

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

BWSC Generation Services UK Ltd

Brigg Renewable Energy Plant Scawby Brook Brigg North Lincolnshire DN20 9LT

Variation application number

EPR/EP3133DQ/V004

Permit number

EPR/EP3133DQ

Brigg Renewable Energy Plant Permit number EPR/EP3133DQ

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:

- Revised emission limits and monitoring requirements for emissions to air applicable from 17 August 2021 in table S3.1a;
- Preoperational Condition 4 has been updated, to require that when providing details of how waste is reused on the installation, the operator ensures that the procedures are in compliance with BAT16. It includes a request for how wastes from the hybrid SCR/SNCR hybrid system are processed.
- Amendment of improvement condition 2 to consider what CO concentrations are achievable and whether the start up and shut down criteria require amending following installation of SCR/SNCR hybrid system.
- Inclusion of process monitoring for energy efficiency in table S3.4.
- Inclusion of an improvement condition (IC6) requiring a plan characterising the fuel to be in place to comply with the requirements of BAT 9.
- Permit condition 2.3.7 has been included in the permit with corresponding improvement condition IC7 requiring the operator to submit a report in relation to potential black start operation of the plant.

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

The main features of the facility and changes introduced by this and previous variations are as follows:

BWSC Generation Services UK Ltd operates the following activities, as defined in Environmental Permitting (England & Wales) Regulations 2016, at the Brigg Renewable Energy Plant installation:

- Section 1.1 A(1) (a) Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.
- Directly associated activities necessary to run the facility.

The installation is a power generation facility with an electrical power output of 40 MW. The fuel consumed is predominantly agricultural straw, wood chip, Miscanthus and short rotation coppice. Gas oil is consumed as a start-up fuel. The annual tonnage of fuel burnt is 264,000 tonnes per annum. The fuel is combusted in a 114 MWth net rated input boiler. Heat recovery is via a steam-raising boiler and power generation utilises a high efficiency steam turbine condensed in an air cooled condenser.

The combustion unit is regulated as a large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED) and is operated under the Emission Limit Value (ELV) compliance route.

The Defra IED reference is LCP 413. The IED compliant monitoring arrangements and the IED Annex V part 2 emission limit values (ELVs) for combustion plants referenced in Article 30(3) of the IED remain applicable to this LCP which was brought into operation in December 2015.

All biomass fuels combusted in the facility are either dedicated energy crops, biomass or waste biomass which meets the definition of biomass in Article 3 point 31 (b) of the IED and, in accordance with Article 42 point 2 (a) (i), are exempt from the requirements of Chapter IV of the IED regarding provisions for waste incineration and co-incineration plants.

The site occupies about 5.25 hectares of previously developed land some 500m from the River Ancholme at an elevation of 3-4m above Ordnance datum. The site is at risk from flooding.

The principal release to the environment comprises combustion gases via a 62m stack. Oxides of nitrogen (NOx) and carbon monoxide are controlled through management of combustion conditions e.g. staged injection of air, and a Hybrid SNCR/SCR NO_x abatement system which was the subject of permit variation reference EPR/LP3130KG/V003. Acid gases are controlled through injection of hydrated lime. Fabric filters are used to capture the lime and to control the release of dust. It is proposed to use captured lime and fly ash off site as an agricultural fertiliser and bottom ash as a soil conditioner. Demineralised water is produced using ion exchange resins which are generated using sodium hydroxide and hydrochloric acid solutions. Regeneration effluent is used for bottom ash quenching; any surplus effluent is discharged to a trade pit prior to discharge to sewer. Foul water from the boiler house, turbine buildings, flue gas treatment area, fuel storage area and fly ash silo unloading area are treated by an effluent treatment system then either reused or discharged to sewer. Rain water landing on the site is collected and discharged to sewer via an oil interceptor. Rain water from roofs goes straight to a collection tank or is channelled into off site lagoons and then into Scawby Beck.

The nearest human occupation/presence is at the adjacent Glandford power station with nearby housing to the north, northeast and northwest of the site. Castlethorpe Tufas SSSI lies within 2km and there are no Habitats Directive sites within 10km. There are a number of Local Nature Reserves in the vicinity of the installation.

The permit requires that there are procedures and systems: to prevent future contamination of the site; for periodic monitoring of soil and groundwater condition; that records of matters affecting the condition of soil and groundwater are maintained for the lifetime of the site; and the operator maintains an operational Site Condition Report (SCR).

Health Safety and Environmental procedures are in place for environmentally significant activities and BWSC Generation Services UK Ltd operate an environmental management system which is certified to BS EN ISO 14001.

Status log of the permit		
Description	Date	Comments
Application received EPR/LP3130KG/A001	Duly made 19/05/09	Application for Renewable Energy Plant.
Additional information received	15/03/10	
Permit determined EPR/LP3130KG/A001	10/06/10	Permit issued to Eco2 North Lincs Limited.
Notification of change of company name. EPR/LP3130KG/V002	08/10/14	Company name changed from Eco2 North Lincs Ltd to BWSC North Lincs Ltd. Also change of company registered address.
Variation Issued EPR/LP3130KG/V002	14/10/14	Variation issued to BWSC North Linc Ltd.
Letter sent to the operator	04/11/14	Letter sent to the operator as part of the Environment Agency initiated review and

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
		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.
Response to our letter dated 04/11/14	19/11/14	Response received from the operator.
Application EPR/LP3130KG/V003 (variation and consolidation)	Duly made 16/04/15	Application to vary the permit to incorporate a Hybrid SNCR/SCR NOx abatement system and update the permit to modern conditions. Change to the fuel type used for plant start-up from natural gas to gas oil.
Variation determined EPR/LP3130KG/V003	22/06/15	Varied and consolidated permit issued in modern condition format.
Variation determined EPR/LP3130KG/V004	01/01/16	Environment Agency variation to implement the special provisions for LCP under Chapter III of the IED, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(3) and set out in Annex V of the IED.
		Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.
Application EPR/EP3133DQ/T001 (full transfer of permit EPR/LP3130KG)	Duly made 31/03/16	Application to transfer the permit in full to BWSC Generation Services UK Ltd.
Transfer determined EPR/EP3133DQ//T001	12/05/16	Full transfer of permit complete. Permit issued to BWSC Generation Services UK Limited
Application variation EPR/EP3133DQ/V002	Duly made 12/08/16	Variation application to add three waste codes that allow for the receipt of waste wood that meets the IED Chapter IV exclusions.
Variation determined EPR/EP3133DQ/V002	29/09/16	Varied permit issued.
Application for variation EPR/EP3133DQ/V003	Duly made 23/02/18	Variation application to increase the allowable annual tonnage of biomass burnt from 250,000 tonnes per annum to 264,000 tonnes per annum, to allow dedicated energy crops (Miscanthus and Short Rotational Coppice) to be included in the permit as raw materials, to remove the 22% limitation on the quantity of fuels combusted within the facility which are through the auxiliary fuel route i.e. the current limitation on Miscanthus and woodchip quantities, to clarify the nature of agricultural straws permitted to be burnt in the facility, to include changes to processing to enable oversize materials to be fed by way of the auxiliary fuel route, to provide a process to allow Stage 1 and Stage 2 trials of combustion of additional biomass fuels to be undertaken within the facility and to approve an outline Trials Protocol Plan A, to allow in principle changes to biomass storage arrangements to facilitate

Status log of the permit		
Description	Date	Comments
		performance of Stage 2 trials with pelleted biomass materials as a future development.
Variation determined EPR/EP3133DQ/V003	16/07/18	Varied and consolidated permit issued in modern condition format.
Regulation 61 Notice sent to the Operator	01/05/18	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.	15/10/18	Response received from the Operator.
Additional Information Received	22/10/19	Further details regarding compliance and operating techniques identified in response to BAT Conclusions 1, 4, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 24, 25 and 27.
Additional Information Received	12/12/19	Further details regarding proposed monitoring for SO_3 .
Variation determined EPR/EP3133DQ/V004 (Billing ref: YP3603BP)	16/03/20	Varied and consolidated permit issued. Effective from 16/03/20

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/EP3133DQ

Issued to

BWSC Generation Services UK Ltd ("the operator")

whose registered office is

3 The Point Lion Way Sleaford Lincolnshire NG34 8GG

company registration number 08366245

to operate a regulated facility at

Brigg Renewable Energy Plant Scawby Brook Brigg North Lincolnshire DN20 9LT

to the extent set out in the schedules.

The notice shall take effect from 16/03/20

Name	Date
Maxine Evans	16/03/20

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/EP3133DQ

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/EP3133DQ/V004 authorising,

BWSC Generation Services UK Ltd ("the operator"),

whose registered office is

3 The Point Lion Way Sleaford Lincolnshire NG34 8GG

company registration number 08366245

to operate a regulated facility at

Brigg Renewable Energy Plant Scawby Brook Brigg North Lincolnshire DN20 9LT

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

Name	Date
Maxine Evans	16/03/20

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.
- 1.2.2 The operator shall review the viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:
 - (a) new plans for significant developments within 15 km of the installation;
 - (b) changes to the Local Plan;
 - (c) changes to the DECC UK CHP Development Map or similar; and
 - (d) new financial or fiscal incentives for CHP.

The results shall be reported to the Agency within 2 months of each review, including where there has been no change to the original assessment in respect of the above factors.

1.3 Efficient use of raw materials

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

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

- 1.4.1 The operator shall take appropriate measures to ensure that:
 - (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities;
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 **Operations**

2.1 Permitted activities

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

2.2 The site

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

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 For the following activities referenced in schedule 1, table S1.1: LCP413. 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: LCP413. The end of the start up period and the start of the shutdown period shall conform to the specifications set out in schedule 1, tables S1.2 and S1.5.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP413. The following conditions apply where there is a malfunction or breakdown of any abatement equipment:

Unless otherwise agreed in writing by the Environment Agency:

- (i) if a return to normal operations is not achieved within 24 hours, the operator shall reduce or close down operations, or shall operate the activities using low polluting fuels;
- (ii) the cumulative duration of breakdown in any 12-month period shall not exceed 120 hours; and
- (iii) the cumulative duration of malfunction in any 12-month period shall not exceed 120 hours.
- 2.3.7 The emission limit values from emission points A1 listed in table S3.1 and S3.1a of Schedule 3 following the issue of a Black Start Instruction by the National Grid shall be disregarded for the purposes of compliance whilst that instruction remains effective in accordance with the report submitted in response to improvement condition IC7.
- 2.3.8 Waste shall only be accepted if:
 - (a) it is of a type and quantity listed in schedule 2, table S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.9 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
 - (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.10 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1, table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

- 2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1, table S1.4A have been completed.
- 2.5.2 The operations specified in schedule 1, table S1.4B shall not commence until the measures specified in that table have been completed.

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, S3.1a, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.

- 3.1.3 The emission values from emission point A1 listed in schedule 3, tables S3.1 and S3.1a, measured during periods of abatement equipment malfunction and breakdown shall be disregarded for the purposes of compliance with tables S3.1 and S3.1a emission limit values.
- 3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

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

3.4 Noise and vibration

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

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1, S3.1a, S3.2 and S3.3;
 - (b) process monitoring specified in table S3.4; and
- 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, S3.1a, 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 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(s) S3.1 and S3.1a; the Continuous Emission Monitors shall be used such that:
 - (a) for the continuous measurement systems fitted to the LCP release points defined in table(s) S3.1 and S3.1a the validated hourly, monthly, yearly 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. 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.

3.7 Pests

- 3.7.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.7.2 The operator shall:
 - (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by 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.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:
 - (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the resource efficiency metrics set out in schedule 4, table S4.2;
 - (c) the performance parameters set out in schedule 4, table S4.3 using the forms specified in table S4.4 of that schedule; and
 - (d) where condition 2.3.6 applies, the cumulative duration of breakdown and cumulative duration of malfunction in any 12 month period.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
 - (a) in respect of the parameters and emission points specified in schedule 4, table S4.1;
 - (b) for the reporting periods specified in schedule 4, table S4.1 and using the forms specified in schedule 4, table S4.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.
- 4.2.6 Within 10 days of the notification of abatement equipment malfunction or breakdown (condition 2.3.6 the operator shall submit an Air Quality Risk Assessment as outlined in the IED Compliance Protocol (condition 2.3.2).

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

- take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored;
- (d) of any malfunction or breakdown of abatement equipment relating to condition 2.3.6, the operator shall notify the Environment Agency within 48 hours unless notification has already been made under (a) to (c) above.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit, or 4.3.1 (d) where the information relates to malfunction or breakdown of abatement equipment shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (c) any change in the operator's name or address; and
- (d) any steps taken with a view to the dissolution of the operator.

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 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
 - (a) a decision by the Secretary of State not to re-certify the agreement;
 - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
 - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.3.8 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.	LCP413 - Combustion of straw and biomass fuels in a vibrating, water cooled grate furnace and generation of electricity with a steam turbine. The net thermal input of the plant is 114MW.	From receipt of raw materials to discharge of exhaust gases (and wastes), and supply of electricity to the national grid. Waste types specified in Table S2.2. A maximum allowable annual quantity of biomass for combustion of 264,000 tonnes and LHV 14.0MJ/kg (as received) or calorific equivalent.
	Directly Associated Activity		
AR2	Directly associated activity	Water Treatment Plant	From the receipt of raw materials to delivery of treated water to the boilers.
AR3	Directly associated activity	Cooling Water System	From receipt of treated water from the water treatment plant to system blowdown.
AR4	Directly associated activity	Systems for the drainage of effluent and surface water.	From receipt of effluent and surface water to discharge to surface water or release to sewer.
AR5	Directly associated activity	Storage and handling of wastes produced by the installation.	From generation of wastes to dispatch of wastes from site.
AR6	Directly associated activity.	Oil storage.	From receipt of raw materials to dispatch for use.
AR7	Directly associated activity.	Mechanical processing of oversize raw materials.	From receipt of raw materials to introduction to the combustion process.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/LP3130KG	Sections 2.1 and 2.2 of the application document.	19/05/09
Response to Schedule 5 Notice Request dated 22/01/10	Response to questions 2, 8, 9, 11, 14 and 16 detailing process control.	15/03/10
Application for variation and consolidation EPR/LP3130KG/V003	The responses to Part C2 and C3 of the application and referenced supporting documentation: Section 3.2 Secondary NO _x Abatement Measures, Section 5 NO _x Abatement Operating Techniques and Controls, Section 7.1 Auxiliary Fuel and Section 7.2 Waste Transfer Arrangements. Change to the fuel type used for plant start-up from natural gas to gas oil.	Duly made 16/04/15

Table S1.2 Operating techniques			
Description	Parts	Date Received	
Application for variation EPR/EP3133DQ/V002	Variation application to add three waste codes that allow for the receipt of waste wood that meets the IED Chapter IV exclusions.	Duly made 12/08/16	
Application for variation EPR/EP3133DQ/V003	The response to question 3a of the Part C3 application form (technical standards) and Application Supporting Document Section 3 and Appendix C (Trials Protocol Plan A).	23/02/18	
Response to Schedule 5 Notice Request dated 19/04/18	Responses to questions 1 and 2 detailing start-up and shut-down thresholds for site emissions reference point A1 and the maximum allowable annual tonnage of biomass for combustion proposed in this variation application.	04/05/18	
Response to Schedule 5 Notice Request dated 21/05/18			
Response to regulation 61(1) Notice – request for information dated 01/05/18Compliance and operating techniques identified in response to the BAT Conclusions for large combustion plant published on 17th August 2017.EPR/EP3133DQ/V004Compliance and operating techniques identified in response to the BAT Conclusions for large combustion plant published on 17th August 2017.		15/10/18	
Additional information in response to regulation 61(1)Further details regarding compliance and operating techniques identified in response to BAT Conclusions 1, 4, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 24, 25 and 27.PR/EP3133DQ/V004Further details regarding compliance and operating techniques identified in response to BAT Conclusions 1, 4, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 24, 25 and 27.		22/10/19	

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	conditions IC1 and IC3 - IC5 confirmed completed and therefore deleted fro /EP3133DQ/V004	om the permit
IC 2	The Operator shall submit a written report to the Environment Agency describing the performance and optimisation of the Hybrid SNCR/SCR system and combustion settings to minimise oxides of nitrogen (NO _x) emissions within the emission limit values as described in this permit with the minimisation of nitrous oxide emissions. The report shall include an assessment of the level of NO _x and N ₂ O emissions that can be achieved under optimum operating conditions. The report shall also consider: what CO concentrations are achievable in order to deliver effective NO _x abatement using the SNCR/SCR system; and if there is a need to change minimum start up and shut down criteria as defined in table S1.5. Any revised CO limits and start up and shut	Within 4 months of commissioning the NO _x abatement systems.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC6	BAT Conclusion 9 The operator shall submit a procedure for approval outlining how the Biomass will be characterised in line with Best Available Techniques Conclusion 9 in order to improve general performance of combustion and to reduce emissions to air. This shall include characterisation of all substances/parameters as specified for Biomass under this BAT conclusion. The procedure must include, but is not limited to, the following elements: i) Initial fuel characterisation; ii) Regular testing of the fuel quality to check that it is consistent with the initial characterisation and according to the plant design specifications; and	01/06/21
IC7	Subsequent adjustments of the plant settings as and when needed and practicable. A written report shall be submitted to the Environment Agency for approval. The report shall contain an impact assessment demonstrating that there is no significant environmental risk associated with black start operations and propose a methodology for minimisation of environmental impact during such a period of operation and for reporting instances of black start operation. The plant can be operated as set out in condition 2.3.7 of the permit once the report has been approved by the Environment Agency. The methodology for operation and reporting set out in the report shall be implemented by the Operator from the date of approval by the Environment Agency.	12 months from variation issue

Table S1.4A Pre-	Table S1.4A Pre-operational measures		
Reference	Pre-operational measures		
	nditions PO1, PO2, PO3, PO5 and PO6 confirmed completed and therefore deleted ough EPR/EP3133DQ/V004		
PO 4 No waste ash from the installation shall be used off site as a soil conditioner, or as a agricultural fertiliser, until the Operator has supplied representative analyses of the ashes and a written justification as to why the ashes are suitable for these purposes together with proposals for ongoing ash quality monitoring. Written agreement to these submissions is required from the Environment Agency before usage of these materials in this manner may commence.			
	The operator shall also provide a report demonstrating compliance with the requirements of BAT16, considering how the quantity of waste sent for disposal shall be reduced. In addition to demonstrating how life-cycle thinking has been taken into account at the installation with regards to waste prevention, waste preparation for reuse, waste recycling and other waste recovery techniques (e.g. energy recovery). This shall include consideration of wastes generated from the SCR/SNCR hybrid system.		

Table S1.4B Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
PO 7	Commencing performance of Stage 1 biomass combustion trials.	At least four weeks before commencing Stage 1 biomass combustion trials (as defined in the variation application EPR/EP3133DQ/V003), the Operator shall submit to the Environment Agency confirmation of details outlined in the Trials Protocol Plan for pelleted products A (TPP A) submitted as Appendix C to the permit variation application report EPR/EP3133DQ/V003. The summary will also include any proposed changes to operating and monitoring techniques to those changes outlined in the TPP A. The Operator must obtain written agreement from the Environment Agency before commencement of the trials and, in the event that the Environment Agency require any additional operational changes, monitoring or reporting to be performed, the Operator shall amend the TPP A
PO 8	Storage and transfer of biomass materials for use in Stage 2 biomass combustion trials.	At least eight weeks before commencing the Stage 2 biomass combustion trials, the Operator shall submit details of the design of proposed new arrangements for storage and transfer of fuel along with an assessment of the techniques which will be used to minimise emissions of dust, noise and vibration, and the risk of accidents, including fire and dust explosion, from the proposed operation of the equipment. The design of the storage and transfer equipment and the assessment of emissions and accident risks shall be made with reference to the relevant BAT standards, including: Environment Agency guidance for combustion activities EPR 1.01; the BREF for waste storage (2006); and, the BAT standards set out in the BREF for large combustion plant (2017).
PO 9	Commencing performance of Stage 2 biomass combustion trials.	At least four weeks before commencing Stage 2 biomass combustion trials (as defined in the variation application EPR/EP3133DQ/V003), the Operator shall submit to the Environment Agency confirmation of details outlined in the Trials Protocol Plan for pelleted products A (TPP A) submitted as Appendix C to the permit variation application report EPR/EP3133DQ/V003. The summary will also include any proposed changes to operating and monitoring techniques to those changes outlined in the TPP A. The Operator must obtain written agreement from the Environment Agency before commencement of the trials and, in the event that the Environment Agency require any additional operational changes, monitoring or reporting to be performed, the Operator shall amend the TPP A
PO 10	Mechanical processing of oversize raw materials.	At least eight weeks before commencing processing of oversize raw materials, the Operator shall submit details of the design of the proposed new plant along with an assessment of the techniques which will be used to minimise emissions of dust, noise and vibration, and the risk of accidents, including fire and dust explosion, from the proposed operation of the plant. The design of the plant and the assessment of emissions and accident risks shall be made with reference to the relevant BAT standards, including: Environment Agency guidance S5.06 for the recovery and disposal of hazardous and non-hazardous waste; the BREF for waste treatment (2006); and, the BAT standards for fuel pre-treatment set out in the BREF for large combustion plant (2017).

	tart-up and Shut-down thresholds			
Emission	"Minimum start up load"	"Minimum shut-down load"		
Point and Unit	Load in MW and as percent of rated power output (%)	Load in MW and as percent of rated power output (%)		
Reference	and/or when two of the criteria listed below for the LCP or unit have been met.	and/or when two of the criteria listed below for the LCP or unit have been me		
A1: LCP413	Boiler load >60 MWth (equivalent to 52.6% of maximum rated boiler thermal input of 114 MW) AND AND AND	 Boiler load <60 MWth (equivalent to 52.6% of maximum rated boiler thermal input of 114 MW) OR 22 kV eizewit breaker epen 		
	33 kV circuit breaker closed AND	 33 kV circuit breaker open OR 		
	 Start-up burner out of service 	 Start-up burner in service 		

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Gas oil	Less than 0.1% w/w sulphur content
Dedicated energy crops (Miscanthus, Short Rotational Coppice or other as agreed in writing with the Environment Agency)	Any specification to be agreed in writing with the Environment Agency following the outcome of biomass combustion trials.

tonnes and LHV 14.0MJ/kg (as received) or calorific equivalent.Waste codeDescription02Wastes from agriculture, aquaculture, forestry, hunting and fishing, food preparation and processing02 01wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing.02 01wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing.02 01 03plant-tissue waste02 01 07wastes from forestry02 03wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobac preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation02 03 04materials unsuitable for consumption or processing03Wastes from wood processing and the production of panels and furniture pulp paper and cardboard03 01wastes from wood processing and the production of panels and furniture03 01 05sawdust, shavings, cuttings, wood, particle board, and veneer other than those mentioned in 03 01 0419Wastes from waste management facilities, off-site waste water treatment	ste typ	Table S2.2 Permitte	waste types and quantities for combustion
02Wastes from agriculture, aquaculture, forestry, hunting and fishing, food preparation and processing02 01wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing.02 01 03plant-tissue waste02 01 07wastes from forestry02 03wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobac preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation02 03 04materials unsuitable for consumption or processing03 01wastes from wood processing and the production of panels and furniture pulp paper and cardboard03 01 01waste bark and cork03 01 05sawdust, shavings, cuttings, wood, particle board, and veneer other than those mentioned in 03 01 0419Wastes from waste management facilities, off-site waste water treatment		Maximum quantity	A maximum allowable annual quantity of biomass ^{Note 1} for combustion of 264,000 onnes and LHV 14.0MJ/kg (as received) or calorific equivalent.
preparation and processing02 01wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing.02 01 03plant-tissue waste02 01 07wastes from forestry02 03wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobac preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation02 03 04materials unsuitable for consumption or processing03Wastes from wood processing and the production of panels and furniture pulp paper and cardboard03 01waste from wood processing and the production of panels and furniture03 01 01waste bark and cork03 01 05sawdust, shavings, cuttings, wood, particle board, and veneer other than those mentioned in 03 01 0419Wastes from waste management facilities, off-site waste water treatment	criptior	Waste code	Description
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mentioned in 03 01 0419Wastes from waste management facilities, off-site waste water treatment	te bark	03 01 01	vaste bark and cork
		03 01 05	
plants and the preparation of water intended for human consumption and water for industrial use	nts and	19	plants and the preparation of water intended for human consumption and
19 12 wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified		19 12	
19 12 07wood other than that mentioned in 19 12 06	od othe	19 12 07	vood other than that mentioned in 19 12 06

Note 1: Biomass may include non-waste biomass and waste exempt biomass. Non-waste biomass includes Miscanthus, Short Rotational Coppice, agricultural straws and other biomass as agreed in writing with the Environment Agency following completion of the combustion trials subject to any specifications identified in Table S2.1. Waste exempt biomass is waste biomass which is listed in point (b) point 31 of Article 3 of the Industrial Emissions Directive which is not subject to the requirements of Chapter V of this directive i.e. special provisions for waste incineration plant etc.

Schedule 3 – Emissions and monitoring

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 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	200mg/m ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	220mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	400mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Sulphur Dioxide	100mg/m ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Sulphur Dioxide	110mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Sulphur Dioxide	200mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181

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 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Dust	20mg/m ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Dust	22mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Dust	40mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Carbon Monoxide	375mg/m ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Carbon Monoxide	750mg/m ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Hydrogen Chloride	30mg/m ³	Daily mean of validated hourly averages	Continuous	MCERTS performance standard for CEMS

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 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Hydrogen Chloride	60mg/m ³	95% of validated hourly averages within a calendar year	Continuous	MCERTS performance standard for CEMS
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Ammonia	-	-	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxygen	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Water vapour	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Stack gas temperature	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Stack gas pressure	-	-	Continuous As appropriate to reference	Traceable to national standards

	Parameter	Limit (including unit) - these limits do not apply during start up or shut down	Reference period	Monitoring frequency	Monitoring standard or method
LCP No. 413 114MWth boiler plant fired on biomass	As required by the Method Implementati on Document fo r BS EN 15259	-	-	Pre- operation and when there is a significant operational change	BS EN 15259
	114MWth boiler plant fired on	114MWth by the boiler plant fired on Implementati biomass on Document fo r BS EN	LCP No. 413 114MWthAs required by the-boiler plant fired on biomassMethod Implementati on Document fo r BS EN-	LCP No. 413 114MWth by the boiler plant fired on biomass on Document for r BS EN	LCP No. 413 114MWth boiler plant fired on biomass biomass

Emission	Source	Parameter	Limit	Reference	Monitoring	Monitoring
point ref. & location			(including unit)-these limits do not apply during start up or shut down	period	frequency	standard or method
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	200 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	220 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	180 mg/Nm ³	Yearly average	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Sulphur Dioxide	100 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Sulphur Dioxide	110 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181

Emission	hits and monitor	Parameter	Limit	Reference	Monitoring	Monitoring
point ref. & location	Source	Falametei	(including unit)-these limits do not apply during start up or shut down	period	frequency	standard or method
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Sulphur Dioxide	200 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Sulphur Dioxide	70 mg/Nm ³	Yearly average	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Dust	20 mg/Nm ³	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Dust	18 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Dust	40 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Dust	12 mg/Nm ³	Yearly average	Continuous	BS EN 14181

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 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Carbon Monoxide	375 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Carbon Monoxide	750 mg/Nm ³	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Carbon Monoxide	160 mg/Nm ³	Yearly Average	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Hydrogen Chloride	12 mg/Nm ³	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Hydrogen Chloride	9 mg/Nm ³	Yearly Average	Continuous	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Hydrogen Fluoride	<1 mg/Nm ³	Average over sampling period	At least once per year	ISO 15713

	Point source em	issions to air ing requirements	shall apply from	17 August 2	021	
Emission point ref. & location	Source	Parameter	Limit (including unit)-these limits do not apply during start up or shut down	Reference	Monitoring frequency	Monitoring standard or method
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Mercury	5 μg/Nm³	Average over sampling period	At least once per year	EN 13211
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Ammonia	15 mg/Nm ³	Yearly Average	Continuous	EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Flow	-	-	Continuous As appropriate to reference	EN ISO 16911 and M2
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Oxygen	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Water vapour	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Stack gas temperature	-	-	Continuous As appropriate to reference	Traceable to national standards

Table S3.1a Point source emissions to air - emission limits and monitoring requirements shall apply from 17 August 2021								
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 [identified as 62m high stack on drawing 15674/A1/01 01 in the application]	LCP No. 413 114MWth boiler plant fired on biomass	Stack gas pressure	-	-	Continuous As appropriate to reference	Traceable to national standards		
A1 [Point A1 on site plan in schedule 7]	LCP No. 413 114MWth boiler plant fired on biomass	As required by the Method Implementation Document for BS EN 15259	-	-	Pre- operation and when there is a significant operational change	BS EN 15259		

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
W1 [identified as discharge to Scawby Brook on drawing 15674/A1/0101 in the application]	Uncontaminated surface water drainage	Oil and grease	No visible oil or grease	Spot check	Daily	Visual inspection

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
S1 [identified as point S1 on drawing 15674/A1/0101 in the application]	Boiler blowdown, water treatment blowdown, floor washings	No parameters 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
LCP413	Net electrical efficiency	After each modification that could significantly affect these parameters	EN Standards or equivalent	-

Schedule 4 – Reporting

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every year where there is a yearly average	1 January
Carbon monoxide	A1	Every year where there is a yearly average	1 January
Sulphur dioxide	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every year where there is a yearly average	1 January
Hydrogen chloride	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every year where there is a yearly average	1 January
Hydrogen fluoride	A1	Annually	1 January
Dust	A1	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
		Every year where there is a yearly average	1 January
Mercury	A1	Annually	1 January
Ammonia	A1	Annually	1 January
CEMS invalidation log	A1	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2 Resource Efficiency Metrics	
Parameter	Units
Electricity Exported	GWhr
Heat Exported	GWhr

Table S4.2 Resource Efficiency Metrics	
Parameter	Units
Mechanical Power Provided	GWhr
Fossil Fuel Energy Consumption	GWhr
Non-Fossil Fuel Energy Consumption	GWhr
Annual Operating Hours	hr
Water Abstracted from Fresh Water Source	m ³
Water Abstracted from Borehole Source	m ³
Water Abstracted from Estuarine Water Source	m ³
Water Abstracted from Sea Water Source	m ³
Water Abstracted from Mains Water Source	m ³
Gross Total Water Used	m ³
Net Water Used	m ³
Hazardous Waste Transferred for Disposal at another installation	t
Hazardous Waste Transferred for Recovery at another installation	t
Non-Hazardous Waste Transferred for Disposal at another installation	t
Non-Hazardous Waste Transferred for Recovery at another installation	t
Waste recovered to Quality Protocol Specification and transferred off-site	t
Waste transferred directly off-site for use under an exemption / position statement	t

Table S4.3 Large Combustion Plant Performance parameters for reporting to DEFRA		
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 & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy	National and Area Office
LCP	Form IED HR1 – operating hours	National and Area Office

Table S4.4 R	Reporting forms	
Media/ parameter	Reporting format	Agency recipient
Air	Form IED CON 1 – continuous monitoring.	Area Office
CEMs	Form IED CEM – Invalidation Log	Area Office
LCP	Form IED BD1 - Cumulative annual rolling malfunction and breakdown hours	Area Office
Air	Form IED MF1 – pollutant concentrations when during any day with malfunction or breakdown of abatement plant	Area Office
Air	Form IED PM1 - discontinuous monitoring and load.	Area Office
Resource Efficiency	Form REM1 – resource efficiency annual report	National and Area Office
Water	Form water 1 or other form as agreed in writing by the Environment Agency	Area Office

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	ng detection of a breach of a limit		
Parameter		Notification period	

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Part C Malfunction or Breakdown of LCP abatement equipment

Permit Number	
Name of operator	
Location of Facility	
LCP Number	
Malfunction or breakdown	
Date of malfunction or breakdown	

 (a) Notification requirements for any malfunction and breakdown of abatement equipment as defined by the Industrial Emission Directive*. To be notified within 48 hours of abatement equipment malfunction and breakdown 		
Time at which malfunction or breakdown ceased		
Duration of the breakdown event in hours and minutes		
Reasons for malfunction or breakdown		
Where the abatement plant has failed, give the hourly average concentration of all measured pollutants.		
Cumulative breakdown operation in current year (at end of present event)		
Cumulative malfunction operation in current year (at end of present event)		
Name**		
Post		
Signature **		
Date		

* See section 3.6 and Appendix E of ESI Compliance Protocol for guidance

** authorised to sign on behalf of the operator

Schedule 6 – Interpretation

"accident" means an accident that may result in pollution.

"Air Quality Risk Assessment" has the meaning given in Annex D of IED Compliance Protocol for Utility Boilers and Gas Turbines.

"application" means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

"authorised officer" means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

"average over the sampling period" means the average value of three consecutive measurements of at least 30 minutes each [or as agreed in writing with the Environment Agency].

"average of samples obtained during one year" means the average of the values obtained during one year of the periodic measurements taken with the monitoring frequency set for each parameter.

"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.

"biomass" means:

- (a) vegetable matter from agriculture and forestry;
- (b) vegetable waste from the food processing industry, if the heat generated is recovered;
- (c) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is coincinerated at the place of production and the heat generated is recovered;
- (d) cork waste; and
- (e) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste.

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

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

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

"CEN" means Commité 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.

"commissioning" means testing of the installation that involves any operation of a Large Combustion Plant referenced in schedule 1, table S1.1 or as agreed with the 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_x burners.

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

"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.

"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.

"List of Wastes" means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

"large combustion plant" or "LCP" is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

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

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

"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.

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

"pests" means Birds, Vermin and Insects.

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

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

"SI" means site inspector.

"Waste code" means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

"year" means calendar year ending 31 December.

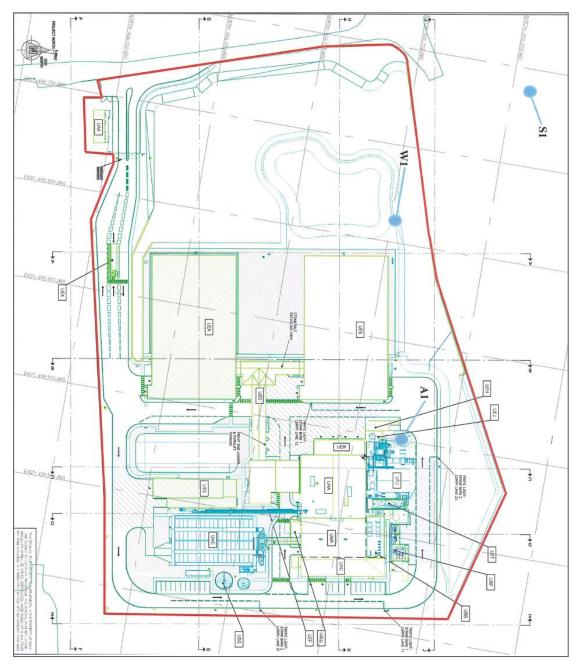
"yearly average" means the average over a period of one year of validated hourly averages obtained by continuous measurements.

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.

Schedule 7 – Site plan



END OF PERMIT