minimise releases at source.

Administrative support, raw material storage, warehousing and limited engineering support are all located on the installation to support operations.

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 FP3835LS	Duly made 31/03/06	
Additional information received	11/12/06	
Permit determined EPR/FP3835LS	22/12/06	Permit issued to EDF Energy (Sutton Bridge Power).
Environment Agency initiated variation determined EPR/FP3835LS/V002	11/03/13	Environment Agency initiated variation to incorporate Eel Regulations improvement condition.
Admin variation application EPR/FP3835LS/V003	28/05/13	Name changed to Sutton Bridge Power Generation and registered address change.
Variation determined EPR/FP3835LS/V003	11/06/13	Varied permit issued to Sutton Power Bridge Generation.
Environment Agency initiated variation determined EPR/FP3835LS/V004	18/12/13	Environment Agency initiated variation to implement the changes introduced by IED.
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	30/03/15	Response received from the Operator.
Additional information received	15/07/15	Response to request for further information (RFI) dated 15/06/15.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Variation determined EPR/FP3835LS/V005 (PAS Billing ref: NP3338AR)	15/12/15	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/FP3835LS**

### Issued to

**Sutton Bridge Power Generation** (“the operator”)

whose registered office is

**Sutton Bridge Power Station  
West Nash Road  
Nash  
Newport  
Gwent  
NP18 2BZ**

company registration number 02586357

to operate a regulated facility at

**Sutton Bridge Power Station  
Centenary Way  
Sutton Bridge  
Spalding  
Lincolnshire  
PE12 9TF**

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

<b>Name</b>	<b>Date</b>
<b>Tom Swift</b>	<b>15/12/2015</b>

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/FP3835LS**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/FP3835LS/V005 authorising,

**Sutton Bridge Power Generation** (“the operator”),

whose registered office is

**Sutton Bridge Power Station**

**West Nash Road**

**Nash**

**Newport**

**Gwent**

**NP18 2BZ**

company registration number 02586357

to operate an installation at

**Sutton Bridge Power Station**

**Centenary Way**

**Sutton Bridge**

**Spalding**

**Lincolnshire**

**PE12 9TF**

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

Name	Date
Tom Swift	15/12/2015

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

### **2.3 Operating techniques**

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 For the following activities referenced in schedule 1, table S1.1: LCP 128 and LCP 129. 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 128 and LCP 129. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, table 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 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

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

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

### **3.3 Odour**

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

### **3.4 Noise and vibration**

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

### **3.5 Monitoring**

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 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.

## 4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
    - (i) inform the Environment Agency,
    - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
    - (iii) take the measures necessary to prevent further possible incidents or accidents;
  - (b) of a breach of any permit condition the operator must immediately—
    - (i) inform the Environment Agency, and
    - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1(a)(i), 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit 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.	<p>LCP 128 743 MWth (CCGT mode): Operation of a combined cycle gas turbine power plant (CCGT) burning gas to produce electricity.</p> <p>LCP 129 743 MWth: (CCGT mode): Operation of a combined cycle gas turbine power plant (CCGT) burning gas to produce electricity.</p> <p>One 14 MWth auxiliary boiler producing low pressure steam.</p> <p>One 2.5 MWth emergency diesel generator.</p> <p>One 10 MWth emergency diesel generator.</p>	From receipt of natural gas to discharge of exhaust gases and the generation of electricity.
Section 5.4 A(1) (a) (ii): Disposal of non-hazardous waste in a facility with a capacity exceeding 50 tonnes per day by physio-chemical treatment.	Disposal of treated waste process water to release point S2.	Discharge from effluent treatment plant.
<b>Directly Associated Activity</b>		
Directly associated activity	Steam system – two heat recovery steam generators, steam turbine, associated electrical generators, condensers and feed water systems.	From receipt of water from water treatment, all steam pipework, condensate pipework, associated pumps and vents.
Directly associated activity	Water treatment – demineralisation of water.	From receipt of water and other raw materials through to export to boiler feed system and drains.
Directly associated activity	Raw materials – receipt storage and handling of water treatment chemicals, fuel and lubricating oils, turbine cleaning chemicals and all other raw materials.	From receipt of raw materials to their point of use.
Directly associated activity	Waste handling and storage.	From generation to the removal from the installation.
Directly associated activity	Surface water drainage.	Handling and storage of site drainage until discharge to the site surface water system.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application FP3835LS	The response to section 2.1 and 2.2, except when superseded by addendums 1 to 5(b) in the additional information, in the Application.	31/03/06
Receipt of additional information to the application	Addendums 1 to 5(b).	11/12/06
Response to Regulation 60(1) Notice – request for information dated 31/10/14	Compliance route and operating techniques identified in response to questions 2 (compliance route), 4 (type of combustion unit), 5 (thermal input), 6 (minimum start up load and minimum shut down load), 9ii (ELVs and BAT), 11 (monitoring).	30/03/15
Receipt of additional information to the Regulation 60(1) Notice. requested by letter dated 15/06/15	Response to question 1 of the request for further information – the date of operational commencement of each LCP.	15/07/15

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	<p>The Operator shall undertake a review of the BAT listed within the Combustion Sector TGN IPPC S1.01 Section 2 for Oxides of Nitrogen which will enable them to achieve the ELV given within the TGN for the release to air from the gas turbines. The review shall include, but not be limited to, all of the relevant techniques listed within the TGN, the reduction in the level of pollutants (for each option) and the costs of achieving the reduction (for each option). The report shall include a timetable to implement any proposed changes as appropriate.</p> <p>The Operator shall implement the proposals as agreed in writing with the Environment Agency.</p>	Complete
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. 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
IC3	<p>A procedure shall be submitted to the Agency for approval. The procedure shall outline how incidents are reviewed with specific reference to impact on the application site report and site protection and monitoring plan. 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>
IC4	<p>A written report shall be submitted to the Agency for approval. The report shall contain a Closure and decommissioning plan that is consistent with indicative BAT guidance in Section 2.11 of Technical Guidance Note "IPPC Sector Guidance Note Combustion Activities."</p> <p>The report will include evidence of relevant procedures to ensure that the plan is subject to review following incidents and at an appropriate frequency. 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>	Complete
IC5	<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>	Removed

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC6	<p>The Operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP 128 and LCP 129. The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised).</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:</p> <ol style="list-style-type: none"> <li>Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes),</li> <li>Performance test results after a significant modification (quoting the specified standards or test codes),</li> <li>Manufacturer's contractual guarantee value,</li> <li>Published reference data, e.g. Gas Turbine World Performance Specifications (published annually);</li> <li>Design data, e.g. nameplate rating of a boiler or design documentation for a burner system,</li> <li>Operational efficiency data as verified and used for heat accountancy purposes,</li> <li>Data provided as part of Due Diligence during acquisition,</li> </ol> <p>* Performance test results shall be used if these are available.</p>	31/12/16
IC7	<p>For LCPD LCP 181 and 182 (now LCP 128 and LCP 129 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
IC8	<p>The Operator shall provide a written report to the Environment Agency specifying the details of the upgrade project for the LCP at the installation. The report shall confirm which additional measures will be put in place through the upgrade of the plant to minimise impact of the LCP on the environment.</p>	Within 3 months of the start of the upgrade project of the LCP
IC9	<p>The Operator shall provide an upgrade commissioning report which shall include final details of the improvements made, any changes to operational techniques that have occurred, and demonstrate that the upgraded turbines minimise the impacts on the environment.</p> <p>Any recommendations contained within the report shall be implemented by the Operator from the date of approval in writing by the Environment Agency.</p>	Within 3 months of the final commissioning of the upgraded LCP plant

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	"Minimum start up load" When two of the criteria listed below, for the specified start up mode, for the LCP or unit have been met	"Minimum shut-down load" When two of the criteria listed below, for the specified shut down mode, for the LCP or unit have been met
A1	<ol style="list-style-type: none"> <li>DLN mode 3 activated</li> <li>&lt;17.5% O<sub>2</sub> from CEMS</li> <li>Circuit breaker closed.</li> </ol>	<ol style="list-style-type: none"> <li>DLN mode 3 deactivated</li> <li>&gt;17.5% O<sub>2</sub> from CEMS</li> <li>Circuit breaker open</li> </ol>

<b>Table S1.4 Start-up and Shut-down thresholds</b>		
<b>Emission Point and Unit Reference</b>	<b>“Minimum start up load” When two of the criteria listed below, for the specified start up mode, for the LCP or unit have been met</b>	<b>“Minimum shut-down load” When two of the criteria listed below, for the specified shut down mode, for the LCP or unit have been met</b>
A2	<ol style="list-style-type: none"> <li>1. DLN mode 3 activated</li> <li>2. &lt;17.5% O<sub>2</sub> from CEMS</li> <li>3. Circuit breaker closed</li> </ol>	<ol style="list-style-type: none"> <li>1. DLN mode 3 deactivated</li> <li>2. &gt;17.5% O<sub>2</sub> from CEMS</li> <li>3. Circuit breaker open</li> </ol>

## Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Natural gas	-
Diesel oil	Not exceeding 0.1% w/w sulphur content

## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air						
Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	50 mg/m <sup>3</sup> MSUL/MSDL to base load	Monthly mean of validated hourly averages	Continuous	BS EN 14181
			55 mg/m <sup>3</sup> MSUL/MSDL to base load	Daily mean of validated hourly averages	Continuous	BS EN 14181
			100 mg/m <sup>3</sup> MSUL/MSDL to base load	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	Carbon monoxide	100 mg/m <sup>3</sup> MSUL/MSDL to base load	Monthly mean of validated hourly averages	Continuous	BS EN 14181
			110 mg/m <sup>3</sup> MSUL/MSDL to base load	Daily mean of validated hourly averages	Continuous	BS EN 14181
			200 mg/m <sup>3</sup> MSUL/MSDL to base load	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	Sulphur dioxide	-	-	At least every 6 months	Concentration by calculation, as agreed in writing with the Environment Agency

Table S3.1 Point source emissions to air						
Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	Oxygen	-	-	Continuous As appropriate to reference	BS EN 14181
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	Water vapour	-	-	Continuous As appropriate to reference	BS EN 14181
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	Stack gas temperature	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	Stack gas pressure	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 and A2 [Point A1 and A2 on site plan in Schedule 7]	LCP 128 and LCP 129 Gas turbine fired on natural gas	As required by the Method Implementation Document for BS EN 15259	-	-	Pre-operation and when there is a significant operational change	BS EN 15259
A3 [Point A3 on site plan in Schedule 7]	Auxiliary boiler	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	180 mg/m <sup>3</sup>	Daily mean	-	Process instrument
		Carbon monoxide	100 mg/m <sup>3</sup>	Daily mean	-	Process instrument
A4	Diesel fire pump	-	-	-	-	-
A5	Emergency diesel generator 1	-	-	-	-	-

<b>Table S3.1 Point source emissions to air</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</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	Emergency diesel generator 2	-	-	-	-	-
A7	All steam vents	-	-	-	-	-
A8	Raw material storage tank	-	-	-	-	-
A9	All building ventilation vents	-	-	-	-	-
A10	All fuel gas vents	-	-	-	-	-

<b>Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site–emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
S2 emission to Anglian Water Sewage Treatment Works	Discharge from effluent treatment plant and clean storm water discharge	-	-	-	-	-

## Schedule 4 – Reporting

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

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen	A1, A2	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
	A3	Every 6 months for periodic monitoring	1 January, 1 July
Carbon monoxide	A1, A2	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
	A3	Every 6 months for periodic monitoring	1 January, 1 July
Sulphur dioxide	A1, A2	Every 6 months for periodic monitoring	1 January, 1 July
CEMs invalidation log Parameters as required by condition 3.5.1	A1, A2	Every 12 months	1 January
Auxiliary boiler hours of operation	A3	Every 3 months	1 January, 1 April, 1 July, 1 October

Parameter	Units
Electricity Exported	GWhr
Heat Exported	GWhr
Mechanical Power Provided	GWhr
Fossil Fuel Energy Consumption	GWhr
Non-Fossil Fuel Energy Consumption	GWhr
Annual Operating Hours	hr
Water Abstracted from Fresh Water Source	m <sup>3</sup>
Water Abstracted from Borehole Souce	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



<b>Table S4.2: Resource Efficiency Metrics</b>	
<b>Parameter</b>	<b>Units</b>
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 and energy	01/01/16	National	31/12/15
Air	Form IED CON 2 – continuous monitoring	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	01/01/16	Area Office	31/12/15

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

## Part A

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

<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.

“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.

“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.

“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.

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

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

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

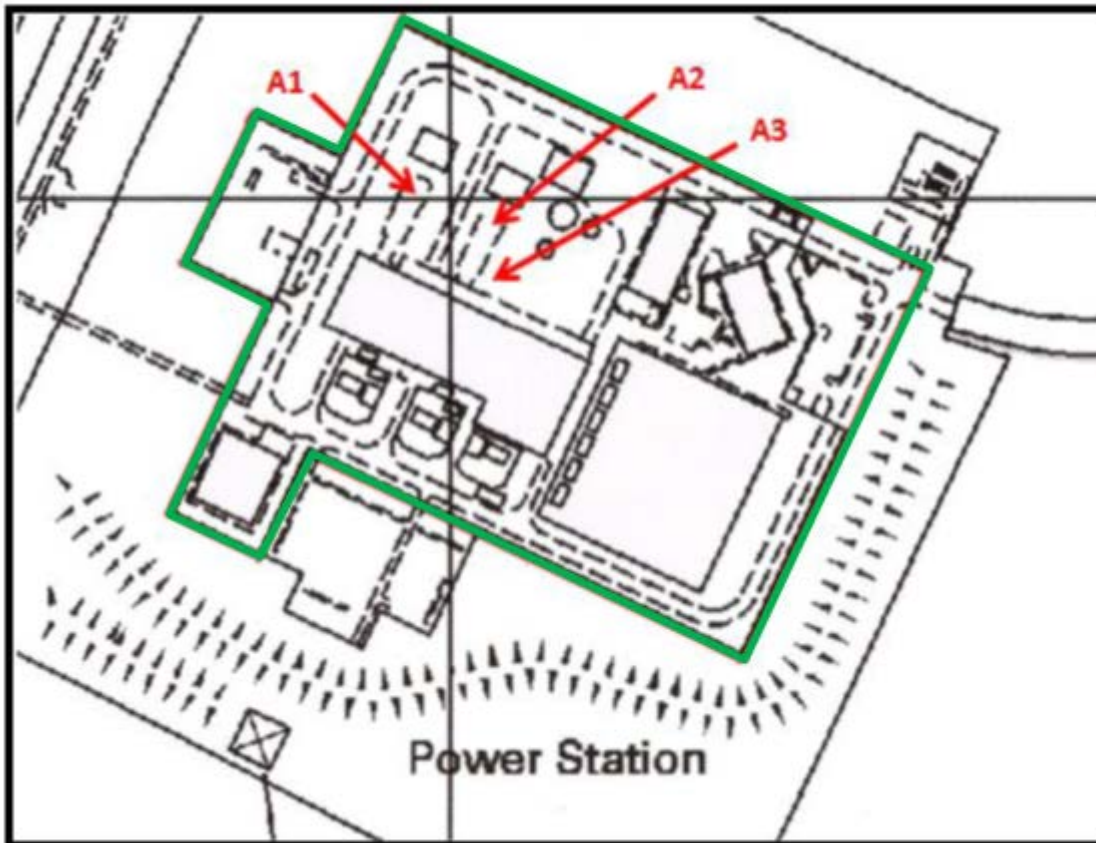
in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or

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

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

“year” means calendar year ending 31 December.

## Schedule 7 – Site plan



END OF PERMIT