



# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2016**

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E.ON UK Infrastructure Services Limited  
Blackburn Meadows Renewable Energy Plant  
Blackburn Meadows  
Alsing Road  
Sheffield  
S9 1HF

**Variation application number**

EPR/LP3131TA/V006

**Permit number**

EPR/LP3131TA

# Blackburn Meadows Renewable Energy Plant

## Permit number EPR/LP3131TA

### 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.

This variation has been issued to update the permit following a statutory review of the permits in the industry sector for incineration. The opportunity has also been taken to consolidate the original permit and subsequent variations. The Industrial Emissions Directive (IED) came into force on 7th January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) conclusions as described in the Commission Implementing Decision. The BAT conclusions for incineration were published on 03 December 2019 in the Official Journal of the European Union (L323) following a European Union wide review of BAT, implementing decision 2017/2117/EU of 21 November 2017.

The schedules specify the changes made to the permit. Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 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.

#### **Brief description of the process**

This permit controls the operation of a waste co-incineration plant. The relevant listed activity is 5.1 A(1)(b). The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the permit are as follows:

Furnace technology	Fluidised Bed
Number of lines	1
Principal waste type	Waste wood
Stack height	90 m
Permitted plant capacity	250,000 tonnes per year
Electrical generation capacity	30 MWe
Heat export capacity	25 MWth

The Installation is located in an Air Quality Management Area, approximately 5 kilometres north east of Sheffield to the east of the M1 Tinsley Viaduct in Blackburn Meadows on land off Alsing Road. It is about 400 metres north east of the Meadowhall Shopping Centre. The Installation is designed to process 250,000 tonnes of biomass per year and export up to 30 MWe of electricity and up to 25 MWth of heat. The main process involves the receipt, storage and combustion of biomass, in the form of both waste and virgin wood, to produce energy using a single combustion line with a design capacity to process 25 tonnes per hour of biomass with a calorific value of 14 MJ/kg. The process includes use of waste heat boilers, electricity generation, emissions abatement equipment, on-site temporary storage of residues and all systems for controlling and monitoring combustion operations.

Biomass is delivered by road and unloaded into a fuel store by conveyor from the tipping area. The entire unloading process is conducted in an enclosed space. Any ferrous material is removed by magnetic separators during conveyance to the fuel store.

The biomass is removed from the fuel store by moving floor conveyors and loaded into the feed chute for delivery to the combustion unit. This is a bubbling fluidised bed design which ensures homogeneous mixing of the biomass with bed material and leads to good combustion. Residues from the combustion chamber are drawn down from the bottom of the bed and passed through a classifier. This separates out and cools the coarse particles and allows the fine particles to be returned as bed material. Surpluses are diverted via a blow pot to a boiler ash silo. Ash is transferred off-site for recovery or disposal at a suitably licensed facility. Emissions of nitrogen oxides are controlled by the injection of urea into the combustion chamber. Hot gases from the combustion are passed through a boiler to raise steam. The steam is then passed to a steam turbine to generate electricity for export to the national grid, before being condensed in an air-cooled condenser and returned to the boiler. Heat is also exported to a district heating network. The combustion gases are cleaned in a flue gas treatment plant. This includes the injection of carbon, primarily to control dioxin emissions, the injection of lime, to control acid gas emissions, and the use of a fabric filter to remove dust. The cleaned exhaust gases are released to atmosphere via a 90 metre stack. Flue gas treatment residues removed by fabric filter are disposed to landfill as hazardous waste when recycling routes are not available.

Emissions from the stack are continuously monitored or periodic sampling in line with the permit.

There are emissions to sewer of process water arising from boiler blow-down and cleaning. There are no process emissions to water.

There are no European sites within 10km of the Installation and no SSSI's within 2km. Woolley Wood local Nature Reserve lies 1.2km north-west of the site and Blackburn Meadows local Nature Reserve lies 1.25km to the north-east. Barber Wood and Ockley Wood Ancient Woodlands are 1.9 km to the north-west and the Wincobank Wood Ancient Woodland lies 1.8km to the south-west.

The site is on a minor aquifer of high groundwater vulnerability (Sand & gravel) in a flood zone 3.

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

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application received EPR/LP3131TA/A001	Duly made 28/04/2011	
Schedule 5 information received	05/08/2011	
Additional information received	05/08/2011	
Schedule 5 information received	27/09/2011	
Schedule 5 information received	11/10/2011	
Schedule 5 information received	27/10/2011	
Additional information received	01/11/2011	

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Permit determined EPR/LP3131TA	08/12/2011	Original permit issued to E.ON Climate and Renewables UK Biomass Limited
Application EPR/LP3131TA/V002 (admin variation)	Received 16/05/2014	Agency led admin variation to update the activity reference following the IED amendment regulations and to correct errors within the original permit.
Variation determined EPR/LP3131TA/V002 (PAS/Billing reference UP3831VR)	21/07/2014	Variation notice issued.
Application EPR/LP3131TA/V003	Duly Made 13/11/2015	Variation to increase in waste wood throughput from 200,000 tonnes to 250,000 tonnes per annum
Variation determined EPR/LP3131TA/V003 (PAS/Billing reference XP3339RP)	21/12/2015	Variation notice issued
Notified of change of Company Name	24/07/2019	Company Name changed to E.ON UK Blackburn Meadows Limited
Variation issued EPR/LP3131TA/V004	06/08/2019	Varied permit issued to E.ON UK Blackburn Meadows Limited
Notified of change of Company Name	18/12/2020	Company name changed to E.ON UK Infrastructure Services Limited
Variation issued EPR/LP3131TA/V005	14/01/2021	Varied permit issued to E.ON UK Infrastructure Services Limited
Regulation 61 notice issued	05/04/2022	Regulation 61 Notice requiring information for Statutory review of permit. BAT Conclusions published 03 December 2019.
Regulation 61 notice response	24/06/2022	
Variation issued EPR/LP3131TA/V006	20/06/2023	

End of introductory note

# Notice of variation and consolidation

## 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/LP3131TA

### Issued to

**E.ON UK Infrastructure Services Limited** (“the operator”)

whose registered office is

**Westwood Way  
Westwood Business Park  
Coventry  
CV4 8LG**

company registration number **07537806**

to operate a regulated facility at

**Blackburn Meadows Renewable Energy Plant  
Blackburn Meadows  
Alsing Road  
Sheffield  
S9 1HF**

to the extent set out in the schedules.

The notice shall take effect from 20/06/2023

Name	Date
<b>Principal Permitting Team Leader</b>	<b>20/06/2023</b>

Authorised on behalf of the Environment Agency

## **Schedule 1**

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

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2016

### Permit number

**EPR/LP3131TA**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/LP3131TA/V006 authorising,

**E.ON UK Infrastructure Services Limited** (“the operator”),

whose registered office is

**Westwood Way  
Westwood Business Park  
Coventry  
CV4 8LG**

company registration number **07537806**

to operate an installation at

**Blackburn Meadows Renewable Energy Plant  
Blackburn Meadows  
Alsing Road  
Sheffield  
S9 1HF**

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

<b>Name</b>	<b>Date</b>
<b>Principal Permitting Team Leader</b>	<b>20/06/2023</b>

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.
  - (c) referenced in schedule 1, table S1.1 (AR1), from 03/12/2023, in accordance with a written other than normal operating conditions (OTNOC) management plan.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 The operator shall review the written management system at least every 3 years or otherwise as requested by the Environment Agency.
- 1.1.4 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.

### 1.3 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 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 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 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.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 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 or holder.
- 2.3.5 Waste paper, metal, plastic or glass that has been separately collected for the purpose of preparing for re-use or recycling shall not be accepted. Waste from the treatment of these separately collected wastes shall only be accepted if incineration delivers the best environmental outcome in accordance with regulation 12 of the Waste (England and Wales) Regulations 2011.
- 2.3.6 Separately collected fractions other than those listed in condition 2.3.5 shall not be accepted unless they are unsuitable for recovery by recycling.

- 2.3.7 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
  - (b) the composition of the waste;
  - (c) the handling requirements of the waste;
  - (d) the hazardous property associated with the waste, if applicable; and
  - (e) the waste code of the waste.
- 2.3.8 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.9 Waste shall not be charged if:
- (a) the combustion chamber temperature is below 850 °C,
  - (b) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded during abnormal operation; or
  - (c) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or
  - (d) continuous emission monitors to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation; or
  - (e) there is a stoppage, disturbance or failure of the activated carbon abatement system, other than during abnormal operation.
  - (f) continuous emission monitors to demonstrate compliance with the emission limit values for particulates, TOC or CO in schedule 3 are unavailable unless alternative techniques as agreed in writing with the Environment Agency, are used to demonstrate compliance with those emission limit values.
- 2.3.10 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.11 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as soon as possible.
- 2.3.12 The operator shall interpret the start of the period of “abnormal operation” as the earliest of the following:
- (a) a technically unavoidable stoppage, disturbance, or failure of continuous emission monitors.
  - (b) a technically unavoidable stoppage, disturbance, or failure of the activated carbon abatement system
  - (c) Any other technically unavoidable stoppage, disturbance, or failure of the plant which is causing or could lead to an exceedance of an emission limit value in table S3.1.
- 2.3.13 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 combustion activity, as described in the application or as agreed in writing with the Environment Agency;
  - (c) The failed equipment has not been repaired and brought back into normal operation and a single period of abnormal operation reaches a duration of 4 hours after the start of abnormal operation on an incineration line
  - (d) Abnormal operation occurs on an incineration line and the cumulative duration of abnormal operation periods over 1 calendar year has reached 60 hours on that incineration line;

2.3.14 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition 2.3.9 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.9 is maintained in the combustion chamber, such burner(s) shall 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.

2.3.15 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.

## **3 Emissions and monitoring**

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

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.

3.1.2 The limits given in schedule 3, subject to condition 3.2.1, 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 S 3.5. 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.

### **3.2 Emissions limits and monitoring for emission to air for incineration plant**

3.2.1 The limits for emissions to air apply as follows:

- (a) The limits in table S3.1 shall not be exceeded except during periods of abnormal operation.
- (b) The limits in table S3.1 (a) shall not be exceeded during abnormal operation.

3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1 and S3.1(a); the Continuous Emission Monitors shall be used such that;

(a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:

- Carbon monoxide 10%
- Sulphur dioxide 20%
- Oxides of nitrogen (NO & NO<sub>2</sub> expressed as NO<sub>2</sub>) 20%
- Particulate matter 30%

- Total organic carbon (TOC) 30%
  - Hydrogen chloride 40%
  - Ammonia 40%
- (b) valid half-hourly average values or 10-minute averages 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 3.2.2 (a).
- (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour or 10 minute period, the half-hourly average or 10-minute average shall in any case be considered valid if measurements are available for a minimum of 20 minutes or 7 minutes during the half-hour or 10-minute period respectively. The number of half-hourly or 10-minute averages so validated shall not exceed 5 or 15 respectively per day;
- (d) daily average values shall be calculated as follows:
- (i) the average of valid half hourly averages or 10 minute averages over a calendar day excluding half hourly averages or 10 minute averages during periods of abnormal operation. The daily average value shall be considered valid if no more than five half-hourly average or fifteen 10-minute average values in any day have been determined not to be valid;
- (e) no more than ten daily average values per year shall be determined not to be valid.

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

- 3.3.1 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.
- 3.3.2 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.
- 3.3.3 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.
- 3.3.4 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.

### **3.4 Odour**

- 3.4.1 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.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to 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.

## 3.5 Noise and vibration

3.5.1 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.

3.5.2 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.

## 3.6 Monitoring

3.6.1 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, S3.1(a), S3.2 and S3.3
- (b) process monitoring specified in table S3.4
- (c) residue quality in table S3.5

3.6.2 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.

3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 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 unless otherwise agreed in writing by the Environment Agency 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. Newly installed Data handling and acquisition systems (DAHS), or DAHS replacing existing DAHS, shall have MCERTS certification.

3.6.4 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, S3.1(a), S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

## **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.

## **3.8 Fire prevention**

- 3.8.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.
- 3.8.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
  - (b) implement the fire prevention 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 using the annual report form specified in schedule 4, table S4.4 or otherwise in a format agreed with the Environment Agency. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
  - (b) the annual production /treatment data set out in schedule 4 table S4.2;
  - (c) the performance parameters set out in schedule 4 table S4.3
  - (d) the functioning and monitoring of the 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 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately:
    - (i) inform the Environment Agency,
    - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
    - (iii) take the measures necessary to prevent further possible incidents or accidents;
  - (b) of a breach of any permit condition the operator must immediately:
    - (i) inform the Environment Agency, and

- (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
  - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 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:

  - (a) any change in the operator's name or address; and
  - (b) any steps taken with a view to the dissolution of the operator.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
  - (a) the Environment Agency shall be notified at least 14 days before making the change; and
  - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

## **4.4 Interpretation**

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



# Schedule 1 – Operations

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
AR1	S5.1 A1 (b)	The incineration of non-hazardous waste in a waste co-incineration plant with a capacity of 3 tonnes per hour or more.	From receipt of waste to emission of exhaust gas and removal from site of waste arising.  Fuels, waste types and quantities as specified in Tables S2.1 and S2.2 of this permit.
<b>Directly Associated Activity</b>			
AR2	Electricity Generation	Generation of 33.6 MWe electrical power using a steam turbine from energy recovered from the flue gases and export of heat.	On-site use of electricity generated or delivery to the national grid.  Export of heat.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application EPR/LP3131TA/A001	Responses to Part B3 of the application form and supporting information	28/04/2011
Response to Schedule 5 Notice dated 21/06/2011	Responses to questions 1, 2, 3, 4 and 5 of the notice	05/08/2011 and 14/09/2011
Response to Schedule 5 Notice dated 06/07/2011	Response dated 05/08/11	05/08/2011
Response to Schedule 5 Notice dated 26/08/2011	Responses to questions 1, 2, 3, 6 and 8	27/09/2011
Response to Schedule 5 Notice dated 26/08/2011	Responses to question 4	11/10/2011
Response to Schedule 5 Notice dated 26/08/2011	Responses to questions 5 and 7	27/10/2011
Response to request for information dated 01/11/2011	Response dated 01/11/2011	01/11/2011
Response to regulation 61 notice	Operating techniques as set out in the response to the regulation 61 notice.	24/06/2022

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>The operator shall perform a study to determine the extent to which the operation of the current systems in place at the plant to minimise NOx emissions can be further optimised such that emissions are reduced as far as possible below 235 mg/Nm<sup>3</sup> as a daily average, without significantly increasing emissions of other pollutants or having a significant negative effect on plant operation, reliability or bottom ash quality. The study shall be based on the results of trials carried out at the installation and shall have regard to the recommendations for test conditions set out in Section 5.4.3 of report titled 'Establishing factors that influence NOx reduction at waste incineration plant to levels below the upper end of the BAT-AELs' (dated 14/01/2022), or other methodology agreed in writing with the Environment Agency. A written report of the study shall be submitted to the Environment Agency which shall include but not necessarily be limited to the following:</p> <ul style="list-style-type: none"> <li>• A brief description of the currently installed measures at the installation to minimise NOx emissions, including details of how the reagent dosing system responds to emissions monitoring data and historic data which illustrates the current achievable level of daily NOx emissions.</li> <li>• The results of trials conducted to further reduce daily average NOx emissions using currently installed measures, including: <ul style="list-style-type: none"> <li>○ a description of the parameters that were varied during the trial e.g. ammonia or urea feed rates, physical form of urea injected, air flows, and the range over which they were varied</li> <li>○ the levels of NOx achieved and associated levels of ammonia and nitrous oxide emissions and reagent consumption</li> <li>○ observed effects and predicted long-term impacts on plant operation, reliability and maintenance regime</li> <li>○ any changes to the composition of the bottom ash and boiler ash and the implications of those changes for the ability to process and use the ash, as well as for the pollution potential of the ash both during processing and its subsequent use as a secondary aggregate</li> <li>○ any other relevant cross-media effects</li> </ul> </li> </ul> <p>The report shall also include a description of the extent to which current systems in place at the plant to minimise NOx emissions can be optimised on a permanent basis, including justification and an implementation plan where relevant.</p>	6 months from issue of variation
IC2	<p>The operator shall submit a report to the Environment Agency on whether waste feed to the plant can be proven to have a low and stable mercury content. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic mercury emissions monitoring data and have regard to the Environment Agency Mercury Monitoring Protocol.</p>	30/09/2023

Reference	Requirement	Date
IC3	The operator shall submit a report to the Environment Agency on whether dioxin emissions to air are stable. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic dioxin emissions monitoring data and have regard to the Environment Agency Dioxins Monitoring Protocol.	30/09/2023

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

Raw materials and fuel description	Specification
Fuel Oil	< 0.1% sulphur content
Virgin wood biomass	As detailed in response number 3 in schedule 5 response document S0940-0400-0001JRS
Waste wood biomass	As detailed in response number 3 in schedule 5 response document S0940-0400-0001JRS

Maximum quantity	250,000 tonnes per year including any quantity of biomass from non-waste sources
Waste code	Description
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 03	plant tissue arising from trees
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08
<b>03</b>	<b>Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard</b>
<b>03 01</b>	<b>wastes from wood processing and the production of panels and furniture</b>
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

<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
03 03 01	waste bark and wood
<b>15</b>	<b>Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 03	wooden packaging
<b>17</b>	<b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>
<b>17 02</b>	<b>wood, glass and plastic</b>
17 02 01	wood
<b>19</b>	<b>Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use</b>
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 07	wood other than that mentioned in 19 12 06
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
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 (as shown on site plan in schedule 7)	Particulate matter	Co-incineration exhausts gases	45 mg/m <sup>3</sup>	½-hr average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Particulate matter	Co-incineration exhausts gases	15 mg/m <sup>3</sup> until 02/12/2023 7.5 mg/m <sup>3</sup> from 03/12/2023	daily average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Total Organic Carbon (TOC)	Co-incineration exhausts gases	15 mg/m <sup>3</sup>	daily average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Hydrogen chloride	Co-incineration exhausts gases	90 mg/m <sup>3</sup>	½-hr average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Hydrogen chloride	Co-incineration exhausts gases	15 mg/m <sup>3</sup> until 02/12/2023 12 mg/m <sup>3</sup> from 03/12/2023	daily average	Continuous	EN 14181

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements.</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard(s) or method(s)</b>
A1 (as shown on site plan in schedule 7)	Hydrogen fluoride	Co-incineration exhausts gases	3 mg/m <sup>3</sup> until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	CEN TS 17340
			1.5 mg/m <sup>3</sup> from 03/12/2023			
A1 (as shown on site plan in schedule 7)	Carbon monoxide	Co-incineration exhausts gases	75 mg/m <sup>3</sup>	daily average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Sulphur dioxide	Co-incineration exhausts gases	300 mg/m <sup>3</sup>	½-hr average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Sulphur dioxide	Co-incineration exhausts gases	75 mg/m <sup>3</sup> until 02/12/2023	daily average	Continuous	EN 14181
			60 mg/m <sup>3</sup> from 03/12/2023			
A1 (as shown on site plan in schedule 7)	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	Co-incineration exhausts gases	600 mg/m <sup>3</sup>	½-hr average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	Co-incineration exhausts gases	235 mg/m <sup>3</sup>	daily average	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Cadmium & thallium and their compounds (total)	Co-incineration	0.05 until 02/12/2023	Average of three consecutive	Bi-annually	BS EN 14385

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements.</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard(s) or method(s)</b>
site plan in schedule 7)		exhausts gases	0.03 mg/m <sup>3</sup> from 03/12/2023	measurements of at least 30 minutes each		
A1 (as shown on site plan in schedule 7)	Mercury and its compounds	Co-incineration exhausts gases	0.05 mg/m <sup>3</sup> until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually until 02/12/2023	BS EN 13211
A1 (as shown on site plan in schedule 7)	Mercury and its compounds	Co-incineration exhausts gases	0.03 mg/m <sup>3</sup> from 03/12/2023  Limit does not apply if continuous monitoring has been specified by the Environment Agency	Average of three consecutive measurements of at least 30 minutes each	Bi-annually from 03/12/2023  Not required if continuous monitoring has been specified by the Environment Agency	BS EN 13211
A1 (as shown on site plan in schedule 7)	Mercury and its compounds	Co-incineration exhausts gases	0.05 mg/m <sup>3</sup> from 03/12/2023	Daily average	Continuous from 03/12/2023 Not required unless continuous monitoring has been specified by the Environment Agency in line with sampling protocol	EN 14181

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements.</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard(s) or method(s)</b>
A1 (as shown on site plan in schedule 7)	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Co-incineration exhausts gases	0.5 mg/m <sup>3</sup> until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 14385
			0.45 mg/m <sup>3</sup> from 03/12/2023			
A1 (as shown on site plan in schedule 7)	Exhaust gas temperature	Co-incineration exhausts gases	No limit set	-	Continuous	Traceable to national standards
A1 (as shown on site plan in schedule 7)	Exhaust gas pressure	Co-incineration exhausts gases	No limit set	-	Continuous	Traceable to national standards
A1 (as shown on site plan in schedule 7)	Exhaust gas flow	Co-incineration exhausts gases	No limit set	-	Continuous	BS EN 16911-2
A1 (as shown on site plan in schedule 7)	Exhaust gas oxygen content	Co-incineration exhausts gases	No limit set	-	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Exhaust gas water vapour content	Co-incineration exhausts gases	No limit set	-	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Ammonia (NH <sub>3</sub> )	Co-incineration exhausts gases	No limit set Until 02/12/2023	daily average	Continuous	EN 14181
			22.5 mg/m <sup>3</sup> from 03/12/2023			



<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements.</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard(s) or method(s)</b>
A1 (as shown on site plan in schedule 7)	Nitrous oxide (N <sub>2</sub> O)	Co-incineration exhausts gases	No limit set	periodic over minimum 1-hour period Until 01/01/2023	Bi-annually Until 01/01/2023	EN ISO 21258
A1 (as shown on site plan in schedule 7)	Nitrous oxide (N <sub>2</sub> O)	Co-incineration exhausts gases	No limit set	½-hr average and daily average from 01/01/2023	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Carbon dioxide	Co-incineration exhausts gases	No limit set	Continuous	Continuous	EN 14181
A1 (as shown on site plan in schedule 7)	Dioxins / furans (I-TEQ)	Co-incineration exhausts gases	0.1 ng/m <sup>3</sup> until 02/12/2023	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually until 02/12/2023	BS EN 1948 Parts 1, 2 and 3

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements.</b>						
<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard(s) or method(s)</b>
A1 (as shown on site plan in schedule 7)	Dioxins / furans (I-TEQ)	Co-incineration exhausts gases	0.09 ng/m <sup>3</sup> from 03/12/2023  and  0.12 ng/m <sup>3</sup> if long term limit is specified by the Environment Agency in line with sampling protocol from 03/12/2023	periodic over minimum 6 hours, maximum 8 hour period  and  value over sampling period of 2 to 4 weeks for long term sampling	Bi-annually from 03/12/2023  and  long term sampling if specified by the Environment Agency in line with sampling protocol from 03/12/2023	EN 1948 Parts 1, 2 and 3  and  CEN TS 1948-5 if specified by the Environment Agency in line with sampling protocol
A1 (as shown on site plan in schedule 7)	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)	Co-incineration exhausts gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	EN 1948 Parts 1, 2 and 4
A1 (as shown on site plan in schedule 7)	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)	Co-incineration exhausts gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948 Parts 1, 2 and 3

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard(s) or method(s)</b>
A1 (as shown on site plan in schedule 7)	Polybrominated dibenzo-dioxins and furans	Co-incineration exhausts gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually Not required unless wastes containing brominated flame retardants are burned	Method based on procedural requirements of EN 1948
A1 (as shown on site plan in schedule 7)	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Co-incineration exhausts gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Annually	BS ISO 11338 Parts 1 and 2.

<b>Emission point ref. &amp; location</b>	<b>Parameter</b>	<b>Source</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A1 (as shown on site plan in schedule 7)	Particulate matter	Co-incineration exhausts gases	225 mg/m <sup>3</sup>	½-hr average	Continuous	EN 14181  or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor
	Total Organic Carbon (TOC)		30 mg/m <sup>3</sup>	½-hr average	Continuous	
	Carbon monoxide		150 mg/m <sup>3</sup>	½-hr average	Continuous	

<b>Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. unit)</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
W1 (as shown on site plan received on 31/05/23)	Uncontaminated surface water	No parameters set	No limit set	-	-	-

<b>Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
S1 (as shown on site plan in schedule 7)	Effluent from water demineralisation plant and boiler blow down	No parameters set	No limit set	-	-	-

<b>Table S3.4 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
As identified in the Application	Wind Speed and Direction	Continuous	Anemometer	
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 Agency.
Incineration plant	Gross electrical efficiency	within 6 months of any modification that significantly affects energy efficiency	Performance test at full load or other method as agreed in writing with the Environment Agency	

<b>Table S3.5 Residue quality</b>					
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Limit</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method *</b>	<b>Other specifications</b>
Bottom Ash	LOI or otherwise as agreed in writing with the Environment Agency	5% or otherwise as agreed in writing with the Environment Agency	Quarterly	EN 14899 and either EN 15169 or EN 15935 or otherwise as agreed in writing with the Environment Agency	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'
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.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
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	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
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.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

<b>Table S3.5 Residue quality</b>					
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Limit</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method *</b>	<b>Other specifications</b>
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	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Boiler ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Boiler 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	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

\* Or other equivalent standard as agreed in writing with the Environment Agency.

## Schedule 4 – Reporting

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

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air Parameters as required by condition 3.6.1.	A1	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
LOI or otherwise as agreed in writing with the Environment Agency  Parameters as required by condition 3.6.1	Bottom Ash	Quarterly	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 3.6.1	Bottom Ash	Quarterly	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 3.6.1	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 3.6.1	APC Residues	Quarterly	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 3.6.1	APC Residues	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	Boiler ash	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Parameters as required by condition 3.6.1			
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 3.6.1	Boiler ash	Before use of a new disposal or recycling route	

<b>Table S4.2: Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Total biomass combusted	tonnes
Total waste biomass combusted (included in the above figure)	tonnes
Electrical energy produced	kWh
Thermal energy produced e.g. steam for export	kWh
Electrical energy exported	kWh
Electrical energy used on installation	kWh
Waste heat utilised by the installation	kWh

<b>Table S4.3 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Annual Report as required by condition 4.2.2	Annually	-
Electrical energy exported, imported and used at the installation	Annually	kWh / tonne of waste incinerated
Fuel oil consumption	Annually	kg / tonne of waste incinerated
Bottom Ash residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
APC residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
Boiler ash	Annually	Route, tonnes and tonnes / tonne of waste incinerated
Urea consumption	Annually	kg / tonne of waste incinerated



<b>Table S4.3 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Activated Carbon consumption	Annually	kg / tonne of waste incinerated
Lime consumption	Annually	kg / tonne of waste incinerated
Water consumption	Annually	kg / tonne of waste incinerated
Periods of abnormal operation	Annually	No of occasions and cumulative hours for current calendar year for each line.

<b>Table S4.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Annual report required by condition 4.2.2	Annual performance report template	-
Emissions to air until 02/12/2023	Forms air 1-8 or other forms as agreed in writing by the Environment Agency	08/12/2011
Emissions to air from 03/12/2023	Forms air 1-9 or other forms as agreed in writing by the Environment Agency	13/06/2023
Residue quality	Form residue 1 and 2 or other form as agreed in writing by the Environment Agency	13/06/2023

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

## Part A

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

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

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

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Measures taken, or intended to be taken, to stop the emission	

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

<b>(c) Notification requirements for the breach of permit conditions not related to limits</b>	
<b>To be notified within 24 hours of detection</b>	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

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

## Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	

Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

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 plant or the measurement devices. Abnormal operation starts as defined in condition 2.3.12 and ends as defined in condition 2.3.13. Abnormal operation is limited to 4 hours for a single occurrence and a total of 60 hours per year per line.

“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.

“BAT conclusions” means Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for Waste Incineration

“bottom ash” means ash collected from the bottom of the fluidised bed

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

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

“Commissioning” means testing of the new incineration plant that involves any operation of the furnace or as agreed with the Environment Agency.

Daily average emissions value means ‘the average of at least 43 valid half hourly averages or for CO the average of at least 43 valid half hourly averages or 129 valid 10 min averages’

“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 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.

“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.

“Hazardous property” has the meaning in Annex III of the Waste Framework Directive

“co-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.

'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

"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.

"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.

"start up" is any period, where the plant has been non-operational, until waste has been fed to the plant in a sufficient quantity to initiate steady-state conditions as described in the application or agreed in writing with the Environment Agency.

"shut down" is any period where the plant is being returned to a non-operational state as described in the application or agreed in writing with the Environment Agency.

"TOC" means Total Organic Carbon. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC.

"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

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

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

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

- (a) 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
- (b) 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
- (c) 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
<b>Dioxins</b>				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
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	-	-
<b>Furans</b>				
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
<b>Non-ortho PCBs</b>			
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
<b>Mono-ortho PCBs</b>			
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

<b>TEF schemes for dioxin-like PCBs</b>			
<b>Congener</b>	<b>WHO-TEF</b>		
	<b>2005</b>	<b>1997/8</b>	
	<b>Humans / mammals</b>	<b>Fish</b>	<b>Birds</b>
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

“year” means calendar year ending 31 December.



