

# Permit with introductory note

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

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Veolia ES (UK) Limited

Heysham Gateway Energy Recovery Facility

Imperial Road

Middleton Business Park

Middleton

Lancashire

LA3 3RW

### **Permit number**

**EPR/VP3437QR**

# Heysham Gateway Energy Recovery Facility

## Permit number EPR/VP3437QR

### Introductory note

#### **This introductory note does not form a part of the permit**

This permit controls the operation of a waste 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 site is located near to Middleton which is about 1.5 km from the centre of Heysham in Lancashire. The site is bordered to the west by Imperial Road and to the south by Middleton Waste Transfer Station. An existing pond lies next to the north boundary with trees and agricultural fields bordering the east of the site.

Waste will be delivered to the installation in covered vehicles or containers. The waste will be delivered to the tipping hall where it will be tipped into the waste bunker. A grab crane will be used to homogenise the waste and transfer it to a feed hoppers that will feed the two moving grate furnaces where the waste will be burned.

Each combustion chamber will be a moving grate furnace. Combustion for each line will be controlled by feeding primary air through the grate and secondary air will be injected above the waste. The furnaces will be designed to ensure that the combustion gases are maintained, after the last injection of combustion air, to at least 850 °C for a minimum of two seconds. Combustion air will be drawn from the waste reception area to maintain negative pressure to ensure odour control.

Emissions to air will be via a 90 m high stack and will be minimised by cleaning the waste combustion gases as follows:

- Oxides of nitrogen (NO<sub>x</sub>) will be abated using Selective Non-Catalytic Reduction (SNCR)
- Acid Gases will be abatement using a lime abatement system
- Dioxins mercury and volatiles abated using activated carbon injection
- Particulate matter and metals abated by bag filters

Hot gases from the incineration of waste will pass through a series of heat exchangers and superheaters and finally through an economiser. The economiser will be used to preheat feedwater before it is supplied to the boiler. The design of the boilers, following a computerised fluid dynamics assessment, will ensure that the flue gas temperature is quickly reduced to minimise the risk of dioxin reformation. The steam generated in the boilers will be fed to a steam turbine which will generate electricity. Water for steam generation will be sourced from the mains and treated by reverse osmosis prior to use in the boilers. Steam will be condensed in an air cooled condenser and recycled to the boiler. Process waste water will be re-used for quenching bottom ash.

After quenching in water, bottom ash will be stored in a storage area, before unloading onto vehicles in an enclosed building. Air pollution control (APC) residues will be stored in silos prior to removal from site in sealed tankers.

Under normal operation all process water will be re-used. In the case of abnormal operation, such as emptying of the boiler, effluent will be discharged to sewer. A trade effluent consent with United Utilities will be in place for the sewer discharge.

Surface water run-off from vehicle roads and building roofs will be collected in the surface water drainage system. Surface water will be emitted via an interceptor to an existing surface water pond to the north of the site. The pond feeds into an existing network of field ditches.

The facility will generate electricity at a rate of ~34 MWe. It is expected that ~ 4 MWe will be required to power the plant with ~ 30 MWe available for export to the national grid.

The facility will have the capability to provide ~ 5 MWth of heat should a viable combined heat and power scheme be established.

The operator will have an environmental management system and intends to have it certified to ISO 14001.

The status log of the 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 EPR/VP3437QR/A001	Duly made 06/09/19	
Schedule 5 notice dated 19/02/20	Response 06/03/20	
Permit determined	19/05/20	

End of introductory note

# Permit

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

### Permit number

**EPR/VP3437QR**

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

**Veolia ES (UK) Limited** (“the operator”),

whose registered office is

**210 Pentonville Road**

**London**

**N1 9JY**

company registration number 02481991

to operate an installation at

**Heysham Gateway Energy Recovery Facility**

**Imperial Road**

**Middleton Business Park**

**Middleton**

**Lancashire**

**LA3 3RW**

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

<b>Name</b>	<b>Date</b>
<b>Philip Lamb</b>	<b>19/05/2020</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.
- 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 viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:
- (a) new plans for significant developments within 15 km of the installation;
  - (b) changes to the Local Plan;
  - (c) changes to the UK CHP Development Map or similar; and
  - (d) new financial or fiscal incentives for CHP.

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

### 1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (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; and
  - (c) it having been separately collected for recycling, it is subsequently unsuitable for recovery by recycling.

- 2.3.5 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.
- 2.3.6 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.
- 2.3.7 Waste shall not be charged, or shall cease to be charged, if:
- (a) the combustion chamber temperature is below, or falls below, 850°C; or
  - (b) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded; or
  - (c) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation or periods of OTNOC; or
  - (d) Any continuous emission limit value in schedule 3 table S3.1(b) is exceeded other than during abnormal operation; or
  - (e) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation; or
  - (f) there is a stoppage, disturbance or failure of the activated carbon abatement system, other than during abnormal operation.
- 2.3.8 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 2.3.7 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.7 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.
- 2.3.9 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.10 During a period of “abnormal operation” or OTNOC, the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.
- 2.3.11 Where, during “abnormal operation”, on an 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 stoppages, disturbances or failures of the abatement plant, or continuous emission monitor(s) are out of service, as the case may be, for a total of 4 hours uninterrupted duration;
  - (b) there is a technically unavoidable stoppage, disturbance or failure of the activated carbon abatement system for a total of 4 hours uninterrupted duration;
  - (c) the cumulative duration of “abnormal operation” periods over 1 calendar year has reached 60 hours;
  - (d) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 (a).

- (e) continuous emission monitors or alternative techniques to demonstrate compliance with the emission limit value(s) for particulates, TOC and / or CO in schedule 3 table S3.1 (a), as agreed in writing with the Environment Agency, are unavailable.

2.3.12 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) 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 on an incineration line. .

2.3.13 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.

3.1.2 The limits given in schedule 3, subject to condition 3.2.1, shall not be exceeded.

3.1.3 Where a substance is specified in schedule 3 table S3.2 or S3.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.

3.1.4 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.5. 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 or OTNOC.
- (b) The limits in table S3.1 (a) shall not be exceeded.
- (c) The limits in table S3.1 (b) shall not be exceeded except during abnormal operation.

3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1, S3.1(a) and S3.1(b); 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) for the daily average values in table S3.1, 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 and OTNOC. 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;
  - (ii) for the daily average values in table S3.1(b), 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), S3.1(b), S3.2 and S3.3;
- (b) process monitoring specified in table S3.4; and
- (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 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.
- 3.6.4 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),S3.1(b), 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.

## **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 (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 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 listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
S5.1 A1 (b)	The incineration of non-hazardous waste in a waste incineration plant with a capacity of 3 tonnes per hour or more.	From receipt of waste to emission of exhaust gases and removal of residues from site
<b>Directly Associated Activities</b>		
Electricity Generation	Generation of approximately 34 MWe electrical power using a steam turbine and approximately 5 MWth from energy recovered from the flue gases.	
Back up electrical generator	For providing emergency electrical power to the plant in the event of supply interruption.	

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application	Response to question 3 of application form B3 excluding mention of 2006 BREF.  Supporting information document sections: 1.4, 1.4.1, 1.4.2, 1.4.3, 1.4.4, 1.4.5, 1.4.7, 1.4.8 (excluding mention of domestic effluent), 1.4.9, 2.1.2, 2.2.1 (excluding table 2-4), 2.2.2, 2.2.3, 2.2.4, 2.3, 2.4.2, 2.4.3 (excluding odour abatement system), 2.4.4, 2.4.5, 2.5.3, 2.5.4, 2.5.5, 2.6.4 paragraph 1, 2.8, 2.9.	06/09/19
Response to Schedule 5 Notice dated 19/02/20	Response to questions 3, 5(i), 5(ii), 8 and 11 Fire prevention plan	06/03/20

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	The Operator shall submit a written report to the Environment Agency on the implementation of its Environmental Management System (EMS) 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 completion of commissioning.

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
<b>IC2</b>	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 points A1 and A2, identifying the fractions within the PM <sub>10</sub> , and PM <sub>2.5</sub> ranges. On receipt of written approval from 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.
<b>IC3</b>	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 and confirm that the Environmental Management System (EMS) has been updated accordingly.	Within 4 months of the completion of commissioning.
<b>IC4</b>	The operator shall notify the Environment Agency of the proposed date(s) that validation testing is planned for.	Notification at least 3 weeks prior to validation testing
	During commissioning the operator shall carry out validation testing to validate the residence time, minimum temperature and oxygen content of the gases in the furnace whilst operating under normal load and most unfavourable operating conditions. The validation shall be to the methodology as approved through pre-operational condition PO7.	Validation tests completed before the end of commissioning
	The operator shall submit a written report to the Environment Agency on the validation of residence time, oxygen and temperature whilst operating under normal load, minimum turn down and overload conditions.  The report shall identify the process controls used to ensure residence time and temperature requirements are complied with during operation of the incineration plant	Report submitted within 2 months of the completion of commissioning.
<b>IC5</b>	The Operator shall submit a written report to the Environment Agency describing the performance and optimisation of: <ul style="list-style-type: none"> <li>• The Selective Non Catalytic Reduction (SNCR) system and combustion settings to minimise oxides of nitrogen (NO<sub>x</sub>).The report shall include an assessment of the level of NO<sub>x</sub>, N<sub>2</sub>O and NH<sub>3</sub> emissions that can be achieved under optimum operating conditions.</li> <li>• The lime injection system for minimisation of acid gas emissions</li> <li>• The carbon injection system for minimisation of dioxin and heavy metal emissions.</li> </ul>	Within 4 months of the completion of commissioning.

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
<b>IC6</b>	<p>The Operator shall carry out an assessment of the impact of emissions to air of the following component metals subject to emission limit values: As and Cr (VI)</p> <p>A report on the assessment shall be made to the Environment Agency.</p> <p>Emissions monitoring data obtained during the first year of operation shall be used to compare the actual emissions with those assumed in the impact assessment submitted with the Application. An assessment shall be made of the impact of each metal against the relevant ES. In the event that the assessment shows that an environmental standard can be exceeded, the report shall include proposals for further investigative work.</p>	15 months from the completion of commissioning
<b>IC7</b>	<p>The Operator shall submit a written summary report to the Environment Agency to confirm 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. The report shall include the results of calibration and verification testing,</p>	<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 completion of commissioning.</p>
<b>IC8</b>	<p>During commissioning, the operator shall carry out tests to demonstrate whether the furnace combustion air will ensure that negative pressure is achieved throughout the reception hall. The tests shall demonstrate whether air is pulled through the reception hall and bunker area and into the furnace with dead spots minimised. The operator shall submit a report to the Environment Agency, for approval, summarising the findings along with any proposed improvements if required</p>	Within 3 months of completion of commissioning.
<b>IC9</b>	<p>The operator shall carry out a programme of dioxin and dioxin like PCB monitoring over a period and frequency agreed with the Environment Agency. The operator shall submit a report to the Environment Agency with an analysis of whether dioxin emissions can be considered to be stable.</p>	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency
<b>IC10</b>	<p>The operator shall carry out a programme of mercury monitoring over a period and frequency agreed with the Environment Agency. The operator shall submit a report to the Environment Agency with an analysis of whether the waste feed to the plant can be proven to have a low and stable mercury content.</p>	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency



<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
<b>IC11</b>	The Operator shall submit a report to the Environment Agency for approval on start-up and shut-down conditions over the first 12 months of operation. The report shall identify any amendments to the start-up and shut-down definitions that were described in the application.	Within 15 months of completion of commissioning or as agreed in writing with the Environment Agency

<b>Table S1.4 Pre-operational measures</b>	
<b>Reference</b>	<b>Pre-operational measures</b>
<b>PO1</b>	<p>Prior to the commencement of commissioning, the Operator shall send:</p> <ul style="list-style-type: none"> <li>• A summary of the site Environment Management System (EMS);and</li> <li>• A copy of the full OTNOC management plan which shall be prepared in accordance with BAT 18 of the BAT conclusions</li> </ul> <p>to the Environment Agency and obtain the Environment Agency's written approval to the EMS summary and the full OTNOC management plan.</p> <p>The Operator shall 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 Environment Agency web guide on developing a management system for environmental permits (found on <a href="http://www.gov.uk">www.gov.uk</a>) and BAT 1 of the incineration BAT conclusions. The EMS shall include the approved OTNOC management plan.</p> <p>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.</p>
<b>PO2</b>	Prior to the commencement of commissioning, the Operator shall send a report to the Environment Agency, and obtain the Environment Agency's written approval to it, which will contain a comprehensive review of the options available for utilising the heat generated, including operating as CHP or supplying district heating, 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 heat and shall provide a timetable for their implementation.
<b>PO3</b>	Prior to the commencement of commissioning, the Operator shall submit to the Environment Agency, and obtain the Environment Agency's written approval to it, a protocol for the sampling and testing of incinerator bottom ash for the purposes of assessing its hazard status. Sampling and testing shall be carried out in accordance with the protocol as approved.
<b>PO4</b>	Prior to the commencement of commissioning, the Operator shall submit to the Environment Agency, and obtain the Environment Agency's written approval to it, 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.

<b>Table S1.4 Pre-operational measures</b>	
<b>Reference</b>	<b>Pre-operational measures</b>
<b>PO5</b>	No later than one month after the final design of the furnace and combustion chamber, the operator shall submit a written report to the Environment Agency, and obtain the Environment Agency's written approval to it, of the details of the computational fluid dynamic (CFD) modelling. The report shall explain how the furnace has been designed to comply with the residence time and temperature requirements as defined by Chapter IV and Annex VI of the IED whilst operating under normal load and the most unfavourable operating conditions (including minimum turn down and overload conditions), and that the design includes sufficient monitoring ports to support subsequent validation of these requirements during commissioning.
<b>PO6</b>	At least three months before (or other date agreed in writing with the Environment Agency) the commencement of commissioning, the Operator shall submit a written report to the Environment Agency, and obtain the Environment Agency's written approval to it, specifying arrangements for continuous and periodic monitoring of emissions to air to comply with Environment Agency guidance notes M1, M2 and M20. The report shall include the following: <ul style="list-style-type: none"> <li>• Plant and equipment details, including accreditation to MCERTS</li> <li>• Methods and standards for sampling and analysis</li> <li>• Details of monitoring locations, access and working platforms</li> </ul>
<b>PO7</b>	At least 3 months before the commencement of commissioning (or other date agreed in writing with the Environment Agency) the Operator shall submit, for approval by the Environment Agency, a methodology (having regard to Technical Report P4-100/TR Part 2 Validation of Combustion Conditions) to verify the residence time, minimum temperature and oxygen content of the gases in the furnace whilst operating under normal load, minimum turn down and overload conditions.
<b>PO8</b>	At least 3 months before the commencement of commissioning the operator shall: <ul style="list-style-type: none"> <li>• Confirm that the additional noise mitigation measures described in section 7.5.3 of the noise impact assessment have been implemented; or</li> <li>• Submit a report, and obtain the Environment Agency's written approval to it, to show that alternative measures have been implemented that provide an equivalent level of overall noise mitigation as the additional measures described in section 7.5.3.</li> </ul>

## 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 incineration plant	
Maximum quantity	<ul style="list-style-type: none"> <li>350,400 tonnes per year.</li> <li>20 tonnes per hour per line (based on nominal design capacity, waste with net CV of 9.5 MJ/kg)</li> </ul>
Waste code	Description
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 02</b>	<b>wastes from the preparation and processing of meat, fish and other foods of animal origin</b>
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
<b>02 03</b>	<b>wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation</b>
02 03 04	materials unsuitable for consumption or processing
<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 01	paper and cardboard packaging
15 01 06	mixed packaging
15 01 09	textile packaging
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 02</b>	<b>wastes from electrical and electronic equipment</b>
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
<b>16 03</b>	<b>off-specification batches and unused products</b>
16 03 06	organic wastes other than those mentioned in 16 03 05
<b>18</b>	<b>Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)</b>
<b>18 01</b>	<b>wastes from natal care, diagnosis, treatment or prevention of disease in humans</b>
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)

<b>Table S2.2 Permitted waste types and quantities for incineration plant</b>	
<b>Maximum quantity</b>	<ul style="list-style-type: none"> <li>• 350,400 tonnes per year.</li> <li>• 20 tonnes per hour per line (based on nominal design capacity, waste with net CV of 9.5 MJ/kg)</li> </ul>
<b>Waste code</b>	<b>Description</b>
<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 01	paper and cardboard
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
<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 01	paper and cardboard
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 99	other fractions not otherwise specified (hygiene waste collected from domestic facilities that is not classified as clinical waste)
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 01	biodegradable waste
<b>20 03</b>	<b>other municipal wastes</b>
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 07	bulky waste

## 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, A2 [As shown on drawing 2471-003 in the application)	Particulate matter	Incineration plant exhaust gases	30 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Particulate matter	Incineration plant exhaust gases	5 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Total Organic Carbon (TOC)	Incineration plant exhaust gases	20 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Total Organic Carbon (TOC)	Incineration plant exhaust gases	10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in	Hydrogen chloride	Incineration plant	60 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS 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>
the application)		exhaust gases				
A1, A2 [As shown on drawing 2471-003 in the application)	Hydrogen chloride	Incineration plant exhaust gases	6 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Hydrogen fluoride	Incineration plant exhaust gases	1 mg/m <sup>3</sup>	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual	BS ISO 15713
A1, A2 [As shown on drawing 2471-003 in the application)	Carbon monoxide	Incineration plant exhaust gases	150 mg/m <sup>3</sup>	95% of all 10-minute averages in any 24-hour period	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Carbon monoxide	Incineration plant exhaust gases	50 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Sulphur dioxide	Incineration plant exhaust gases	200 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS 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, A2 [As shown on drawing 2471-003 in the application)	Sulphur dioxide	Incineration plant exhaust gases	30 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	Incineration plant exhaust gases	400 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	Incineration plant exhaust gases	120 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Cadmium & thallium and their compounds (total)	Incineration plant exhaust gases	0.02 mg/m <sup>3</sup>	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual	BS EN 14385
A1, A2 [As shown on drawing 2471-003 in the application)	Mercury and its compounds	Incineration plant exhaust gases	0.02 mg/m <sup>3</sup>  Limit does not apply if continuous monitoring has been specified by	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year and accelerated monitoring at frequency agreed through IC 10. Then Bi-annual.  Not required if continuous monitoring has been specified by	BS EN 13211 or as agreed in writing with the environment agency

<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>
			the Environment Agency after completion of IC10		the Environment Agency after completion of IC10	
A1, A2 [As shown on drawing 2471-003 in the application)	Mercury and its compounds	Incineration plant exhaust gases	0.02 mg/m <sup>3</sup>	Daily average	Continuous Not required unless continuous monitoring has been specified by the Environment Agency after completion of IC10.	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Incineration plant exhaust gases	0.3 mg/m <sup>3</sup>	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual	BS EN 14385
A1, A2 [As shown on drawing 2471-003 in the application)	Ammonia (NH <sub>3</sub> )	Incineration plant exhaust gases	10 mg/m <sup>3</sup>	daily average	Continuous	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Nitrous oxide (N <sub>2</sub> O)	Incineration plant exhaust gases	No limit set	Average of three consecutive measurements of at least 30 minutes each	Annually	BS EN ISO 21258



<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, A2 [As shown on drawing 2471-003 in the application)	Dioxins / furans (I-TEQ)	Incineration plant exhaust gases	0.04 ng/m <sup>3</sup> or  0.06 ng/m <sup>3</sup> if long term limit is specified by the Environment Agency after completion of IC9	periodic over minimum 6 hours, maximum 8 hour period  or  value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC9, quarterly for following 6 months and then bi-annually;  or  long term monitoring if specified by the Environment Agency after completion of IC9	BS EN 1948 Parts 1, 2 and 3   Or long term sampling method if specified by the Environment Agency after completion of IC9
A1, A2 [As shown on drawing 2471-003 in the application)	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)	Incineration plant exhaust gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period  or  value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC9, quarterly for following 6 months and then bi-annually;  or  long term monitoring if specified by the Environment Agency after completion of IC9.  No monitoring is required if emissions have been shown to be below 0.01 ng/m <sup>3</sup> as agreed with the Environment Agency.	BS EN 1948 Parts 1, 2 and 4   Or long term sampling method if specified by the Environment Agency after completion of IC9

<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, A2 [As shown on drawing 2471-003 in the application)	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)	Incineration plant exhaust gases	No limit set	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, A2 [As shown on drawing 2471-003 in the application)	Polybrominated dibenzo-dioxins and furans	Incineration plant exhaust gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	-
A1, A2 [As shown on drawing 2471-003 in the application)	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Incineration plant exhaust gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year then annually	BS ISO 11338 Parts 1 and 2.
A3	Carbon monoxide	Emergency Diesel generator	No limit set	Average of three consecutive measurements of at least 30 minutes each	First measurement within 4 months of first operation and then every 3 years	BS EN 15058

<b>Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – 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 or method</b>
A1, A2 [As shown on drawing 2471-003 in the application)	Particulate matter	Incineration plant exhaust gases	150 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181 during abatement plant failure or alternative surrogate as agreed in writing with the Environment Agency during failure of the continuous emission monitor
A1, A2 [As shown on drawing 2471-003 in the application)	Total Organic Carbon (TOC)	Incineration plant exhaust gases	20 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181 during abatement plant failure or alternative surrogate as agreed in writing with the Environment Agency during failure of the continuous emission monitor
A1, A2 [As shown on drawing 2471-003 in the application)	Carbon monoxide	Incineration plant exhaust gases	150 mg/m <sup>3</sup>	95% of all 10-minute averages in any 24-hour period	Continuous measurement	BS EN 14181 during abatement plant failure or alternative surrogate as agreed in writing with the Environment Agency during failure of the continuous emission monitor

<b>Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI 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, A2 [As shown on	As specified in the OTNOC management	Incineration plant		As specified in the OTNOC management plan as approved after completion of pre-operational condition PO1		

<b>Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI 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>
drawing 2471-003 in the application)	plan as approved after completion of pre-operational condition PO1	exhaust gases				
A1, A2 [As shown on drawing 2471-003 in the application)	Particulate matter	Incineration plant exhaust gases	30 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Particulate matter	Incineration plant exhaust gases	10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Total Organic Carbon (TOC)	Incineration plant exhaust gases	20 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Total Organic Carbon (TOC)	Incineration plant exhaust gases	10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in	Hydrogen chloride	Incineration plant exhaust gases	60 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181

<b>Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI 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>
the application)						
A1, A2 [As shown on drawing 2471-003 in the application)	Hydrogen chloride	Incineration plant exhaust gases	10 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Hydrogen fluoride	Incineration plant exhaust gases	2 mg/m <sup>3</sup>	periodic over minimum 1-hour period	Quarterly in first year. Then Bi-annual	BS ISO 15713
A1, A2 [As shown on drawing 2471-003 in the application)	Carbon monoxide	Incineration plant exhaust gases	150 mg/m <sup>3</sup>	95% of all 10-minute averages in any 24-hour period	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Carbon monoxide	Incineration plant exhaust gases	50 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Sulphur dioxide	Incineration plant exhaust gases	200 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181

<b>Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI 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, A2 [As shown on drawing 2471-003 in the application)	Sulphur dioxide	Incineration plant exhaust gases	50 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	Incineration plant exhaust gases	400 mg/m <sup>3</sup>	½-hr average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	Incineration plant exhaust gases	200 mg/m <sup>3</sup>	daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Cadmium & thallium and their compounds (total)	Incineration plant exhaust gases	0.05 mg/m <sup>3</sup>	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A1, A2 [As shown on drawing 2471-003 in the application)	Mercury and its compounds	Incineration plant exhaust gases	0.05 mg/m <sup>3</sup>	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 13211
A1, A2 [As shown on drawing 2471-003 in the application)	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Incineration plant	0.5 mg/m <sup>3</sup>	periodic over minimum 30 minute,	Quarterly in first year. Then Bi-annual	BS EN 14385

<b>Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI 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>
2471-003 in the application)		exhaust gases		maximum 8 hour period		
A1, A2 [As shown on drawing 2471-003 in the application)	Ammonia (NH <sub>3</sub> )	Incineration plant exhaust gases	10 mg/m <sup>3</sup>	½-hr average and daily average	Continuous measurement	BS EN 14181
A1, A2 [As shown on drawing 2471-003 in the application)	Nitrous oxide (N <sub>2</sub> O)	Incineration plant exhaust gases	No limit set	periodic over minimum 1-hour period	Annually	BS EN ISO 21258
A1, A2 [As shown on drawing 2471-003 in the application)	Dioxins / furans (I-TEQ)	Incineration plant exhaust gases	0.1 ng/m <sup>3</sup>	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3

<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 drawing 2471-003 in the application)	Uncontaminated surface water run-off	No parameters set	No Limits set	-	-	-

<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 drawing 2471-003 in the application)	Process effluent in the event that excess effluent is generated	No parameters set	No limits set	-	-	-

<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>
	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.
A1 and A2	Exhaust gas temperature	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 and A2	Exhaust gas pressure	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 and A2	Exhaust gas flow	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 and A2	Exhaust gas oxygen content	Continuous	BS EN 14181	
A1 and A2	Exhaust gas water vapour content	Continuous	BS EN 14181	Unless gas is dried before analysis of emissions.
Incineration plant	Gross electrical efficiency	Within 6 months of first operation	Performance test at full load	25-35%



<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>
		and then within 6 months of any modification that significantly affects energy efficiency		

<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	TOC or LOI	<3% for TOC or <5% for LOI	Monthly in the first year of operation. Then Quarterly	BS EN 14899 and either BS EN 13137 or BS EN 15936 for TOC  BS EN 14899 and either BS EN 15169 or BS EN 15935 for LOI	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.		Monthly in the first year of operation. Then 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.		Monthly in the first year of operation. Then 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'	

\* 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 3.5.1. Reporting of the daily average parameters in table S3.1(b) is only required if a period of OTNOC has occurred during that day	A1, A2 and A3	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
TOC or 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

<b>Table S4.2: Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Total Waste Incinerated	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
Ammonia / Urea consumption	Annually	Kg / tonne of waste incinerated
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	May 2020
Air	Forms air 1-8 or other forms as agreed in writing by the Environment Agency	May 2020
Residue quality	Form residues 1 and 2 or other forms as agreed in writing by the Environment Agency	May 2020

# 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 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 abatement plant or the measurement devices, during which the emissions into the air and the discharges of waste water may exceed the prescribed emission limit values for the pollutant(s) affected.

“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 Best Available Techniques (BAT) Conclusions published by the European Commission.

“bottom ash” means ash falling through the grate or transported by the grate

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

“bi-annual” 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.

“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

“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.

“OTNOC” means operation other than normal operating conditions, excluding start-up and shut-down and periods of abnormal operation, as defined in the OTNOC management plan approved through pre-operational condition PO1 or otherwise as agreed in writing with the Environment Agency.

“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, after igniting the auxiliary burner until waste has been fed to the plant [in sufficient quantity to cover the grate and 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 and there is no waste being burned 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. 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 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 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

(a) 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

(b) in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% 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

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

When the following terms appear in the waste code list in Schedule 2, table 2.2, for that table/those tables, they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘PCBs’ means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight

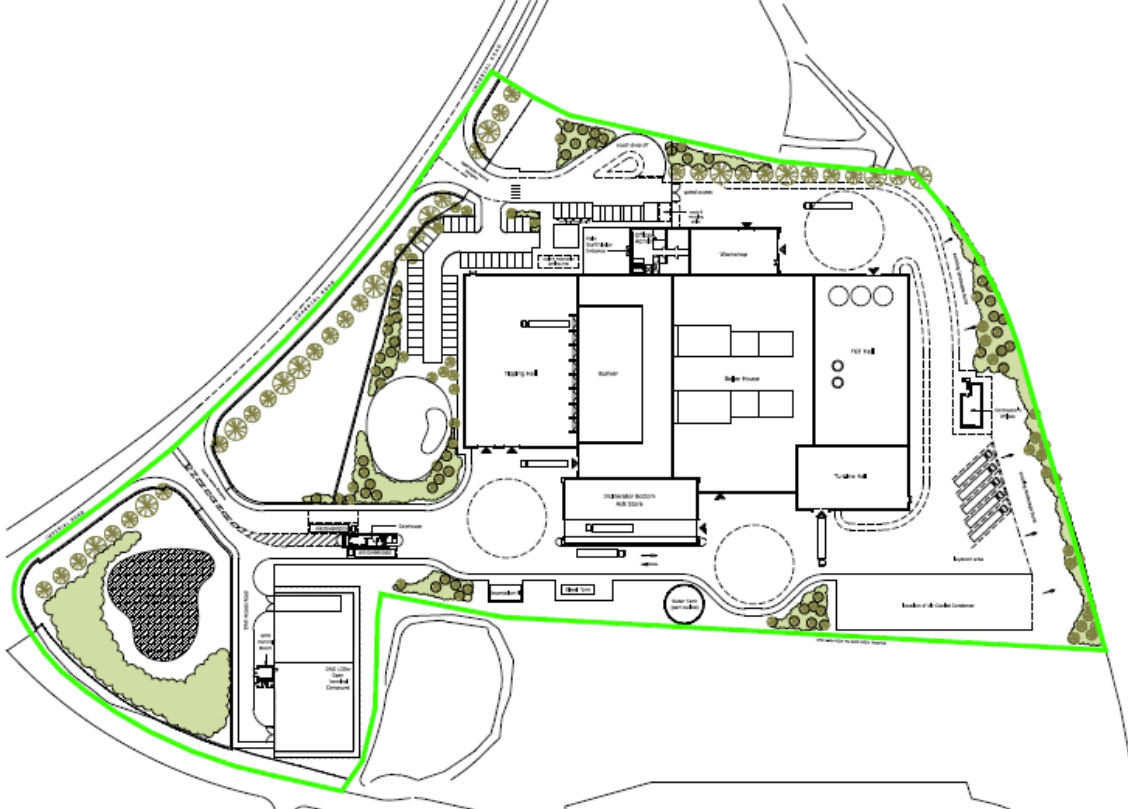
‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

# Schedule 7 – Site plan



END OF PERMIT