



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

EDF Energy Nuclear Generation Limited
Heysham 1 Power Station
Heysham
Morecambe
Lancashire
LA3 2XQ

Variation application number

EPR/BM4252IJ/V003

Permit number

EPR/BM4252IJ

Heysham 1 Power Station

Permit number EPR/BM4252IJ

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 2 of the notice comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions. We have reviewed the permit for this installation against the revised BAT Conclusions for the large combustion plant sector published on 17th August 2017. Only activities covered by this BAT Reference Document have been reviewed and assessed.

This variation makes the below changes following the review under Article 21(3) of the IED and the consolidation of the Environmental Permitting Regulations that came into force on the 4 January 2017:

- Inclusion of process monitoring for energy efficiency in table S3.4.

The monitoring frequency for oxides of nitrogen, carbon monoxide, sulphur dioxide and dust has also been amended to four yearly.

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

The LCP are designated for emergency use only and therefore are regulated under the <500 hours operation compliance route.

The LCPs comprise four gas turbines, the net thermal input for each is 70MWth. The LCPs have been assigned the following reference numbers: LCP433, LCP434, LCP435 and LCP436.

Heysham 1 Power Station is located on the Lancashire coast, approximately 5km south of Morecambe, near Heysham Harbour. Heysham 2 Power Station is also situated on the same nuclear licenced site.

The site is situated near to several areas designated as Sites of Special Scientific Interest. In addition, the surrounding area comprises part of the Morecambe Bay Special Protection Area, a Ramsar site and is designated as a Special Area of Conservation.

The installation is formed by the standby combustion plant at Heysham 1 Power Station and its associated plant and comprises:

- Four gas turbines, each of 70MW net rated thermal input;
- Three auxiliary boilers, each of 10MW net rated thermal input;
- Three carbon dioxide storage standby boilers, each of 1.5MW net rated thermal input; and
- Several diesel-powered pumps and generators of below 1MW net rated thermal input.

The associated plant includes the mobile bowser(s) and drummed oil supplies, the oily drainage system, the oily sump and the drainage systems, which connect into the site surface water and sewage systems.

The combustion plant within the installation provides back up to essential systems for the power station and generally operates infrequently, with short periods of test operation. All the standby combustion plant burns gas oil (diesel), which is delivered by road tanker and stored on the site.

The products of combustion are emitted to air via exhaust stacks without any abatement. Low volumes of liquid effluent from gas turbine cleaning and boiler blowdowns are discharged into the site surface water

system along with surface water drainage from the area of the installation. Interceptors and bunds are used in areas where there is a significant amount of fuel or other oil being stored or handled.

The oily sump, within the installation, is fitted with an oil skimmer to remove oil. This sump is de-watered periodically, with the water being discharged into the site surface water system.

Very small quantities of cleaning effluents produced within the installation plant are discharged to the site sewage system. The installation produces relatively small quantities of wastes and these are managed as part of the overall waste management arrangements for the site. The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application BM4252IJ	Duly made 31/03/2006	
Additional information received	10/01/2007	Reference 197/HYA/10022/ML/CAI
Additional information received	06/03/2007	Updated provided on the Environmental Management System. Reference EB275/21.3/ct
Permit determined	12/03/2007	
Environment Agency Initiated Variation determined EPR/BM4252IJ/V002	18/12/2015	Varied permit issued
Regulation 61 Notice sent to the Operator	14/06/2018	Issue of a Notice under Regulation 61(1) of the EPR. Environment Agency initiated review and variation to vary the permit under IED to implement Chapter II following the publication of the revised Best Available Techniques (BAT) Reference Document for large combustion plant.
Regulation 61 Notice response.	01/11/2018	Response received from the Operator.
Further information received	25/03/2020	Response relating to BAT 9: fuel characterisation.
Variation determined EPR/BM4252IJ/V003 (Billing ref: SP3704BJ)	12/06/2020	Varied and consolidated permit issued.

End of introductory note

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/BM4252IJ

Issued to

EDF Energy Nuclear Generation Limited (“the operator”)

whose registered office is

**Barnett Way
Barnwood
Gloucester
GL4 3RS**

company registration number 03076445

to operate a regulated facility at

**Heysham 1 Power Station
Heysham
Morecambe
Lancashire
LA3 2XQ**

to the extent set out in the schedules.

The notice shall take effect from 12/06/2020.

Name	Date
Sifelani Mpofu	12/06/2020

Authorised on behalf of the Environment Agency

Schedule 1

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

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BM4252IJ

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BM4252IJ/V003 authorising,

EDF Energy Nuclear Generation Limited (“the operator”),

whose registered office is

**Barnett Way
Barnwood
Gloucester
GL4 3RS**

company registration number 03076445

to operate a regulated facility at

**Heysham 1 Power Station
Heysham
Morecambe
Lancashire
LA3 2XQ**

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

Name	Date
Sifelani Mpofu	12/06/2020

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

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

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

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

1.2 Energy efficiency

1.2.1 The operator shall:

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

1.3 Efficient use of raw materials

1.3.1 The operator shall:

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

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

1.4.1 The operator shall take appropriate measures to ensure that:

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

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

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 7 to this permit (except as described below) that represents the extent of the installation covered by this permit.

- 2.2.2 The installation shall also include:

- (a) any fuel oil or other oil transfer pipework between the areas edged in red on the site plan at schedule 7 to this permit;
- (b) any parts of the oil drainage system, associated blind sumps, traps and interceptors serving the combustion plant and lying outside the areas edged in red on the site plan at schedule 7 to this permit;

as described in the documentation in table S1.2 at schedule 1 to this permit.

- 2.2.3 Mobile combustion plant may be operated on hardstanding or other impervious surface, at any location within the power station boundary, being the land 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: LCP433, LCP434, LCP435 and LCP436. The activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” dated December 2015 or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.5 For the following activities referenced in schedule 1, table S1.1: LCP433, LCP434, LCP435 and LCP436. The activities shall not operate for more than 500 hours per year.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP433, LCP434, LCP435 and LCP436. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4.

- 2.3.7 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.
- 2.3.8 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 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used

appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

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

3.4 Noise and vibration

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

3.4.2 The operator shall:

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

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1, S3.2 and S3.3; and
- (b) process monitoring specified in table S3.4.

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

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

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

3.6 Monitoring for Large Combustion Plant

3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive and the Large Combustion Plant Best Available Techniques Conclusions.

3.6.2 If 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.

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.

4.1.3 The operator shall, where reasonably practicable, record the use of mobile combustion plant on the site under its control. The record shall include details of the location where the mobile combustion plant was used, the date(s) and duration of its use and any relevant pollution prevention measures used to protect the environment from potential releases of fuel oil.

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 annual production /treatment data set out in schedule 4 table S4.2;
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule; and
- (d) where condition 2.3.5 applies the hours of operation in any year.

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.

In any other case:

- (e) the death of any of the named operators (where the operator consists of more than one named individual);
- (f) any change in the operator's name(s) or address(es); and
- (g) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

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

- (a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

4.4 Interpretation

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

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	<p>LCP433, LCP434, LCP435 and LCP436:</p> <p>Burning fuel oil in gas turbines, each with a thermal input of 70MWth for the production of electricity.</p> <p>Production of electricity using the alternative indication centre generators and electricity or power from any temporary generators used by the operator on the site.</p> <p>Production of auxiliary steam using the auxiliary boilers each having a thermal input of 10MWth, standby steam heating for carbon dioxide vaporisers using the Clayton boilers, each having a thermal input of 1.5MWth.</p> <p>Production of power for fire fighting pumps in the fixed jet and fire hydrant pump houses and pumps in the HPBUCS and LPBUCS houses.</p>	From storage of raw materials and fuel oil, through the plant producing electricity, steam or power, to the discharge of combustion products to air, discharge of liquid effluents to the oil drainage, site surface water or sewage systems and wastes to the site systems for managing them.
Directly Associated Activity			
AR2	Directly associated activity	Oily drainage system and oily sump.	Handling of and storage of oily effluents and removal of oil (using an oil skimmer) and discharge of water from the oily sump into the site surface water system.
AR3	Directly associated activity	Mobile bowser(s) and drummed oil supplies.	Handling and supply of fuel oil and other oils to combustion plant and transfer of waste oils to the station waste oil tank.
AR4	Directly associated activity	Station waste oil tank (in the vicinity of the gas turbine day tanks)	Handling and storage of waste oils removed from the oily sump (and surface water pump house outside the installation) until removal for recycle or disposal.
AR5	Directly associated activity	Plant and surface water drainage, including the oil interceptor in the vicinity of the fuel oil storage facilities associated with the gas turbines.	Handling of plant and general surface water drainage until discharge to the site surface water system.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR6	Directly associated activity	Plant drainage (cleaner's sinks within the installation).	Handling of spent cleaning fluids via plant drainage until discharge to the site sewage treatment works.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to sections 2.1 and 2.2 in the Application.	31/03/2006
Application Site Report	Sections 4.2 and 4.7	31/03/2006
Receipt of additional information to the application	Clarification of a number of parts of the information provided in the application and re-submission of Table 5.1 in the Application Site Report, where these relate to the sections specified above in this Table. Covering letter (dated 10/01/07) reference – 197/HYA/10022/ML/CAI.	22/01/2007
Appropriate determination procedure specifying monitoring arrangements	All parts.	30/09/2005
Response to regulation 61(1) Notice – request for information dated 14/06/18 EPR/BM4252IJ/V003	Compliance and operating techniques identified in response to the BAT Conclusions for large combustion plant published on 17th August 2017.	01/11/2018
Further information received EPR/BM4252IJ/V003	Email response relating to BAT 9: fuel characterisation. Confirmation that fuel will be characterised in line with the JEP report – 'Characterisation of power plant fuels for compliance with LCP BREF Conclusion BAT 9' Issued October 2019, or any later version agreed in writing by the Environment Agency.	25/03/2020

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IP1	The operator shall provide details of the improvements recommended in the Application Site Report and propose timescales for their completion. Quarterly progress reports shall be produced and held on site for inspection by the Agency.	Complete
IP2	The operator shall investigate the root cause(s) of the oil staining on the walls of the gas turbine house and shall provide the Agency with a report on the investigation. This report shall include, where appropriate, recommendations for further action and relevant timescales.	Complete

IP3	The operator shall provide the Agency with a written report on the feasibility of ceasing to use the oily drainage system and oily sump and to replace them with other means to control releases of fuel and other oils from process plant within the installation. If the report concludes that it is feasible to cease using the oily drainage system and the oily sump, the operator shall provide the Agency with a further written report on the means it proposes to use to control releases of fuel and other oils from process plant within the installation, with relevant timescales for the implementation of those proposals. Any further report shall be provided to the Agency, on a timescale to be agreed in writing with the Agency.	Complete
IP4	The operator shall ensure that its waste management documents and procedures at Heysham 1 power station implement the requirements of its Corporate Specification - Management and Disposal of Non-Radioactive Waste, BEG/SPEC/SHE/ENVI/005.	Complete
IP5	The operator shall carry out an environmental risk assessment of the combustion plant in the installation, using the methodology specified in its Corporate Specification – Environmental Aspect Identification and Scoring Process, BEG/SPEC/SHE/ENVI/011. The operator shall provide the Agency with a written report of the assessment.	Complete
IP6	The operator shall provide the Agency with a written report on the material condition of the fuel oil storage bunds within the installation and provide proposals for improving these, or provide justification for not doing so.	Complete
IP7	The operator shall provide the Agency with a written report assessing the likelihood of discharges of fuel and other oils from process plant within buildings and fuel oil filler points to the site surface water system and shall, where relevant, provide proposals for improvements to the existing pollution prevention measures.	Complete
IP8	The operator shall ensure that all relevant integrity-testing arrangements relating to Table 5.1 in the Application Site Report are included within the Environmental Maintenance Schedule and that all relevant routines are included within the site Work Management Programme.	Complete
IP9	The operator shall install above ground fuel oil supply pipework to the gas turbines and auxiliary boilers.	Complete
IP10	The operator shall establish recording of the annual fuel use by the auxiliary boilers to enable estimates to be made of annual mass releases of oxides of nitrogen and sulphur dioxide.	Complete
IP11	The operator shall carry out a waste minimisation audit covering the installation. The scope of the audit shall meet the relevant indicative BAT requirements for waste minimisation audits specified in Table 2.4.3 of the Agency's combustion sector guidance. The operator shall provide the Agency with a written report on the audit.	Complete
IP12	The operator shall provide the Agency with a written report establishing a timetable for performing emissions monitoring on the auxiliary boiler exhausts, or justify continued operation of the auxiliary boilers without performing emissions monitoring.	Complete
IP13	The operator shall provide the Agency with a report assessing the existing monitoring and analytical procedures in respect of gaseous and liquid effluents and updating them in accordance with relevant standards. This shall include an assessment of the methods against Agency Guidance Notes (M2 and M18) and relevant MCERTS standards. The report shall either provide proposals for implementing the relevant MCERTS standards or provide justification for retaining the existing methods.	Complete

IP14	The operator shall undertake an inspection of the oily drainage system and the surface water system either side of oil interceptors associated with the installation and provide a written report on the inspection to the Agency. The report shall include recommendations for any further work with relevant timescales.	Complete
IP15	The operator shall undertake a review of the use of hardstanding within the installation boundary to protect against pollution of ground and groundwater and shall provide a written report to the Agency on this review. The report shall, where relevant, make proposals for improvements with relevant timescales.	Complete
IP16	<p>The Operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a written justification of the “minimum start up load” and minimum shut-down load², for each unit within the LCP433, LCP434, LCP435 and LCP436 as required by the Implementing Decision 2012/249/EU in terms of:</p> <ul style="list-style-type: none"> i. the output load (i.e. electricity, heat or power generated) (MW); and ii. This output load as a percentage of the rated thermal output of the combustion plant (%). <p>And / Or</p> <ul style="list-style-type: none"> iii. At least three criteria (operational parameters and / or discrete processes as detailed in the Annex) or equivalent operational parameters that suit the technical characteristics of the plant, which can be met at the end of start-up or start of shut-down as detailed in Article (9) 2012/249/EU. 	Complete
IP17	<p>The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP433, LCP434, LCP435 and LCP436. The net rated thermal input is the ‘as built’ value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised).</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:-</p> <ul style="list-style-type: none"> a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes), b) Performance test results after a significant modification (quoting the specified standards or test codes), c) Manufacturer’s contractual guarantee value, d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually); e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system; f) Operational efficiency data as verified and used for heat accountancy purposes, g) Data provided as part of Due Diligence during acquisition, <p>*Performance test results shall be used if these are available.</p>	Complete

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum Start-Up Load” Load in MW and as percent of rated power output (%)	“Minimum Shut-Down Load” Load in MW and as percent of rated power output (%)
A1 – A4 LCP433, LCP434, LCP435 and LCP436	2 MW; 11.4%	2 MW; 11.4%

Schedule 2 – Raw materials and fuels

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

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air - emission limits and monitoring requirements						
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 – A4 [LCP433, LCP434, LCP435 and LCP436]	Gas turbines fired on gas oil	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	400mg/m ³	Mean of spot measurements taken over half an hour	Every 4 years	BS EN 14792 or as agreed in writing by the Environment Agency
A1 – A4 [LCP433, LCP434, LCP435 and LCP436]	Gas turbines fired on gas oil	Carbon monoxide	No limits set	Mean of spot measurements taken over half an hour	Every 4 years	BS EN 15058 or as agreed in writing with the Environment Agency
A1 – A4 [LCP433, LCP434, LCP435 and LCP436]	Gas turbines fired on gas oil	Sulphur dioxide	No limits set	-	Every 4 years	Concentration by calculation
A1 – A4 [LCP433, LCP434, LCP435 and LCP436]	Gas turbines fired on gas oil	Dust	No limits set	-	Every 4 years	Concentration by calculation
A5 – A7 [Auxiliary boilers 1 – 3]	Exhausts from auxiliary boilers fired on gas oil	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	No limits set	-	-	-
A5 – A7 [Auxiliary boilers 1 – 3]	Exhausts from auxiliary boilers fired on gas oil	Carbon monoxide	No limits set	-	-	-
Exhausts from Clayton boilers	Clayton boilers fired on gas oil	No parameters set	No limits set	-	-	-
Exhausts from HPBUCS pumps diesel engines	-	-	No limits set	-	-	-

Table S3.1 Point source emissions to air - emission limits and monitoring requirements						
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
Exhausts from LPBUCS pumps diesel engines	Diesel engines fired on gas oil	-	No limits set	-	-	-
Exhausts from fixed jet fire fighting system diesel engines	Diesel engines fired on gas oil	-	No limits set	-	-	-
Exhausts from external fire hydrant diesel engines	Diesel engines fired on gas oil	-	No limits set	-	-	-
Exhausts from A/C standby generators	Diesel engines fired on gas oil	-	No limits set	-	-	-
Exhausts from any temporary diesel engines used on site	Diesel engines fired on gas oil	-	No limits set	-	-	-

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
Discharge point from the auxiliary boiler blowdown pit	Blowdown from the auxiliary boilers	-	No limits set	-	-	-
Discharge point(s) from the Clayton boiler hotwells	Blowdown from the Clayton boilers	-	No limits set	-	-	-
Oily sump (discharge of water to site surface water system)	Oily sump	-	No limits set	-	-	-

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
Discharge points into the site surface water system from the installation area	General surface water drainage and drainage upstream of the oil interceptor within the area of the installation	-	No limits set	-	-	-

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
Sinks within the installation discharging to the station sewage treatment works	Use of biodegradable cleaning fluids within the installation	-	No limits set	-	-	-

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
LCP433, LCP434, LCP435 and LCP436	Net electrical efficiency	After each modification that could significantly affect these parameters	By calculation	-

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen	A1, A2, A3, A4	Every 4 years	1 January
Carbon Monoxide	A1, A2, A3, A4	Every 4 years	1 January
Sulphur dioxide	A1, A2, A3, A4	Every 4 years	1 January
Dust	A1, A2, A3, A4	Every 4 years	1 January
Mass release of oxides of nitrogen to air	A1, A2, A3, A4	Every year	1 January
Mass release of sulphur dioxide to air	A1, A2, A3, A4	Every year	1 January
Mass release of dust to air	A1, A2, A3, A4	Every year	1 January

Table S4.2 Annual production/treatment	
Parameter	Units
None	-

Table S4.3 Large Combustion Plant Performance parameters for reporting to DEFRA and other Performance parameters		
Parameter	Frequency of assessment	Units
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	TJ
Total Emissions to Air of NOx for each LCP	Annually	t
Total Emissions to Air of SO2 for each LCP	Annually	t
Total Emissions to Air of Dust for each LCP	Annually	t
Operating Hours for each LCP	Annually	hr

Table S4.4 Reporting forms		
Media/ parameter	Reporting format	Agency recipient
Air	Form Air – 2 assessed mass releases of oxides of nitrogen and sulphur dioxide for the auxiliary boilers or other form as agreed in writing by the Environment Agency	Nuclear Regulation Group
Air	Form PM1 – assessed concentrations for oxides of nitrogen, sulphur dioxide, carbon monoxide and dust for the gas turbines or other form as agreed in writing by the Environment Agency	Nuclear Regulation Group
Air & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy. Form as agreed in writing by the Environment Agency.	National and Nuclear Regulation Group
LCP	Form IED HR1 – operating hours. Form as agreed in writing by the Environment Agency.	National and Nuclear Regulation Group
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency. Form as agreed in writing by the Environment Agency.	Nuclear Regulation Group
Air	Form Air – 2 assessed mass releases of oxides of nitrogen and sulphur dioxide for the auxiliary boilers or other form as agreed in writing by the Environment Agency	Nuclear Regulation Group

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	
Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“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.

“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.

“DLN” means dry, low NO_x burners.

“emergency plant” means a plant which operates for the sole purpose of providing power at a site during an onsite emergency and/or during a black start and which does not provide balancing services or demand side response services.

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

“emissions to land” includes emissions to groundwater.

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

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

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

“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.

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

“MCR” means maximum continuous rating.

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

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

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

“ncv” means net calorific value.

“Net electrical efficiency” means the ratio between the net electrical output (electricity produced minus the imported energy) and the fuel/feedstock energy input (as the fuel/feedstock lower heating value) at the combustion unit boundary over a given period of time.

“non-emergency plant” means a plant which provides balancing services or demand side response services.

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

“SI” means site inspector.

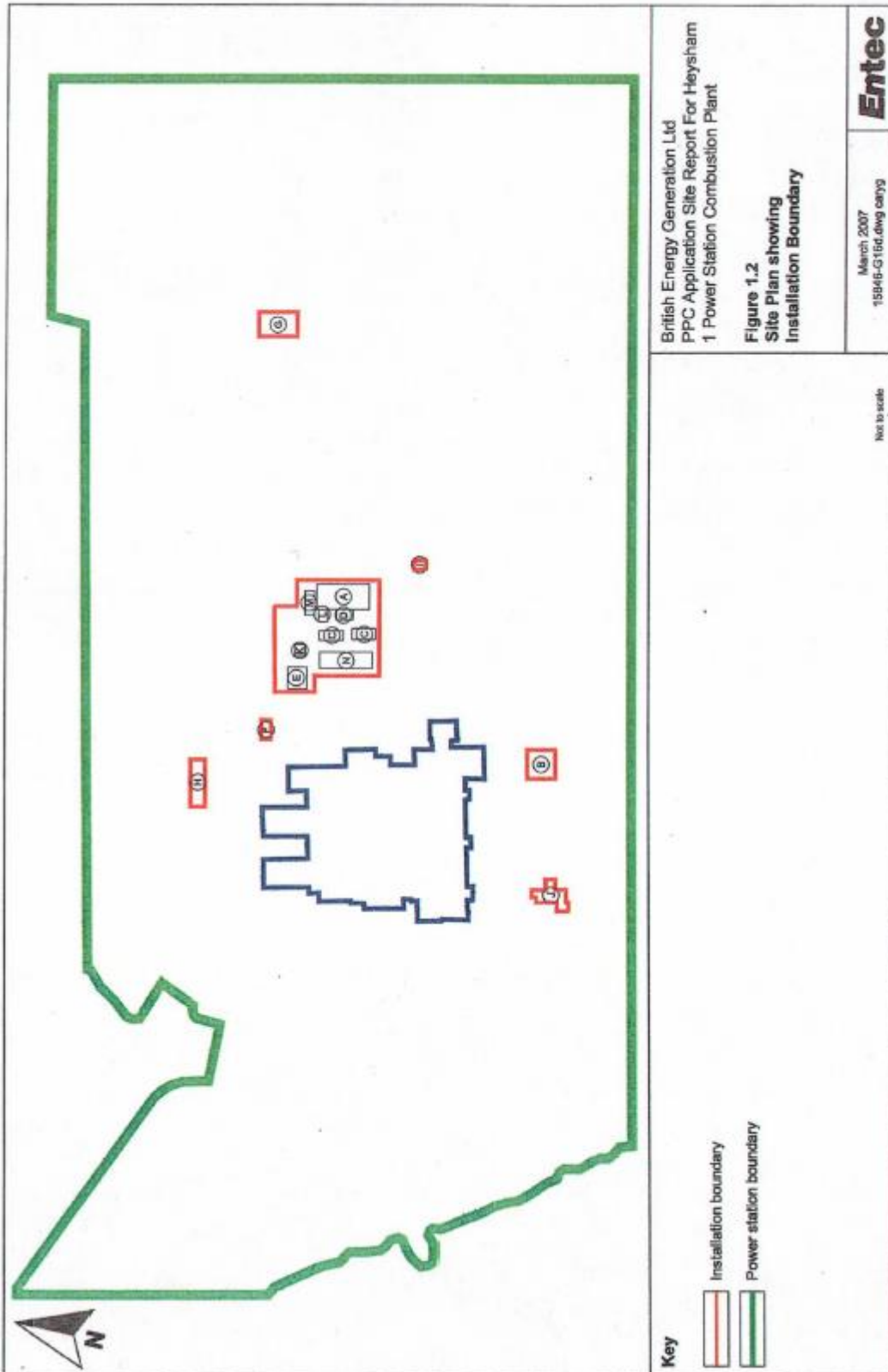
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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