

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Cory Environmental Holdings Limited

Riverside Energy Park

Norman Road North

Belvedere

London

DA17 6JY

Permit number

EPR/GP3535QS

Riverside Energy Park

Permit number EPR/GP3535QS

Introductory note

This introductory note does not form a part of the permit]

This permit controls the operation of a waste incineration plant and an anaerobic digestion facility.

The relevant listed activities are S5.1 Part A1 (b) The incineration of non-hazardous waste in a waste incineration plant with a capacity exceeding 3 tonnes per hour and S5.4 Part A1 (b) Recovery or a mix of recovery and disposal of a non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion). The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the permit are as follows:

The Installation will be operated by Cory Environmental Holdings Limited and will be located at the Riverside Energy Park (REP), Belvedere, London. REP is located within the administrative area of the London Borough of Bexley. To the north of REP is the River Thames and the Thames Path long distance trail, and to the south and west is the Crossness Nature Reserve. The existing Thames Water Crossness Sewage Treatment Works site is approximately 200 m further to the west and includes the Grade I listed Crossness Pumping Station. The Crossness Nature Reserve is a 25.5 ha local nature reserve which is part of the Erith Marshes Site of Metropolitan Importance for Nature Conservation, and contains a number of ditches, watercourses and ponds. To the south of REP is Norman Road (the main road access into the site). To the east is the Crossness LNR.

South of Norman Road is the A2016, formed by the dual carriageway Picardy Manor Way at its junction with Norman Road (North), and by the dual carriageway Eastern Way, south of Crossness Nature Reserve. The nearest residential area is approximately 750 metres to the south of the boundary of the site.

The Energy Recovery Facility (ERF) will consist of twin incineration lines, the furnaces will process a maximum 805,920 tonnes per year of waste and will be designed, equipped, built and operated in such a way that the gas resulting from the incineration of waste is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of at least 850 °C for at least two seconds". To ensure that the temperature does not fall below 850°C, auxiliary burners will be automatically switched on. Hot gases from the combustion process will pass to the boiler which will raise steam to operate the steam turbine which in turn will operate electric generating sets for export to the grid.

The main pollutants from the ERF will be gaseous combustion products. Emissions from the waste incineration plant will be controlled to the Industrial Emissions Directive (Chapter IV) standards. Combustion gases from the waste incineration plant will be cleaned before they are emitted to atmosphere. Emissions from the waste incineration process will be routed via two stacks, 90 metres above surrounding ground levels. The abatement techniques proposed for cleaning the gases from the waste incineration plant are as follows:

- Selective catalytic reduction (SCR) where ammonia will be injected into the gas stream to reduce the release of oxides of nitrogen.
- Hydrated lime will be injected to neutralise acid gases.
- Activated carbon injection will be used to remove mercury, dioxins and furans, and other volatiles and
- Bag filtration system will be used to remove heavy metals and particulates.

Pollutants from the waste incineration plant including oxides of nitrogen, carbon monoxide, particulate matter, sulphur dioxide, hydrogen chloride, ammonia and total organic carbon will be continuously monitored.

Hydrogen fluoride, heavy metals, dioxins, dioxin-like PCBs and PAHs will be monitored periodically. Emissions will be abated to low levels by the use of measures that are considered to be in accordance with Best Available Techniques (BAT).

Solid residues produced by the waste incineration plant will be bottom ash (including boiler ash) and air pollution control residues. The bottom ash will be tested to determine its hazard status at the facility prior to despatch to an off-site processing facility for recovery into stabilised aggregate which is suitable for re-use or disposed of at a suitable landfill as a last resort. Air pollution control residues will be collected and temporarily stored on site in a silo prior to being removed from the site in enclosed tankers for subsequent treatment or disposal at an appropriately authorised facility.

There will be no process discharges from the Installation to surface waters or land. Uncontaminated site surface water run-off arising from rain water and process waters will be re-used on site where necessary. Excess water which cannot be used on site will be discharged to sewer in the event that a suitable connection is identified.

The Anaerobic Digestion facility operates a single anaerobic digestion line fed with organic waste. The Anaerobic Digestion facility has a design capacity of approximately 40,000 tonnes per annum. The biogas generated by the Anaerobic Digestion facility is upgraded to a compressed natural gas (CNG) and/or upgraded for injection into a local gas network. The REP also incorporates a “CHP engine” which will use the biogas to generate electricity and heat, which will be used to support the anaerobic digestion process or added to energy available for export from REP.

In addition, the digestate from the Anaerobic Digestion facility will be dried in a belt drier (Enclosed process) and processed (through maturation) in the same storage and loading area until it achieves compliance to the PAS110 standard that would be required before use in agriculture, or for onward transportation to a further maturation facility. As an alternative, the digestate could be used as a fuel in the ERF to generate electricity.

All plant areas will be surfaced to the appropriate standards for the activities within those areas. All liquid tanks and drums, whose emissions to water or land could cause pollution, will be contained in adequate bunding constructed in line with industry best practice standards and sized to contain 110% of the contents of the largest tank or 25% of the total tankage within a bund, whichever is the greater. Materials used for surfacing of process areas and bunds will be resistant to the materials they may come into contact with.

This environmental permit does not authorise the spreading of solid or liquid digestate on land. Spreading of digestate on land will be subject to a separate environmental permit or exemption.

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

Status log of the permit		
Description	Date	Comments
Application EPR/GP3535QS/A001	Duly made 17/12/2018	Application for maximum 805,920 tonnes per annum municipal waste fuelled energy from waste facility and maximum 40,000 tonnes per annum anaerobic digestion facility.
Additional information received	21/03/2019	Response to schedule 5 notice dated 28/02/19, including risk assessment of emissions to air from biogas upgrade plant.
Additional information received	16/08/19	Response to schedule 5 notice dated 21/07/19, including assessment of AD facility against best available techniques (BAT) conclusion requirements (including any relevant BAT associated emission levels (BAT-AELs) and monitoring requirements) set out in Commission Implementing Decision (EU) 2018/1147, digester dimensions and capacity, gas upgrading plant candidate options appraisal to demonstrate BAT. Stack height assessment and NOx reduction proposals for

Status log of the permit		
Description	Date	Comments
		CHP plant, including building configuration confirmation, CHP thermal input confirmation.
Additional Information received	11/09/19	Response to e-mail request for information dated 17/07/19, including confirmation of removal of process waters off site via tanker and clarification on liquid waste types
Additional Information received	27/09/19	Response to e-mail dated 24/09/19 confirming frequency of and duration of incinerator emergency generator operation/maintenance and type of back-up power supply for AD process
Additional Information received	08/10/19	Response to e-mail dated 30/09/19 confirming size of back-up incinerator diesel generator and further clarification for AD emergency power supply.
Additional Information received	20/12/19	Response to E-mail dated 29/11/19 providing details of disposal routes for whole digestate, pasteurisation process, waste screening process, bund water disposal route and auxillary flare operating techniques.
Additional Information received	15/01/20	Response to e-mail dated 08/01/20 giving details of compliance with BAT conclusions 2, 16 and 27
Permit determined	17/07/20	Permit issued to Cory Environmental Holdings Limited.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/GP3535QS

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

Cory Environmental Holdings Limited (“the operator”),

whose registered office is

Level 5

10 Dominion Street

London

EC2M 2EF

company registration number 05360864

to operate an installation at

Riverside Energy Park

Norman Road North

Belvedere

London

DA17 6JY

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

Name	Date
Daniel Timney	17/07/2020

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) For activity AR1, referenced in schedule 1, table S1.1 take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities. For activity AR2, referenced in schedule 1, table S1.1 take appropriate measures to ensure that 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 10 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 For activity AR2 referenced in schedule 1, table S1.1, the activities shall be undertaken in accordance with best available techniques.
- 2.1.3 For activity AR2 referenced in schedule 1, table S1.1, all process plant and equipment shall be commissioned, operated and maintained and shall be fully documented and recorded in accordance with the manufacturer’s recommendations.
- 2.1.4 For activity AR2 referenced in schedule 1, table S1.1, 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 For activity AR1 and AR2, referenced in schedule 1, table S1.1 waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2 and S2.3; 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.
 - (d) the facility has sufficient free capacity to store and treat the waste.
- 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 For activity AR1, referenced in schedule 1, table S1.1 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 operating conditions.
- 2.3.8 Waste pre-acceptance and acceptance procedures shall be undertaken in accordance with best available techniques.
- 2.3.9 For activity AR1, referenced in schedule 1, table S1.1, 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.
- 2.3.10 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.11 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.

- 2.3.12 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 monitors 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.
- 2.3.13 For activity AR1, referenced in schedule 1, table S1.1 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.
- 2.3.14 Bottom ash and APC residues shall not be mixed.

2.4 Improvement programme

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

2.5 Pre-operational conditions

- 2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4 have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3 except in “abnormal operation”, when 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(a) and S3.2.
- 3.1.2 The limits given in schedule 3 , subject to condition 3.2.1, shall not be exceeded.

- 3.1.3 For activity AR1, referenced in schedule 1, table S1.1 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.
- 3.1.4 For activity AR2, referenced in schedule 1, table S1.1 the first monitoring measurements shall be carried out within four months of the issue date of the permit or the date when the MCP is first put into operation, whichever is later.

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 ₂ expressed as NO ₂)	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 within 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, but including Ammonia for activity AR2 referenced in schedule 1, table S1.1) 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.

3.3.5 For activity AR2, referenced in schedule 1, table S1.1, the operator shall implement a leak detection and repair (LDAR) programme to detect and mitigate the release of volatile organic compounds.

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.

3.5 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) and S3.1(b);
- (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 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

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

3.6.5 For New Medium Combustion Plant, the first monitoring measurements shall be carried out within four months of the issue date of the permit or the date when the MCP is first put into operation, whichever is later.

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) only use approved products for pest control;
- (b) treat pest infestations promptly;

- (c) reject pest-infected incoming waste;
- (d) 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;
- (e) 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.

4.1.3 The operator shall maintain a record of the type and quantity of fuel used and the total annual hours of operation of each MCP.

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; and
- (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 or monitoring point/reference 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.
- 4.2.6 The operator shall keep records of non-waste materials leaving the site, including the type of material, the batch number, the date of export off-site and the tonnage exported on that date. These records shall be maintained for at least 2 years.

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 Following the detection of an issue listed in condition 4.3.1, the operator shall review and revise the management system and implement any changes as necessary to minimise the risk of re-occurrence of the issue.

- 4.3.4 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.
- 4.3.5 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.
- 4.3.6 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.
- 4.3.7 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

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	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 gas and disposal of waste arising. Waste types suitable for acceptance are limited to those specified in Table S2.2.
AR2	S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	R3: Recycling/reclamation of organic substances which are not used as solvents.	From receipt of waste through to digestion and recovery of by-products (digestate). Anaerobic digestion of waste in a single digester followed by either combustion of biogas produced from the process or the upgrade of biogas for export to grid or used as vehicle fuel. Waste types suitable for acceptance are limited to those specified in Table S2.3.
Directly Associated Activities			
AR3	Electricity Generation	Generation of electrical power using a steam turbine from energy recovered from the flue gases.	Undertaken in relation to Activity AR1.
AR4	Back up electrical generator	Medium Combustion Plant, <5MWth diesel powered generator for providing emergency electrical power to the plant in the event of supply interruption.	Undertaken in relation to Activity AR1. The generator shall not be tested for more than 50 hours a year; and the total operational hours shall not exceed 500 hours per year, as a rolling average over a period of three years.
AR5	Surface water management	Management of uncontaminated surface water drainage.	From collection of surface water drainage including reuse within site activities through to discharge from the Installation.
AR6	Storage of waste pending recovery or disposal	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on	Undertaken in relation to Activity AR2. From the receipt of permitted waste to pre-treatment and despatch for anaerobic digestion on site.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
		the site where it is produced)	<p>Storage of residual wastes from pre-treatment to despatch off-site for recovery.</p> <p>Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with sealed drainage.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2</p>
AR7	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	<p>Undertaken in relation to Activity AR2.</p> <p>From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery.</p> <p>Pre-treatment of waste in enclosed building and on impermeable surface with sealed drainage system including shredding, sorting, screening, compaction, baling, mixing and maceration.</p> <p>Post-treatment of digestate in an enclosed building and on an impermeable surface with sealed drainage system, including drying for use as a fertiliser or soil conditioner or use as a fuel for activity AR2.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
AR8	Digestate storage	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	<p>Undertaken in relation to Activity AR2.</p> <p>From the receipt of processed uncertified digestate produced from the on-site anaerobic digestion process to despatch for use off-site.</p> <p>Storage of processed, uncertified solid digestate in waste reception building.</p>

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR9	Emergency flare operation	D10: Incineration on land	<p>Undertaken in relation to Activity AR2.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases.</p> <p>Use of one auxiliary flare required only during periods of breakdown or maintenance of the CHP engine or biogas upgrading plant or surplus biogas production.</p> <p>Auxillary flare shall not be operated >10 per cent of a year (876 hours).</p>
AR10	Gas storage	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	<p>Undertaken in relation to Activity AR2.</p> <p>Storage of biogas produced from on-site anaerobic digestion of permitted waste in one stand-alone tank.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.</p>
AR11	Steam and electrical power supply	R1: Use principally as a fuel to generate energy	<p>Undertaken in relation to Activity AR2.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases.</p> <p>Combustion of biogas in one combined heat and power (CHP) engine with a thermal input of <3MWth.</p>
AR12	Gas upgrading	Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and Volatile organic compounds) for	<p>Undertaken in relation to Activity AR2.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National Grid. This includes return of off-specification biogas to</p>

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
		injection into the National Grid.	the biogas Upgrade System for further re-processing or combustion in the on-site CHP engine or combustion in the emergency flare.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/QP3535QS/A001	Supporting information sections 1.4 to 1.6 and 2.1 to 2.12, appendix-E BAT assessment of the application document provided in response to section 3a – technical standards, Part B of the application form, Appendix G, Preliminary fire prevention plan dated December 2018 Revision 0 and Appendix I, Preliminary Odour Management Plan dated December 2018 Revision 0	Duly Made 17/12/2018
Response to Schedule 5 Notice dated 21/07/19	Sections 1.1 Waste Treatment BAT conclusions compliance in accordance with Commission Implementing Decision (EU) 2018/114. 2.1.1 to 2.1.2 Digester capacity and dimensions. 3.3.25 GUP selection in accordance with BAT, Section 4.1 Digester configuration, 4.3 NOx abatement technology, and Section 5.1 Biogas Engine thermal capacity confirmation.	16/08/2019
E-Mail	Confirmation of removal of process waste waters off site by way of tanker and Justification for waste codes with high water/moisture content.	11/09/2019
E-Mail	Confirmation regarding frequency of and duration of incinerator emergency generator operation/maintenance and type of back-up power supply for AD process	27/09/2019
E-Mail	Confirmation of sizing of the incinerator emergency diesel generator and details relating to power supply for AD process.	08/10/2019
E-Mail	Environmental Permit Clarification: AD Process, December 2019 Rev 0. Providing details of disposal routes for whole digestate, pasteurisation process, waste screening process, bund water disposal route and auxiliary flare operating techniques.	20/12/2019
E-Mail	Environmental Permit Clarification: BREF report, January 2020 rev 1. Details of shut down and start up procedures, and acid gas abatement.	15/01/2020

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	The Operator shall submit a written report to the Environment Agency on the implementation of its Environmental Management System (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.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC2	The Operator shall submit a written proposal to the Environment Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point A1 and A2, identifying the fractions within the PM ₁₀ , and PM _{2.5} 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.
IC3	The Operator shall submit a written report to the Environment Agency on the commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the facility against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions and confirm that the Environmental Management System (EMS) has been updated accordingly.	Within 4 months of the completion of commissioning.
IC4	The Operator shall submit, for approval with 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.	Report for approval to be submitted at least 2 months before validation testing or as agreed in writing with the Environment Agency.
IC5	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 IC4.	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.
IC6	The Operator shall submit a written report to the Environment Agency describing the performance and optimisation of: <ul style="list-style-type: none"> • The Selective Catalytic Reduction (SCR) system and combustion settings to minimise oxides of nitrogen (NO_x).The report shall include an assessment of the level of NO_x, N₂O and NH₃ emissions that can be achieved under optimum operating conditions (Activity reference AR1 and AR2 Table S1.1) • The hydrated lime injection system for minimisation of acid gas emissions • The activated carbon injection system for minimisation of dioxin and heavy metal emissions. 	Within 4 months of the completion of commissioning.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC7	<p>The Operator shall carry out an assessment of the impact of emissions to air of the <i>following</i> component metals subject to emission limit values, As and Cr. 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 EQS/EAL. 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.
IC8	<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>
IC9	<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.
IC10	<p>For activity AR2, referenced in schedule 1, table S1.1 the operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the releases of pollutants to air. The study shall include the monitoring of point source releases to air from the biogas upgrading plant emission point A7 during normal operation, having regard to the Environment Agency technical guidance M2 and to MCERTS standards. As a minimum, two separate monitoring campaigns in a year shall be completed (one monitoring survey six months following commissioning of the biogas upgrading plant).</p> <p>The pollutants to be monitored shall include:</p> <ul style="list-style-type: none"> • total volatile organic compounds; and • hydrogen sulphide 	Within 6 months of commissioning or otherwise agreed in writing by the Environment Agency.
IC11	<p>Following the completion of IC10, the operator shall undertake an impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The environmental impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p> <p>The environmental impact assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> • reports showing details of the monitoring undertaken and the results obtained; • results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance – Air emissions risk assessment for your environmental permit • a completed H1 assessment software tool 	Within 2 months of completion of IC9 or otherwise agreed in writing by the Environment Agency.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	If the H1 assessment shows potential long or short term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified.	
IC12	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.	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency.
IC13	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.	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency.
IC14	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.

Table S1.4A Pre-operational measures	
Reference	Pre-operational measures
PO1	<p>For activity AR1 and AR2, referenced in schedule 1, table S1.1 Prior to the commencement of commissioning, the Operator shall send:</p> <ul style="list-style-type: none"> • A summary of the site Environment Management System (EMS);and • A copy of the full OTNOC management plan which shall be prepared in accordance with BAT 18 of the BAT conclusions <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 www.gov.uk) 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>
PO2	<p>For activity AR1, referenced in schedule 1, table S1.1 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 and detail any identified proposals for improving the recovery and utilisation of heat and provide a timetable for their implementation.</p>

Table S1.4A Pre-operational measures	
Reference	Pre-operational measures
PO3	For activity AR1, referenced in schedule 1, table S1.1, 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.
PO4	For activity AR1 and AR2 referenced in schedule 1, table S1.1, 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.
PO5	For activity AR1, referenced in schedule 1, table S1.1, prior to the commencement of commissioning, the Operator shall submit a written report to the Agency, and obtain the Environment Agency's written approval to it, detailing the waste acceptance procedure to be used at the site. The waste acceptance procedure shall include the process and systems by which wastes unsuitable for incineration at the site will be controlled. The procedure shall be implemented in accordance with the written approval from the Agency.
PO6	For activity AR1, referenced in schedule 1, table S1.1, 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.
PO7	Prior to the commencement of commissioning, the Operator shall submit a report, and obtain the Environment Agency's written approval to it, on the baseline conditions of soil and groundwater at the installation. The report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for in Article 22(3) of the IED. The report shall contain information, supplementary to that already provided in application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.
PO8	For activity AR1, referenced in schedule 1, table S1.1, 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"> • Plant and equipment details, including accreditation to MCERTS • Methods and standards for sampling and analysis

Table S1.4A Pre-operational measures	
Reference	Pre-operational measures
	<ul style="list-style-type: none"> • Details of monitoring locations, access and working platforms
PO9	<p>At least 3 months before the commencement of commissioning of Activity AR1 (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.</p>
PO10	<p>For activity AR1 and AR2 referenced in schedule 1, table S1.1, at least 2 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the installation, the operator shall submit a revised odour management plan to the Environment Agency for written approval. The plan shall take into account the appropriate measures for odour control specified in section 7.6.5 of the Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013). The plan shall also include all the required information as specified in the Environment Agency Horizontal Guidance H4 - Odour Management.</p> <p>No site operations shall commence or waste accepted at the facility unless the Environment Agency has given prior written permission under this condition.</p>
PO11	<p>For activity AR2, referenced in schedule 1, table S1.1, at least 8 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the installation, the operator shall ensure that a review of the design, method of construction and integrity of the proposed site secondary containment for the AD facility is carried out by a qualified structural engineer. The review shall compare the constructed secondary containment against the standards set out in section 7.9.1 of the Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and CIRIA C736 - Containment Systems for the Prevention of Pollution - secondary, tertiary and other measures for industrial and commercial premises or other relevant industry standard.</p> <p>The review shall include:</p> <ul style="list-style-type: none"> - physical condition of the secondary containment - the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure; - any work required to ensure compliance with the standards set out in CIRIA C736 or other relevant industry standard; and - a preventative maintenance and inspection regime <p>A written report of the review shall be submitted to the Environment Agency detailing the review's findings and recommendations. Remedial action shall be taken to ensure that the secondary containment meets the standards set out in the technical guidance documents and implement the maintenance and inspection regime.</p> <p>Operation of the anaerobic digestion facility shall not commence or waste accepted at the facility for processing in the anaerobic digestion facility unless the Environment Agency has given prior written permission under this condition.</p>
PO12	<p>For activity AR2, referenced in schedule 1, table S1.1, at least 4 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the anaerobic digestion facility, the operator shall provide written evidence to the Environment Agency of the Technically Competent Manager (TCM) at the proposed facility (Activity reference AR2 Table S1.1). The report shall confirm that the person(s):</p> <ul style="list-style-type: none"> • hold the relevant qualifications under the CIWM/WAMITAB scheme or other equivalent for the operation of the anaerobic digestion plant, and • have appropriate competence in operating the biogas upgrading plant (including the injection of biomethane into the Gas Grid). <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>

Table S1.4A Pre-operational measures	
Reference	Pre-operational measures
PO13	<p>For activity AR1, referenced in schedule 1, table S1.1, and the storage and handling of dried digestate from activity AR2, referenced in schedule 1, table S1.1, prior to the commencement of commissioning, the operator shall submit an updated fire prevention plan (FPP) and obtain the Environment Agency's written approval to it. The FPP must be written in line with the Environment Agency's guidance, Fire prevention plans: environmental permits and shall include the following aspects:</p> <ul style="list-style-type: none"> • Waste pre-acceptance and acceptance procedures which demonstrates how incompatible wastes and hot loads will be prevented from entering the waste bunker. • Bunker management procedures which demonstrate how residual waste will be removed from the bunker when new waste deliveries commence. It must clearly show that the 'first-in first-out' principle will be achieved. • Design specifications and construction details of the firewalls. • Evidence to show that the design, installation and maintenance of the building fire detection and suppression systems will be covered by an appropriate UKAS accredited third party certification scheme or a demonstrable alternative third- party accreditation. • Design of the firewater containment system which shows how all firewater generated when extinguishing a fire will be contained on site. The operator shall provide calculations to demonstrate that the capacity of the containment infrastructure is sufficient. • Final design of systems for the provision of water supported by evidence that the water supply available on site is capable of extinguishing a fire within four hours; or, where appropriate justify alternative measures.
PO14	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of discharging process waters to sewer, the operator shall submit in writing to the Environment Agency for review a risk assessment in accordance with our online guidance https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit.</p> <p>The environmental impact assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> • a completed H1 assessment software tool • Valid discharge consent issued by the appropriate sewage undertaker <p>No emissions to sewer shall commence at the installation unless the Environment Agency has given prior written permission under this condition.</p>
PO15	<p>Prior to the commencement of commissioning, the Operator shall submit a site plan to the Environment Agency that shows the location of the emission points for the emergency diesel generator, emergency flare, biogas upgrading plant. (Emission Points A4, A5, A6 Table S3.1) and emission point to sewer (S1 Table S3.3).</p>
PO16	<p>Prior to the commencement of commissioning, the Operator shall submit a report to the Environment Agency which considers the technical and commercial viability of generating compressed natural gas or exporting biogas to grid, in preference to combustion through the CHP plant, identifying proposals to maximise export together with a timetable for implementation.</p>

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 the ERF Plant	
Maximum quantity	805,920 tonnes per annum.
Waste code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 07	wastes from forestry
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 03	materials unsuitable for consumption or processing
02 03	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
02 03 04	materials unsuitable for consumption or processing
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 04	materials unsuitable for consumption or processing
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
03 03 08	wastes from sorting of paper and cardboard destined for recycling
04	WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES
04 02	wastes from the textile industry
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 09	textile packaging

Table S2.2 Permitted waste types and quantities for the ERF Plant	
Maximum quantity	805,920 tonnes per annum.
Waste code	Description
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 19	Plastic
16 02	wastes from electrical and electronic equipment
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
16 03	off-specification batches and unused products
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 02	wood, glass and plastic
17 02 01	Wood
17 02 03	Plastic
18	WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans
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)
18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
19	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
19 05	wastes from aerobic treatment of solid wastes
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	wastes from waste water treatment plants not otherwise specified
19 08 01	Screenings
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 01	paper and cardboard
19 12 04	plastic and rubber
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
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS

Table S2.2 Permitted waste types and quantities for the ERF Plant	
Maximum quantity	805,920 tonnes per annum.
Waste code	Description
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard
20 01 08	biodegradable kitchen and canteen waste
20 01 10	Clothes
20 01 11	Textiles
20 01 25	edible oil and fat
20 01 32	medicines other than those mentioned in 20 01 31
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	Plastics
20 01 41	wastes from chimney sweeping
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 03	other non-biodegradable wastes
20 03	other municipal wastes
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 07	bulky waste

Table S2.3 Permitted waste types and quantities for the anaerobic digestion plant	
Maximum quantity	40,000 tonnes per annum.
Exclusions	<p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> waste that is not biodegradable; Category 3 ABP wastes which are not catering wastes and non-meat-excluded catering wastes biodegradable waste that is significantly contaminated with non-biodegradable contaminants like plastic and litter beyond incidental level of 0.5% by volume; wastes containing treated wood and post-consumer wood, wood-preserving agents or other biocides, persistent organic pollutants; wastes containing Japanese Knotweed or other invasive plant species listed in the Alien Invasive Species Regulations 2014; <p>manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011.</p>
Waste code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 03	plant-tissue waste
02 01 06	animal faeces, urine and manure (including spoiled straw) only
02 03	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
02 03 04	materials unsuitable for consumption or processing
02 05	wastes from the dairy products industry
02 05 01	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) – solid and liquid dairy products, milk, food processing wastes, yoghurt, whey

Table S2.3 Permitted waste types and quantities for the anaerobic digestion plant	
Maximum quantity	40,000 tonnes per annum.
Exclusions	<p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> • waste that is not biodegradable; • Category 3 ABP wastes which are not catering wastes and non-meat-excluded catering wastes • biodegradable waste that is significantly contaminated with non-biodegradable contaminants like plastic and litter beyond incidental level of 0.5% by volume; • wastes containing treated wood and post-consumer wood, wood-preserving agents or other biocides, persistent organic pollutants; • wastes containing Japanese Knotweed or other invasive plant species listed in the Alien Invasive Species Regulations 2014; <p>manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011.</p>
Waste code	Description
04	WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES
04 02	waste from the textile industry
04 02 10	organic matter from natural products, e.g. grease, wax
19 06	wastes from anaerobic treatment of waste
19 06 04	digestate from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table only)
19 06 06	digestate from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
19 08	wastes from wastewater treatment works
19 08 09	grease and oil mixture containing only edible oils and fats
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard -Excludes laminates such as Tetrapaks and must conform to BS EN 13432 and not allowed if any non biodegradable coating or preserving substance is present
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 03	other municipal wastes
20 03 01	mixed municipal waste – only separately collected biodegradable wastes of types listed within this table, Table S2.3
20 03 02	wastes from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

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 and A2 as shown on site plan in Schedule 7	Particulate matter	Incinerator main stack via air pollution control system	30 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Particulate matter	Incinerator main stack via air pollution control system	5 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Total Organic Carbon (TOC)	Incinerator main stack via air pollution control system	20 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Total Organic Carbon (TOC)	Incinerator main stack via air pollution control system	10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Hydrogen chloride	Incinerator main stack via air pollution control system	60 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Hydrogen chloride	Incinerator main stack via air pollution control system	6 mg/m ³	daily average	Continuous measurement	BS EN 14181

A1 and A2 as shown on site plan in Schedule 7	Hydrogen fluoride	Incinerator main stack via air pollution control system	1 mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual	BS ISO 15713
A1 and A2 as shown on site plan in Schedule 7	Carbon monoxide	Incinerator main stack via air pollution control system	150 mg/m ³	95% of all 10-minute averages in any 24-hour period	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Carbon monoxide	Incinerator main stack via air pollution control system	50 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Sulphur dioxide	Incinerator main stack via air pollution control system	200 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Sulphur dioxide	Incinerator main stack via air pollution control system	30 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Incinerator main stack via air pollution control system	400 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Incinerator main stack via air pollution control system	75 mg/m ³	daily average	Continuous measurement	BS EN 14181

A1 and A2 as shown on site plan in Schedule 7	Cadmium & thallium and their compounds (total)	Incinerator main stack via air pollution control system	0.02mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual.	BS EN 13211
A1 and A2 as shown on site plan in Schedule 7	Mercury and its compounds	Incinerator main stack via air pollution control system	0.02 mg/m ³ Limit does not apply if continuous monitoring has been specified by the Environment Agency after completion of IC13	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year and accelerated monitoring at frequency agreed through IC 13 Then Bi-annual. Not required if continuous monitoring has been specified by the Environment Agency after completion of IC13	BS EN 13211
A1 and A2 as shown on site plan in Schedule 7	Mercury and its compounds	Incinerator main stack via air pollution control system	0.02 mg/m ³	Continuous	Not required unless continuous monitoring has been specified by the Environment Agency after completion of IC13.	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Incinerator main stack via air pollution control system	0.3 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A1 and A2 as shown on	Ammonia (NH ₃)	Incinerator main stack via air	10 mg/m ³	daily average	Continuous measurement	BS EN 14181

site plan in Schedule 7		pollution control system				
A1 and A2 as shown on site plan in Schedule 7	Dioxins / furans (I-TEQ)	Incinerator main stack via air pollution control system	0.04 ng/m ³ or 0.06 ng/m ³ if long term limit is specified by the Environment Agency after completion of IC12	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 IC12, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC12	BS EN 1948 Parts 1, 2 and 3 Or long term sampling method if specified by the Environment Agency after completion of IC12
A1 and A2 as shown on site plan in Schedule 7	Dioxins and Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)	Incinerator main stack via air pollution control system	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 IC12, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC12 No monitoring is required if emissions have been shown to be below 0.01 ng/m ³ 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 IC12
A1 and A2 as shown on	Dioxins / furans	Incinerator main stack via air	No limit set	periodic over minimum 6 hours,	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3

site plan in Schedule 7	(WHO-TEQ Humans / Mammals, Fish, Birds)	pollution control system		maximum 8 hour period		
A1 and A2 as shown on site plan in Schedule 7	Polybrominated dibenzodioxins and furans	Incinerator main stack via air pollution control system	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	-
A1 and A2 as shown on site plan in Schedule 7	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Incinerator main stack via air pollution control system		periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS ISO 11338 Parts 1 and 2.
A3, as shown on site plan in Schedule 7	Oxides of Nitrogen (NO and NO2 expressed as NO2)	CHP engine stack [Note 1]	125 mg/m3	Hourly average	Annual	BS EN 14792
	Sulphur dioxide		107 mg/m3			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
	Carbon monoxide		1400 mg/m3			BS EN 15058
	Total VOCs		No limit set			-
A4, As shown on site plan approved through pre-operational condition PO15	Oxides of Nitrogen (NO and NO2 expressed as NO2)	Emergency Flare Stack	No limit set	-	-	-
	Carbon Monoxide		No limit set	-	-	-
	Total VOC's		No limit set	-	-	-

A5, As shown on site plan approved through pre-operational condition PO15	No parameter set	Emergency back up generator	No limit set	-	-	-
A6, As shown on site plan approved through pre-operational condition PO15	VOCs	Biogas upgrading plant stack	No limit set	-	Continuous Measurement	Leak detection and repair (LDAR) programme
Pressure relief valves	Biogas release and operational events	Digester	No limit set	Recorded duration and frequency	Record of operational hours	-
Vents from tank(s)	No parameter set	Oil/Fuel Storage	No limit set	-	-	-

Note 1 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas).

Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 and A2 as shown on site plan in Schedule 7	Particulate matter	Incinerator	150 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Total Organic Carbon (TOC)	Incinerator	20 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Carbon monoxide	Incinerator	150 mg/m ³	95% of all 10-minute averages in [any 24-hour period] [a calendar day]	Continuous measurement	BS EN 14181

Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI limits) and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1 and A2 as shown on site plan in Schedule 7	As specified in the OTNOC management plan as approved after completion of pre-operational condition PO1	Incinerator main stack via air pollution control system		As specified in the OTNOC management plan as approved after completion of pre-operational condition PO1		
A1 and A2 as shown on site plan in Schedule 7	Particulate matter	Incinerator main stack via air pollution control system	30 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Particulate matter	Incinerator main stack via air pollution control system	10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Total Organic Carbon (TOC)	Incinerator main stack via air pollution control system	20 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Total Organic Carbon (TOC)	Incinerator main stack via air pollution	10 mg/m ³	daily average	Continuous measurement	BS EN 14181

Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI limits) and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
		control system				
A1 and A2 as shown on site plan in Schedule 7	Hydrogen chloride	Incinerator main stack via air pollution control system	60 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Hydrogen chloride	Incinerator main stack via air pollution control system	10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Hydrogen fluoride	Incinerator main stack via air pollution control system	2 mg/m ³	periodic over minimum 1-hour period	Quarterly in first year. Then Bi-annual	BS ISO 15713
A1 and A2 as shown on site plan in Schedule 7	Carbon monoxide	Incinerator main stack via air pollution control system	150 mg/m ³	95% of all 10-minute averages in any 24-hour period	Continuous measurement	BS EN 14181
A1 and A2 as shown on	Carbon monoxide	Incinerator main stack via	50 mg/m ³	daily average	Continuous measurement	BS EN 14181

Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI limits) and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
site plan in Schedule 7		air pollution control system				
A1 and A2 as shown on site plan in Schedule 7	Sulphur dioxide	Incinerator main stack via air pollution control system	200 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Sulphur dioxide	Incinerator main stack via air pollution control system	50 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Incinerator main stack via air pollution control system	400 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Incinerator main stack via air pollution control system	200 mg/m ³	daily average	Continuous measurement	BS EN 14181

Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI limits) and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
A1 and A2 as shown on site plan in Schedule 7	Cadmium & thallium and their compounds (total)	Incinerator main stack via air pollution control system	0.05 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A1 and A2 as shown on site plan in Schedule 7	Mercury and its compounds	Incinerator main stack via air pollution control system	0.05 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 13211
A1 and A2 as shown on site plan in Schedule 7	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Incinerator main stack via air pollution control system	0.5 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A1 and A2 as shown on site plan in Schedule 7	Ammonia (NH ₃)	Incinerator main stack via air pollution control system	10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 and A2 as shown on site plan in Schedule 7	Dioxins / furans (I-TEQ)	Incinerator main stack via air pollution	0.1 ng/m ³	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3

Table S3.1(b) Point source emissions to air during OTNOC – emission limits (IED Annex VI limits) and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
		control system				

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1, as shown on site plan in schedule 7	Clean surface waters only	No parameters set	No limit set			

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1, As shown on site plan approved through pre-operational condition PO14 ^[Note 1]	Boiler blowdown and reverse osmosis unit discharge	-	-			

Note 1: No emissions shall be made to sewer until completion of pre-operational condition PO14 and prior written approval by the Environment Agency has been given.

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
As identified in the Application	Wind Speed and Direction and Temperature	Continuous	As specified in site operating techniques	Conditions to be recorded in operational diary and records. Equipment shall be calibrated on a 4 monthly basis, in accordance with manufacturer's recommendations or as agreed in writing by the Environment Agency.

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Incinerator				
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 flow	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 oxygen content	Continuous	BS EN 15267-3 BS EN 14181	
A1 and A2	Exhaust gas water vapour content	Continuous	BS EN 15267-3 BS EN 14181	Unless gas is dried before analysis of emissions.
A1 and A2	Gross electrical efficiency	Within 6 months of first operation and then within 6 months of any modification that significantly affects energy efficiency	Performance test at full load	25-35%
Anaerobic Digestion facility				
Digester feed (digestion process)	pH	As described in the site operating techniques	As described in the site operating techniques	Process monitoring to be recorded using SCADA system where relevant.
	Alkalinity			
	Temperature			
	Hydraulic loading rate			

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	Organic loading rate			
	Volatile fatty acids concentration			
	Ammonia			
	Liquid/foam level			
Digester	Agitation /mixing	Continuous	Systems controls. Yearly lithium or thermal imaging	Records maintained in daily operational records.
	Tank capacity and sediment assessment	Once a year		In accordance with design specification and tank integrity checks.
Biogas in digester	flow	Continuous	In accordance with EU weights and measures Regulations	Process monitoring to be recorded using SCADA system where relevant.
	Methane	Continuous	None specified	Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	CO ₂	Continuous	None specified	
	O ₂	Continuous	None specified	
	Pressure	Continuous	None specified	
	Hydrogen sulphide	Daily	None specified	
Biogas upgrading plant stack or vent	VOCs including methane	In accordance with written management system	In accordance with written management system	Methane monitoring points as specified in the DSEAR risk assessment and leak detection and repair programme

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Diffuse emissions from gas storage membrane, stacks, vents on biogas upgrading plant	Ammonia	Every 6 Months	In accordance with written management system	Leak detection and repair (LDAR) programme in accordance with condition 3.3.5
	VOCs including methane			
	Odour			
Emergency flare	Operational hours	Continuous	Recorded duration and frequency. Recording using a SCADA system or similar system	Date, time and duration of use of emergency flare shall be recorded.
Pressure relief valves	Biogas release and operational events	Daily Inspection	Recorded duration and frequency	Operational record including date, time duration of pressure relief events and calculated annual mass release. Pressure relief valves to be re-seated after release.
Waste reception building; Digester and storage tank	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Digester and storage tank	Integrity checks	Weekly	Visual assessment	--

Table S3.5 Residue quality					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method *	Other specifications
Bottom Ash	TOC	<3%	Monthly in the first year of operation. Then Quarterly	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'	
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.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1	A1, A2 and A3	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
TOC 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
Process monitoring Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.4	Every 12 months	1 Jan

Table S4.2: Annual production/treatment	
Parameter	Units
Incinerator	
Total Municipal Waste Incinerated	tonnes
Total Commercial Waste Incinerated	tonnes
Electrical energy generated	KWh
Thermal energy produced e.g. steam for export	KWh
Electrical energy exported	KWh
Electrical energy used	KWh
Waste heat utilised	KWh
Incinerator bottom ash aggregate exported	tonnes
Anaerobic Digestion facility	
Electricity generated	MWh
Biomethane generated	tonnes or m3
Non-Waste Outputs	tonnes
Total digestate sent to land spreading	tonnes
Total digestate incinerated	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Incinerator		
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 consumption	Annually	Kg / tonne of waste incinerated
Hydrated Lime consumption	Annually	Kg / tonne of waste incinerated
Activated Carbon 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.
Water consumption	Annually	Kg / tonne of waste incinerated

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Anaerobic Digestion facility		
Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes or m3
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m3
Emergency flare operation	Annually	hours
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Ammonia consumption	Annually	Kg / tonne of waste anaerobically digested
Biomethane exported	Annually	Tonnes or m3
Electricity Exported	Annually	MWh
Auxiliary boiler usage	Annually	hours

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	17/07/20
Annual report required by condition 4.2.2	Annual performance report template	17/07/20
Water and raw material usage	Form WU/RM1 1 or other form as agreed in writing by the Environment Agency	17/07/20
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	17/07/20
Waste disposal/recovery	Form R1 or other form as agreed in writing by the Environment Agency	17/07/20
Residue quality	Form residue 1 or other form as agreed in writing by the Environment Agency	17/07/20
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	17/07/20
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

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

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“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.

“accident management plan” means a plan that identifies risks and failures which can have an impact on the environment or have environmental consequences. The plan forms part of the management system. The plan must minimise the potential causes and consequences and identify clearly the roles, responsibilities and action to be taken to minimise the consequences of accidents. This includes measures to prevent and control fires on site, DSEAR assessment and clearly marked zones.

“ADQP” means Anaerobic Digestion Quality Protocol

“anaerobic digestion” means a process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobes and facultative anaerobe bacteria species, which convert the inputs to a methane-rich biogas and whole digestate.

“animal waste” means any waste consisting of animal matter that has not been processed into food for human consumption. This does include blood, feathers, uncooked butchers waste and any other animal waste that is not catering waste or former foodstuffs. This does not include faecal matter from animals (e.g. chicken litter or farmyard manure).

“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.

“biodegradable” means a material is capable of undergoing biological anaerobic or aerobic degradation leading to the production of CO₂, H₂O, methane, biomass and mineral salts depending on the environmental conditions of the process.

“bottom ash” means transported by the grate

“building” means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter

“capacity” means the potential capacity and not historical or actual production levels or throughput. This means that the designed capacity is the maximum rate at which the site can operate. Biological treatment of waste usually takes place over more than one day, so the physical daily capacity can be calculated by dividing the maximum quantity of waste that could be subject to biological treatment at any one time by the minimum residence time. For in-vessel composting, the residence time for sanitisation should be calculated separately and then aggregated to the complete composting time.

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

“channelled emissions” means the emissions of pollutants into the environment through any kind of duct, pipe, stack, etc. This also includes emissions from open top biofilters.

“competent persons and resources” means that a technically competent person accredited to a relevant scheme must attend site and record their attendance, and that all roles and responsibilities are clearly stated in the management systems along with records of operatives’ training.

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

“daily average” for releases of substances to air means the average of valid half-hourly averages or 10 minute averages for CO during normal operation.

“digestate” means material resulting from an anaerobic digestion process.

“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.

“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

‘Hazardous waste’ has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended)

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

“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.

“Leak detection and repair (LDAR) programme” means a structured approach to reduce fugitive emissions of organic compounds by detection and subsequent repair or replacement of leaking components. Currently, sniffing (described EN 15446) and optical gas imaging methods are available for the identification of leaks as set out in BAT 14 and section 6.6.2 of the Waste Treatment BAT Conclusions.

‘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.

“medium combustion plant” or “MCP” means a combustion plant with a rated thermal input equal to or greater than 1 MW but less than 50 MW.

“Medium Combustion Plant Directive” or “MCPD” means Directive 2015/2193/EU of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from medium combustion plants.

“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, Dibenzo[ah]anthracene, Dibenzo[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.

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

Pests” means Birds, Vermin and Insects.

“pollution” means emissions as a result of human activity which may

- (a) be harmful to human health or the quality of the environment,
- (b) cause offence to human sense.
- (c) result in damage to material property, or
- (d) impair or interfere with amenities and other legitimate uses of the environment.

“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.

“representative internal” means representative monitoring at a point internally of the windrows that will give a representative assessment of temperature. Note: Larger windrows will require more bespoke temperature equipment to adequately assess temperature profiles accurately.

“shut down” is, in relation to the incinerator, 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.

“sealed drainage system” in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- no liquids will run off the surface otherwise than via the system
- all liquids entering the system are collected in a sealed sump, except where liquids may be lawfully discharged to foul sewer.

“start up” is in relation to the incinerator, 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.

“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 means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from 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
- 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,
- in relation to emissions from CHP engine plant these limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas).

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

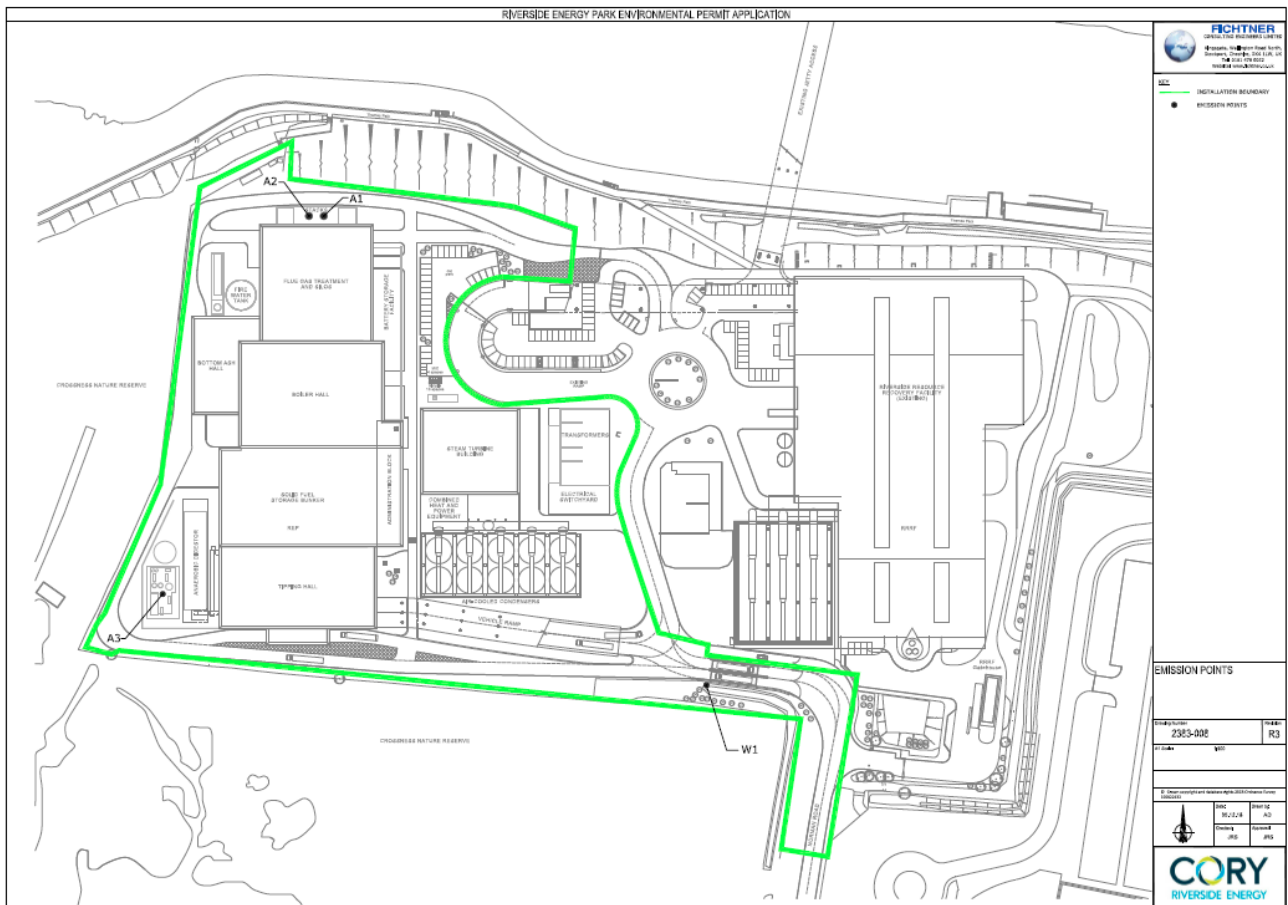
TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0003	-	-
Furans				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.03	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.3	0.5	1
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0003	0.0001	0.0001

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

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

Schedule 7 – Site plan



END OF PERMIT