

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

North Blyth Energy Limited

North Blyth Renewable Energy Plant
Battleship Wharf
North Blyth
Northumberland
NE24 1QW

Permit number
EPR/UP3636CX

North Blyth Renewable Energy Plant

Permit number EPR/UP3636CX

Introductory note

This introductory note does not form a part of the permit

This permit controls the operation of a waste co-incineration plant. The relevant listed activity is S5.1 A (1) (b) is for “*The incineration of non-hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 3 tonnes per hour.*”

The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the permit are as follows:

This plant will be located at grid reference NZ 31068 82736 Battleship Wharf, Blyth, Northumberland and will comprise of

- Biomass Storage sheds
- Circulating Fluidised Bed Boiler,
- Steam turbine and generator.
- A once-through water cooling system,
- a water treatment plant,
- ash storage structures,
- ancillary equipment and instrumentation and a 105m discharge stack.

Flue gases will be treated prior to being released to the atmosphere using well established methods, Selective Non-Catalytic Reduction, Activated Carbon injection, dry sorbent injection, fabric filters and selection and blending of fuel to reduce sulphur and halogens. The virgin biomass and non-hazardous waste wood to be combusted will arrive on site having already met agreed pre-acceptance criteria. All required monitoring will be in accordance with relevant legislation. The cooling water will be extracted from the River Blyth and discharged into the North Sea, 880m from the site. Site surface water will be discharged to the River Blyth via an interceptor. All wastes will be removed from site by a licenced carrier and disposed of in an appropriate manner.

There are a number of ecologically sensitive sites within the distance criteria, Northumbria Coast SPA/Ramsar, Northumberland Shore SSSI and the River Blyth Estuary Site of Nature Conservation Importance (SNCI) and Local Nature Reserve (LNR).

The Northumbria Coast Ramsar and Special Protection Area (SPA) is the closest internationally designated site to the proposal and is located approximately 150m east of the proposed development site. The Ramsar/SPA are designated for their bird populations. Northumberland Shore Site of Special Scientific Interest (SSSI), is also designated for bird populations and its wintering bird populations of shore birds is the closest nationally designated site to the proposal. The SSSI partly overlaps with the Northumbria Coast Ramsar/SPA but also includes mudflats in the River Blyth Estuary, the nearest of which are approximately 100m west of the proposed development site, as well as intertidal sand areas on the coast, approximately 100m to the east. The River Blyth Estuary also has a local, non-statutory designation as a Site of Nature Conservation Importance (SNCI) for its ornithological interest and estuarine habitats. There are no other SNCIs, Local Wildlife Sites (LWSs) or Local Nature Reserves (LNRs) that have been identified within 2km of the site.

The Applicant's Habitats assessment was reviewed by the Environment Agency and we agree with the assessment's conclusions, that there would be no likely significant effect on the interest features of the protected sites.

The status log of the permit sets out the permitting history, including any changes to the permit reference number

Status Log of the permit		
Detail	Date	Comments
Application EPR/UP3636CX/A001	Duly made 30/08/13	
Response to (request for further information) RFI 1 (Sent 24/07/13)	21/08/13	
Response to RFI 1A (Sent 22/08/13)	30/08/13	
Response to RFI 2 (Sent 22/10/13)	05/11/13 06/11/13	
Response to RFI 3 (Sent 20/11/13)	26/11/13	
Response to RFI 4 (Sent 04/12/13)	19/12/13	
Response to RFI 5 (Sent 20/12/13)	16/01/14	
Permit determined	21/02/14	

End of Introductory Note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/ UP3636CX

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

North Blyth Energy Limited (“the operator”),
whose registered office is

Beaufort Court
Egg Farm Lane
Kings Langley
Hertfordshire
WD4 8LR

company registration number **07595351**

to operate an installation at

North Blyth Renewable Energy Plant
Battleship Wharf
North Blyth
Northumberland
NE24 1QW

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

Name	Date
Daniel Kirk	21/02/2014

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 recovered with a high level of energy efficiency and energy is used efficiently in the activities.
- (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

1.2.2 The operator shall provide and maintain steam and/or hot water pass-outs such that opportunities for the further use of waste heat may be capitalised upon should they become practicable.

1.2.3 The operator shall review the practicability of Combined Heat and Power (CHP) implementation at least every 2 years. The results shall be reported to the Environment Agency within 2 months of each 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; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 Waste authorised by this permit in condition 2.3.3 shall be clearly distinguished from any other waste on the site.

2.2 The site

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

2.3 Operating techniques

- 2.3.1 (a) 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.
- (b) 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 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.
- 2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.3 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.
 - (c) it having been separately collected for recycling, it is subsequently unsuitable for recovery.
- 2.3.4 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.
- 2.3.5 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.

- 2.3.6 Waste fuel shall not be charged, or shall cease to be charged, if:
- (a) the combustion chamber temperature is below, or falls below, 850°C or any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than under abnormal operating conditions ; or
 - (b) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than under 'abnormal operating' conditions.
- 2.3.7 The operator shall have at least one auxiliary burner at start up or shut down or whenever the operating temperature falls below that specified in condition 2.3.6, as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.6 is maintained in the combustion chamber, such burner(s) may be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.
- 2.3.8 The operator shall record the beginning and end of each period of "abnormal operation".
- 2.3.9 During a period of "abnormal operation", the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.
- 2.3.10 Where, during "abnormal operation", on a co-incineration line any of the following situations arise, waste shall cease to be charged on that line until normal operation can be restored:
- (a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 due to disturbances or failures of the abatement systems, or continuous emission monitors are out of service as the case may be, for a total of 4 hours uninterrupted duration;
 - (b) the cumulative duration of "abnormal operation" periods over 1 calendar year has reached 60 hours.
- 2.3.11 The operator shall interpret the end of the period of "abnormal operation" as the earliest of the following:
- (a) when the failed equipment is repaired and brought back into normal operation;
 - (b) when the operator initiates a shut down of the waste fuel combustion activity, as described in the application or as agreed in writing with the Environment Agency;
 - (c) when a period of four hours has elapsed from the start of the "abnormal operation";
 - (d) when, in any calendar year, an aggregated period of 60 hours "abnormal operation" has been reached
- 2.3.12 Bottom ash and APC residues shall not be mixed.

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 S1.4 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, S3.2 and S3.3 except in "abnormal operation".
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.4. Additional samples shall be taken and tested and appropriate action taken, whenever:

- (a) disposal or recovery routes change; or
- (b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

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:
- point source emissions specified in tables S3.1,
 - surface water or groundwater specified in table S3.2;
 - process monitoring specified in table S3.3;
 - residue quality 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 continual), 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) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.
- 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, S3.3, and S3.4 unless otherwise agreed in writing by the Environment Agency.
- 3.5.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1; the Continuous Emission Monitors shall be used such that;
- the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages:

• Carbon monoxide	10%
• Sulphur dioxide	20%
• Oxides of nitrogen (NO & NO ₂ expressed as NO ₂)	20%
• Particulate matter	30%
• Total organic carbon (TOC)	30%
• Hydrogen chloride	40%
 - valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.5.5 (a);
 - where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour period, the half-hourly average shall in any case be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. The number of half-hourly averages so validated shall not exceed 5 per day;
 - daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly average values in any day have been determined not to be valid;
 - no more than ten daily average values per year shall be determined not to be valid.

3.6 Pests

- 3.6.1 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.
- 3.6.2 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 annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
 - (d) the functioning and monitoring of the co-incineration plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.

- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

- 4.3.1 The operator shall
- (a) in the event 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) in the event 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) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit 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 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:
- (a) any change in the operator name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.

4.3.4 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.

4.3.5 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

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 "without delay", in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities		
Activity listed in Schedule 1 of the EP Regulations.	Description of specified activity	Limits of specified activity
S5.1 A(1) (b)	The incineration of non hazardous waste in a waste co-incineration plant with a capacity exceeding 3 tonnes per hour.	From receipt of waste to emission of exhaust gas and disposal of waste arising. Waste types and quantities as specified in Table S2.2 of this permit. Total input capacity 1,000,000 tonnes which includes 200,000 waste.
Directly Associated Activities		
Electricity Generation	Generation, and electrical export of approximately 99.9MWe electrical power using a steam turbine from energy recovered from the flue gases.	
Back up electrical generator 1000kw	For providing emergency electrical power to the plant in the event of supply interruption.	
Emergency diesel firewater pump, (200 kW electrical equivalent)	For providing emergency electrical power in the event of a fire.	
Water Treatment Plant	Treatment of mains water to make up for boiler use.	Use of mains water only to make up for boiler use.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Sections 1.2, 1.4, 1.6 and 1.8 of the application document in response to section 3a – technical standards, Part B of the application form.	Duly Made 30/08/13
Responses to request for further information - RFI 1, 24/07/13	Installation boundary, third party use of conveyors, incoming fuel routes, human health impact assessment , hydrogen fluoride assessment, habitats assessment , noise assessment, fuel unloading, BAT	21/08/13
Responses to request for further information – RFI 1A, 22/08/13	Further responses to questions from RFI 1, human health assessment and habitats assessment.	30/08/13
Responses to request for further information – RFI 2, 22/10/13	Incoming waste and raw material management, furnace requirements, avoidance of 'de novo' synthesis of dioxins, maintenance of oxygen levels to ensure oxidative combustion, BAT – for gastight maintenance of combustion unit, BAT for supplementary burners, BAT for CEMS, BAT for primary NOx measures, Firing diagram showing throughput rates.	05 & 06/11/13
Responses to request for further	Low NOx burners, noise from by-pass/dump stacks, use of reagents, Confirmation of flue gas recirculation use, separate	26/11/13

Table S1.2 Operating techniques

Description	Parts	Date Received
information – RFI 3, 20/11/13	feed system for injected Powdered Activated Carbon (PAC), Updated site condition report including additional ground investigation to add to baseline data.	
Responses to request for further information – RFI 4, 04/12/13	Global warming potential	19/12/13
Responses to request for further information – RFI 5 19/12/13	Discharge to North Sea, chlorination, temperature, mixing zone	20/12/13 and 16/01/14

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC1	The operator shall submit a written report to the Environment Agency on the implementation of its Environmental Management System and the progress made in the certification of the system by an external body or if appropriate submit a schedule by which the EMS will be certified.	Within 12 months of the date on which virgin biomass/wood waste is first burnt.
IC2	The operator shall submit a written proposal to the Environment Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point A1, identifying the fractions within the PM ₁₀ , and PM _{2.5} ranges. The proposal shall include a timetable for approval by the Environment Agency to carry out such tests and produce a report on the results. On receipt of written agreement by the Environment Agency to the proposal and the timetable, the operator shall carry out the tests and submit to the Environment Agency a report on the results.	Within 6 months of the completion of commissioning.
IC3	The operator shall submit a written report to the Environment Agency on the commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the facility against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions.	Within 4 months of the completion of commissioning.
IC4	The operator shall carry out checks to verify the residence time, minimum temperature and oxygen content of the exhaust gases in the furnace whilst operating under the anticipated most unfavourable operating conditions. The results shall be submitted in writing to the Environment Agency.	Within 4 months of the completion of commissioning.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC5	<p>The operator shall submit a written report to the Environment Agency describing the performance and optimisation of the Selective Non Catalytic Reduction (SNCR) system and combustion settings to minimise oxides of nitrogen (NO_x) emissions within the emission limit values described in this permit with the minimisation of nitrous oxide emissions. The report shall include an assessment of the level of NO_x and N₂O emissions that can be achieved under optimum operating conditions.</p> <p>The report shall also provide details of the optimisation (including dosing rates) for the control of acid gases and dioxins.</p>	Within 4 months of the completion of commissioning.
IC6	The operator shall submit a written summary report to the Environment Agency to confirm the results of calibration and verification testing that the performance of Continuous Emission Monitors for parameters as specified in Table S3.1 and Table S3.1(a) complies with the requirements of BS EN 14181, specifically the requirements of QAL1, QAL2 and QAL3.	<p>Initial calibration report to be submitted to the Agency within 3 months of completion of commissioning.</p> <p>Full summary evidence compliance report to be submitted within 18 months of commissioning.</p>
IC7	The operator shall submit a written report to the Environment Agency detailing the chemicals to be used in the operation of the plant including cooling water, boiler blowdown, water treatment and other minor discharges including maintenance periods. Once identified, show how the discharge to sea, will meet condition 3.1.2 of the permit	Within 6 months of the completion of commissioning.

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
PO1	Prior to the commencement of commissioning, the operator shall send a summary of the site Environment Management System (EMS) to the Environment Agency and make available for inspection all documents and procedures which form part of the EMS. The EMS shall be developed in line with the requirements set out in Section 1 of 'How to Comply with Your Environmental Permit – Getting the Basics Right'. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.
PO2	Prior to the commencement of commissioning, the operator shall send a report to the Environment Agency which will contain a comprehensive review of the options available for utilising the heat generated by the waste incineration process in order to ensure that it is recovered as far as practicable. The review shall detail any identified proposals for improving the recovery and utilisation of waste heat and shall provide a timetable for their implementation.
PO3	Prior to the commencement of commissioning, the operator shall submit to the Environment Agency for approval a protocol for the sampling and testing of bottom ash for the purposes of assessing its hazard status. Sampling and testing shall be carried out in accordance with the protocol as approved.

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
PO4	Prior to the commencement of commissioning; the operator shall provide a written commissioning plan, including timelines for completion, for approval by the Environment Agency. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.
PO5	Prior to the commencement of commissioning, the operator shall submit a written report to the Environment Agency detailing the waste acceptance procedure to be used at the site. The waste acceptance procedure shall include the process and systems by which wastes unsuitable for incineration at the site will be controlled. The procedure shall be implemented in accordance with the written approval from the Environment Agency.
PO6	After completion of furnace design and at least three calendar months before any furnace operation; the operator shall submit a written report to the Environment Agency of the details of the computational fluid dynamic (CFD) modelling or equivalent procedure to be agreed with the Environment Agency. The report shall demonstrate whether the design combustion conditions comply with the residence time and temperature requirements as defined by article 50(2) of the IED.
PO7	Within twelve months of permit issue the operator shall re-submit their noise impact assessment to the Environment Agency for approval using new survey data, following the BS 4142 assessment methodology. The assessment shall also include: <ul style="list-style-type: none"> • unloading of biomass into reception hoppers during ship deliveries during daytime and night-time, weekdays and weekends; and • the addition of +5dB acoustic correction for distinguishable notes, distinct impulses or noise which are irregular enough to attract attention. The applicant must provide full justification if the BS 4142 +5dB acoustic correction is not applied.
PO8	Within 3 months of completing PO7 the operator shall submit a report to the Agency for agreement. The report shall contain a review of the noise impact assessment in relation to the requirements of condition 3.4.1 and include a timetable for the implementation of any identified measures to meet the requirements of condition 3.4.1.

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels

Raw materials and fuel description	Specification
Fuel Oil	< 0.1% sulphur content

Table S2.2 Permitted waste types and quantities for co-incineration plant

Maximum quantity	200,000 tonnes waste wood per annum
Waste code	Description
02	Wastes from agriculture, horticulture, aquaculture forestry hunting, fishing, food preparation and processing
02 01	Wastes from agriculture, horticulture, aquaculture forestry hunting and fishing
02 01 03	Plant-tissue waste
02 01 07	Wastes from forestry
03	Wastes from wood processing and the production of panels and furniture, pulp paper and cardboard
03 01	Wastes from wood processing and the production of panels and furniture
03 01 01	Waste bark and cork
03 01 05	Sawdust, shavings, cuttings wood, particle board and veneer other than those mentioned in 03 01 04
15	Waste packaging, absorbents, wiping cloths, filter and materials and protective clothing no otherwise specified
15 01	Packaging (including separately collected municipal packaging waste)
15 01 03	Wooden packaging (where not suitable for recycling)
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 02	Wood, glass and plastic
17 02 01	Wood
19	Waste from waste management facilities, off-site waste-water treatment plants and preparation of water intended for human consumption/industrial use
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 01	Paper and cardboard
19 12 07	Wood other than that mentioned in 19 12 06
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes including separately collected fractions)
20 01	Separately collected fractions (except 15 01)
20 01 01	Paper and cardboard (where not suitable for recycling)
20 01 38	Wood other than that mentioned in 20 01 37

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1	Particulate matter	Boiler Stack	45 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Particulate matter	Boiler Stack	15 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Total Organic Carbon (TOC)	Boiler Stack	30 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Total Organic Carbon (TOC)	Boiler Stack	15 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Hydrogen chloride	Boiler Stack	90 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Hydrogen chloride	Boiler Stack	15 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Hydrogen fluoride	Boiler Stack	3mg/m ³	periodic over minimum 1-hour period	Quarterly in first year. Then Bi-annual	BS ISO 15713
A1	Carbon monoxide	Boiler Stack	150 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Carbon monoxide	Boiler Stack	75 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Sulphur dioxide	Boiler Stack	300 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Sulphur dioxide	Boiler Stack	75 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Boiler Stack	600 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Boiler Stack	300 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Cadmium & thallium and their compounds (total)	Boiler Stack	0.05 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1	Mercury and its compounds	Boiler Stack	0.05 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 13211
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Boiler Stack	0.5 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A1	Ammonia (NH ₃)	Boiler Stack	-	periodic over minimum 1-hour period	For periodic measurement, quarterly in the first year of operation, then bi-annual	Procedural requirements of BS EN 14791
A1	Nitrous oxide (N ₂ O)	Boiler Stack	-	periodic over minimum 1-hour period	For periodic measurement, quarterly in the first year of operation, then bi-annual	BS EN ISO 21258
A1	Dioxins / furans (I-TEQ)	Boiler Stack	0.1 ng/m ³	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)	Boiler Stack		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1	Dioxins / furans (WHO-TEQ Fish)	Boiler Stack		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1	Dioxins / furans (WHO-TEQ Birds)	Boiler Stack		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	Boiler Stack		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948-4
A1	Dioxin-like PCBs (WHO-TEQ Fish)	Boiler Stack		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948-4

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1	Dioxin-like PCBs (WHO-TEQ Birds)	Boiler Stack		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948-4
A1	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Boiler Stack		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS ISO 11338 Parts 1 and 2.
A2	-	Backup diesel generator	No limit set	-	-	-
A3	-	Emergency firewater pump	No limit set	-	-	-

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 (monitoring will take place at the seal weir near the Power Island)	Flow	Combined discharge of cooling water, boiler blowdown, neutralised water and steam water circuit drainage	4m ³ /s	Instantaneous	Continuous	Traceable to national standards
W1 (monitoring will take place at the seal weir near the Power Island)	Temperature	Combined discharge of cooling water, boiler blowdown, neutralised water and steam water circuit drainage	30°C	Instantaneous	Continuous	Traceable to national standards
W1 (monitoring will take place at the seal weir near the Power Island)	Residual Chlorine	Combined discharge of cooling water, boiler blowdown, neutralised water and steam water circuit drainage	0.2mg/l	Hourly average	Continuous	BS EN ISO 15682
W1 (monitoring will take place at the seal weir near the Power Island)	pH	Combined discharge of cooling water, boiler blowdown, neutralised water and steam water circuit drainage	6-9	Instantaneous	Continuous	BS6068-2.50
W2 - as shown on figure 4 of plans submitted with the application	No parameters set	Uncontaminated surface water via oil interceptor	No limit set	-	-	-

Table S3.3 Process monitoring requirements

Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Location close to the Combustion Chamber inner wall or as identified and justified in Application.	Temperature (° C)	Continuous	Traceable to national standards	As agreed in writing with the Environment Agency.
A1	Exhaust gas temperature	Continuous	Traceable to national standards	As agreed in writing with the Environment Agency.
A1	Exhaust gas pressure	Continuous	Traceable to national standards	As agreed in writing with the Environment Agency.

A1	Exhaust gas oxygen content	Continuous	BS EN 15267-3 BS EN 14181	
A1	Exhaust gas water vapour content	Continuous	BS EN 15267-3 BS EN 14181	

Table S3.4 Residue quality

Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method *	Other specifications
Bottom Ash	LOI	<5%	Monthly in the first year of operation. Then Quarterly	Environment Agency ash sampling protocol.	
Bottom Ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Monthly in the first year of operation. Then Quarterly	Sampling and analysis as per Environment Agency ash sampling protocol.	
Bottom Ash	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Sampling and analysis as per Environment Agency ash sampling protocol.	
APC Residues	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Monthly in the first year of operation. Then Quarterly	Sampling and analysis as per Environment Agency ash sampling protocol.	
APC Residues	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Sampling and analysis as per Environment Agency ash sampling protocol.	

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
Emissions to air Parameters as required by condition 3.5.1	A1	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Emissions to water Parameters as required by condition 3.5.1	W1	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
LOI Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	Bottom Ash	Before use of a new disposal or recycling route	
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	APC Residues	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	APC Residues	Before use of a new disposal or recycling route	
Functioning and monitoring of the incineration plant as required by condition 4.2.2		Annually	1 Jan

Table S4.2: Annual production/treatment	
Parameter	Units
Total other waste incinerated	tonnes

Table S4.2: Annual production/treatment

Parameter	Units
Total virgin wood incinerated	tonnes
Electrical energy produced	KWhrs
Electrical energy exported	KWhrs
Electrical energy used on installation	KWhrs
Waste heat utilised by the installation	KWhrs
Total Bottom Ash produced	tonnes
Total APC produced	tonnes

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Electrical energy exported, imported and used at the installation	Quarterly	KWhrs / tonne of waste/biomass fuel co-incinerated
Fuel oil consumption	Quarterly	Kgs / tonne of /biomass fuel co-incinerated
Mass of Bottom Ash produced	Quarterly	Kgs / tonne of /biomass fuel co-incinerated
Mass of APC residues produced	Quarterly	Kgs / tonne of /biomass fuel co-incinerated
Mass of Other solid residues produced	Quarterly	Kgs / tonne of waste/biomass fuel co-incinerated
Ammonia consumption	Quarterly	Kgs / tonne of waste/ biomass fuel co-incinerated
Activated Carbon consumption	Quarterly	Kgs / tonne of waste/biomass fuel co-incinerated
Lime consumption	Quarterly	Kgs / tonne of waste/biomass fuel co-incinerated
Water consumption	Quarterly	Kgs / tonne of waste/biomass fuel co-incinerated
Periods of abnormal operation	Quarterly	No of occasions and cumulative hours for current calendar year for each line.

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1-8 or other form as agreed in writing by the Environment Agency	21/02/14
Water	Form water 1 or other form as agreed in writing by the Environment Agency	21/02/14
Residues	Form residues1 or other form as agreed in writing by the Environment Agency	21/02/14
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	21/02/14
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	21/02/14

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	
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

“abatement equipment” means that equipment dedicated to the removal of polluting substances from releases from the installation to air or water media.

“abnormal operation” means any technically unavoidable stoppages, disturbances, or failures of the abatement plant or the measurement devices [other than continuous emission monitors for releases to air of particulates, TOC and/or CO], during which the concentrations in the discharges into air and the purified waste water of the regulated substances may exceed the normal emission limit values.

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

“APC residues” means air pollution control residues

“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.

“bi-annual” means twice per year with at least five months between tests;

“bottom ash” means ash falling through the distributor

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

“daily average” for releases of substances to air means the average of valid half-hourly averages over a calendar day during normal operation.

“dioxin and furans” means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

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

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

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

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

“incineration line” means all of the incineration equipment related to a common discharge to air location.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“ISO” means International Standards Organisation.

“LOI” means loss on ignition a technique used to determine the combustible material by heating the ash residue to a high temperature

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

“PAH” means Poly-cyclic aromatic hydrocarbon, and comprises Anthanthrene, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[b]naph(2,1-d)thiophene, Benzo[c]phenanthrene,

Benzo[ghi]perylene, Benzo[a]pyrene, Cholanthrene, Chrysene, Cyclopenta[c,d]pyrene, Dibenz[ah]anthracene, Dibenz[*a,i*]pyrene Fluoranthene, Indo[1,2,3-*cd*]pyrene, Naphthalene

“PCB” means *Polychlorinated Biphenyl*. *Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in the table below.*

“quarterly” for reporting/sampling means after/during each 3 month period, January to March; April to June; July to September and October to December and, when sampling, with at least 2 months between each sampling date.

“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.

“shut down” is any period where the plant is being returned to a non-operational state and there is no waste or biomass fuel being burned as described in the application or agreed in writing with the Environment Agency.

“start up” is any period, where the plant has been non-operational, after igniting the auxiliary burner until waste or biomass fuel has been fed to the plant to initiate steady-state conditions.

“TOC” means *Total Organic Carbon*. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC. In respect of Bottom Ash, this means the total carbon content of all organic species present in the ash (excluding carbon in elemental form).

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

“year” means calendar year ending 31 December.

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 gases from co-incineration plants the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 6% dry

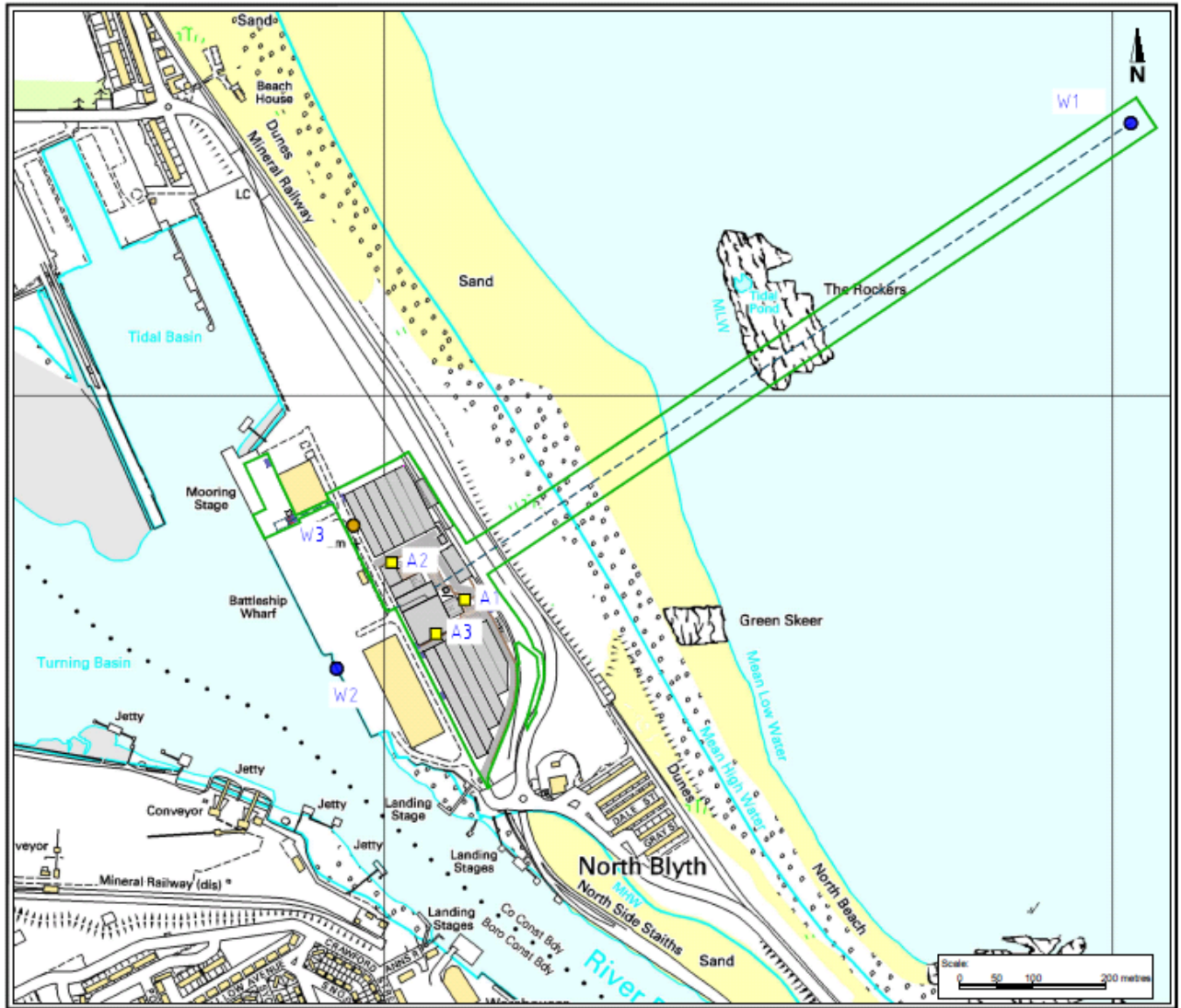
For dioxins/furans and dioxin-like PCBs the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their respective toxic equivalence factors before summing. When reporting on measurements of dioxins/furans and dioxin-like PCBs, the toxic equivalence concentrations should be reported as a range based on: all congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum. However the minimum value should be used when assessing compliance with the emission limit value in table S3.1.

TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
		Humans / Mammals	Fish	Birds
Dioxins				
<i>2,3,7,8-TCDD</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>1,2,3,7,8-PeCDD</i>	<i>0.5</i>	<i>1</i>	<i>1</i>	<i>1</i>
<i>1,2,3,4,7,8-HxCDD</i>	<i>0.1</i>	<i>0.1</i>	<i>0.5</i>	<i>0.05</i>
<i>1,2,3,6,7,8-HxCDD</i>	<i>0.1</i>	<i>0.1</i>	<i>0.01</i>	<i>0.01</i>

1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0003	-	-
Furans				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.03	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.3	0.5	1
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0003	0.0001	0.0001

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / mammals	Fish	Birds
Non-ortho PCBs			
3,4,4',5-TCB (81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0003	0.0001	0.05
3,3',4,4',5 - PeCB (126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.03	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

Schedule 7 - Site plan



Legend

- A1, Main stack
- A2, Backup diesel generator
- A3, Emergency firewater pump
- W1, Discharge to North Sea
- W2, Surface water discharge to river Blyth
- W3, Cooling water intake

END OF PERMIT