Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Thalia AWRP ODC Limited

Allerton Waste Recovery Park
Allerton Park Quarry
Knaresborough
North Yorkshire
HG5 0SD

Variation application number

EPR/KP3808PN/V003

Permit number

EPR/KP3808PN

Allerton Waste Recovery Park
Permit number EPR/KP3808PN

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

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

The BAT Conclusions for Waste Treatment (the BREF) was published on 17 August 2018 following a European Union wide review of BAT, implementing decision (EU) 2018/1147 of 10 August 2018.

The scope of the permit review also covers the assessment of:

- the bioaerosols monitoring and compliance with M9 bioaerosols monitoring requirements;
- the design and construction of secondary containment and storage lagoons;
- the available storage facilities and measures to reduce ammonia emissions from storage; and
- information on existing medium combustion plant and/or specified generators on site.

The schedules specify the changes made to the permit. Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

Brief description of the process

This permit controls the operation of a waste incineration plant, anaerobic digestion plant and mechanical treatment plant. The relevant listed activities are S5.1 A1 (b) and S5.4 A(1)(b)(i). The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the installation are as follows:

Incineration Plant	
Furnace technology	Moving Grate
Number of lines	2
Principal waste type	Municipal /commercial & industrial waste
Stack height	70m
Permitted plant capacity	320,000 tonnes per year
Electrical generation capacity	31.99 MWe

Anaerobic Digestion Plant	
Permitted plant capacity	40,000 tonnes per year
Combustion Plant	2 x CHP gas engines
Stack height	2 x 26m stack
Electrical generation capacity	1.1MWe
Mechanical treatment Plant	
Permitted plant capacity	262,080 tonnes per year

Mechanical Treatment (MT) will process up to 262,080 tonnes per annum (tpa) of municipal solid waste (MSW). It enables recyclates to be extracted from the residual MSW, it feeds the incinerator and it extracts up to 40,000 tonnes of organic waste per annum which is transferred to the anaerobic digestion (AD) plant.

It utilises a series of physical separation techniques: Waste reception; sorting and treating waste using mobile plant and machinery; bulky trommel; sorting cabin; shredder; organic trommel; densimetric; ballistic; magnetic and eddy current separators; and X ray sorting.

The tipping and MT halls are maintained under a slight negative pressure to control odour, dust and litter. This is generally achieved by drawing air for combustion in the incineration plant. During periods when the incineration plant is not operational negative pressure is achieved by an air extraction system in the MT building which is released via a bag filter system and a 28 metre stack.

Incineration with a capacity of up to 320,000 tpa. It operates two lines, employs a mechanical moving grate and combusts the residual waste from the MT and AD plants along with commercial and industrial (C&I) waste. Approximately 31.99 MWe of electricity is generated by a steam turbine (DAA) which is fed by the steam generating boilers located at the exit of the flue gas from the main combustion chamber. The electricity is used at the facility and exported to the national grid.

Exhaust gases from incineration are treated by an air pollution control system that consists of Selective Non-Catalytic Reduction (SNCR) for oxides of nitrogen, hydrated lime (for acid gases), activated carbon (for dioxins, furans and mercury) and a multi-compartment fabric filter (for particulate matter, which will include metals and dioxins and furans).

Emissions from the incineration process are released via a 70 metre high stack. Continuous and periodic monitoring are undertaken for the flue gases in the stack as required by Chapter IV, Annex VI of the IED and the BAT conclusions.
Solid residues are sampled on a regular basis to assess bottom ash burnout and to monitor the levels of specified pollutants.

Anaerobic Digestion (AD) primarily processes the organic fraction of the incoming MSW from the MT plant. The biogas from the anaerobic digesters is combusted in two gas engines (DAA) to generate approximately 1.1 MWe of electricity, which is exported to the national grid. Digestate from the AD plant is combusted in the incinerator.

Exhaust gases from the two AD gas engines are released via two 26 metre high stacks. There is a flare for use in emergency situations and at start up and shut down, which has been designed to meet the same emissions standards. However emissions from the flare are not be routinely monitored.

Overall the Regulated Facility will recover 31.99 MWe of electrical energy from waste and is expected to require approximately 3.7 MWe of electricity to operate with the remaining 28.3 MWe being available for export to the national grid.

There are no releases of process effluents to water from the Regulated Facility. Uncontaminated surface water run off is collected in the attenuation pond and discharged via local tertiary and secondary watercourses to the Little Ouse.

To ensure effective management of the Regulated Facility a documented environmental management system (EMS) is in place which will become certified to the ISO:14001 standard.

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

Status log of the permit		
Description	**Date**	**Comments**
Application EPR/NP3034CG/A001	Duly made 27/06/12	
Notice requiring further information	23/08/12	06/09/12 (electronically) Air Dispersion Modelling
Resubmitted Noise Impact Assessment dated September 2012 and associated modelling files		12/10/12 (electronically)
Notice requiring further information	27/09/12	17/10/12 (electronically) Odour Management Plan
Notice requiring further information	09/11/12	10/12/12 (electronically) Additional BAT Assessment
Clarification of further information response received 10/12/12	Email sent 18/01/13	28/01/13 (electronically)
Permit Issued Permit EPR/NP3034CG	17/07/13	
Application EPR/KP3808PN/T001 (full transfer of permit EPR/NP3034CG)	Duly made 18/04/19	Application to transfer the permit in full to AmeyCespa (AWRP) ODC Limited
Transfer determined EPR/KP3808PN	12/07/19	Full transfer of permit complete.
Notified of change of Company Name	25/01/22	Name changed to Thalia AWRP ODC Limited
Variation issued EPR/KP3808PN/V002	05/07/22	Varied permit issued to Thalia AWRP ODC Limited
Regulation 61 notice issued	13/06/22	Regulation 61 Notice requiring information for Statutory review of permit. BAT Conclusions for Waste Incineration published 03 December 2019; and for Statutory review of permit occasioned by

Status log of the permit		
Description	**Date**	**Comments**
		Waste Treatment BAT Conclusions published on 17 August 2018.
Regulation 61 notice response	16/11/2022 & 03/05/2023	
Variation issued EPR/KP3808PN/V003	12/09/23	

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/KP3808PN

Issued to

Thalia AWRP ODC Limited ("the operator")

whose registered office is

3rd Floor 3-5 Charlotte Street
Manchester
England
M1 4HB

company registration number 9200149

to operate a regulated facility at

Allerton Waste Recovery Park
Allerton Park Quarry
Knaresborough
North Yorkshire
HG5 0SD

to the extent set out in the schedules.

The notice shall take effect from 12/09/2023

Name	Date
Principal Permitting Team Leader	**12/09/2023**

Authorised on behalf of the Environment Agency

Schedule 1

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

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/KP3808PN

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/KP3808PN/V003 authorising,

Thalia AWRP ODC Limited ("the operator"),

whose registered office is

3rd Floor 3-5 Charlotte Street
Manchester
England
M1 4HB

company registration number 9200149

to operate an installation at

Allerton Waste Recovery Park
Allerton Park Quarry
Knaresborough
North Yorkshire
HG5 0SD

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

Name	Date
Principal Permitting Team Leader	**12/09/2023**

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

(c) referenced in schedule 1, table S1.1 (AR1), from 03/12/2023, in accordance with a written other than normal operating conditions (OTNOC) management plan.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 The operator shall review the written management system at least every 3 years or otherwise as requested by the Environment Agency.

1.1.4 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.5 For the following activities referenced in schedule 1, table S1.1 (AR2) the operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

1.2.1 The operator shall:

(a) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities.

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

1.2.2 For the following activities referenced in schedule 1, table S1.1 (AR1), 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 For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall review the viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:

(a) new plans for significant developments within 15 km of the installation;

(b) changes to the Local Plan;

(c) changes to the UK CHP Development Map or similar; and

(d) new financial or fiscal incentives for CHP.

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

1.3 Efficient use of raw materials

1.3.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

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

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

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

2.1.2 For the following activities referenced in schedule 1, table S1.1 (AR2), 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.

2.1.3 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

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

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan , and shall implement the approved

revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3 and S2.4; and

(b) it conforms to the description in the documentation supplied by the producer or holder.

2.3.5 For the following activities referenced in schedule 1, table S1.1 (AR1), waste paper, metal, plastic or glass that has been separately collected for the purpose of preparing for re-use or recycling shall not be accepted. Waste from the treatment of these separately collected wastes shall only be accepted if incineration delivers the best environmental outcome in accordance with regulation 12 of the Waste (England and Wales) Regulations 2011.

2.3.6 For the following activities referenced in schedule 1, table S1.1 (AR1), separately collected fractions other than those listed in condition 2.3.5 shall not be accepted unless they are unsuitable for recovery by recycling.

2.3.7 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.8 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.3.9 For the following activities referenced in schedule 1, table S1.1 (AR1), waste shall not be charged if:

(a) the combustion chamber temperature is below 850 ^{o}C,

(b) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded during abnormal operation; or

(c) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or

(d) continuous emission monitors to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation; or

(e) there is a stoppage, disturbance or failure of the activated carbon abatement system, other than during abnormal operation.

(f) continuous emission monitors to demonstrate compliance with the emission limit values for particulates, TOC or CO in schedule 3 are unavailable unless alternative techniques, as agreed in writing with the Environment Agency, are used to demonstrate compliance with those emission limit values.

2.3.10 For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall record the beginning and end of each period of “abnormal operation”.

2.3.11 For the following activities referenced in schedule 1, table S1.1 (AR1), during a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as soon as possible.

2.3.12 For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall interpret the start of the period of “abnormal operation” as the earliest of the following:

(a) a technically unavoidable stoppage, disturbance, or failure of continuous emission monitors.

(b) a technically unavoidable stoppage, disturbance, or failure of the activated carbon abatement system

(c) Any other technically unavoidable stoppage, disturbance, or failure of the plant which is causing or could lead to an exceedance of an emission limit value in table S3.1.

2.3.13 For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:

(a) when the failed equipment is repaired and brought back into normal operation;

(b) when the operator initiates a shut down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;

(c) The failed equipment has not been repaired and brought back into normal operation and a single period of abnormal operation reaches a duration of 4 hours after the start of abnormal operation on an incineration line;

(d) Abnormal operation occurs on an incineration line and the cumulative duration of abnormal operation periods over 1 calendar year has reached 60 hours on that incineration line.

2.3.14 For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition 2.3.9 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.9 is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.

2.3.15 Bottom ash and APC residues shall not be mixed.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.1(a) and S3.1(b) 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 the following activities referenced in schedule 1, table S1.1 (AR1), wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.4. Additional samples shall be taken and tested and appropriate action taken, whenever:

(a) disposal or recovery routes change; or

(b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

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

3.2.1 The limits for emissions to air apply as follows:

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

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

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

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

- Carbon monoxide 10%
- Sulphur dioxide 20%
- Oxides of nitrogen (NO & NO_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) the average of valid half hourly averages or 10 minute averages over a calendar day excluding half hourly averages or 10 minute averages during periods of abnormal operation. The daily average value shall be considered valid if no more than five half-hourly average or fifteen 10-minute average values in any day have been determined not to be valid;

(e) no more than ten daily average values per year shall be determined not to be valid.

3.3 Emissions of substances not controlled by emission limits

3.3.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.3.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.3.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

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

3.4 Odour

3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Noise and vibration

3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.5.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring

3.6.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) point source emissions specified in tables S3.1, S3.1(a), S3.1(b) and S3.2;

(b) process monitoring specified in table S3.3 and S3.3(a);

(c) residue quality in table S3.4.

3.6.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and unless otherwise agreed in writing by the Environment Agency have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges. Newly installed Data handling and acquisition systems (DAHS), or DAHS replacing existing DAHS, shall have MCERTS certification.

3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.1(a), S3.1(b) and S3.2 unless otherwise agreed in writing by the Environment Agency.

3.7 Pests

3.7.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.7.2 The operator shall:

(a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;

(b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.8 Fire prevention

3.8.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.8.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;

(b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.8.3 For the following activities referenced in schedule 1, table S1.1 (AR2) the operator shall undertake a DSEAR assessment and maintain an accident management plan.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year using the annual report form specified in schedule 4, table S4.4 or otherwise in a format agreed with the Environment Agency. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production /treatment data set out in schedule 4 table S4.2;

(c) the performance parameters set out in schedule 4 table S4.3

(d) the functioning and monitoring of the incineration plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately:

(a) inform the Environment Agency,

(b) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(c) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately:

(a) inform the Environment Agency, and

(b) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

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

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

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

4.4 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 removal from site of waste arising. Including pre-treatment of waste for incineration in the mechanical treatment plant. Waste types and quantities as specified in Table S2.2 and S2.4 of this permit.
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 D8: Biological treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12	Anaerobic Digestion of organic wastes with a capacity of up to 9.1 tonnes per hour. From receipt of waste through to digestion and recovery of by-products (digestate). Anaerobic digestion of waste in 1 tank followed by burning of biogas produced from the process. Digestate resulting from this activity shall not be applied to land and shall only be incinerated on site. Waste types suitable for acceptance are limited to those specified in Table S2.3.
	Directly Associated Activities		
AR3	Electricity Generation associated with the incineration plant	Generation of 31.99 MWe electrical power using a steam turbine from energy recovered from the flue gases.	From receipt of the incineration flue gases to the supply of power.
AR4	Back up electrical generator associated with the incineration plant	For providing emergency electrical power to the plant in the event of supply interruption.	Emergency use to a maximum of 500 hours operation per year. Maximum of 50 hours testing per year.
AR5	Storage of waste pending recovery or disposal associated	R13: Storage of waste pending the operations numbered R1 and R3 (excluding	From the receipt of permitted waste to pre-treatment in Mechanical Treatment (MT) Plant and

	with the anaerobic digestion plant	temporary storage, pending collection, on the site where it is produced)	despatch for anaerobic digestion and incineration on site. Storage of residual wastes from pre-treatment to despatch off-site for recovery. Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system. Waste types suitable for acceptance are limited to those specified in Table S2.2 and S2.3.
AR6	Physical treatment for the purpose of recycling associated with the anaerobic digestion plant	R3: Recycling/reclamation of organic substances which are not used as solvents	From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery. Pre-treatment of waste in Mechanical Treatment (MT) Plant. in enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system including shredding, sorting, screening, compaction, baling, mixing and maceration. Waste types suitable for acceptance are limited to those specified in Table S2.2.
AR7	Steam and electrical power supply associated with the anaerobic digestion plant	R1: Use principally as a fuel to generate energy	From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases. Combustion of biogas in 2 combined heat and power (CHP) engines with an aggregated thermal input of 4.38MWth. Each CHP engine must be operated in accordance with the manufacturer's instructions and records must be made and retained to demonstrate this. The Operator must keep periods of start-up and shut-down of each engine as short as possible. Monitoring shall not take place during periods of start-up or shut-down. There must be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993.
AR8	Emergency flare operation associated with the anaerobic digestion plant	D10: Incineration on land	From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases. Use of 1 auxiliary flare(s) required only during periods of breakdown

			or maintenance of the CHP engines.
AR9	Raw material storage associated with the anaerobic digestion plant	Storage of raw materials including lubrication oil, antifreeze, propane, ferric chloride, activated carbon, diesel.	From the receipt of raw materials to despatch for use within the facility.
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)	Storage of biogas produced from on-site anaerobic digestion of permitted waste in a gas holder (bag type). From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.
AR11	Surface water collection and storage associated with the anaerobic digestion plant and incineration plant	Collection and storage of uncontaminated roof and site surface water in an attenuation pond.	From the collection of uncontaminated roof and site surface water from non-operational areas only to discharge off-site.
AR12	Air treatment associated with the anaerobic digestion plant	Collection and treatment of air from the buildings or plant using abatement system prior to release to atmosphere.	From the collection of air from site processes to treatment and release of treated air to atmosphere.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	Application Supporting Information Section 1.3.1 – Mechanical Treatment Plant Section 1.3.2 – Anaerobic Digestion Plant Section 1.3.3 – Biogas Combustion Plant Section 1.3.4 - Energy from Waste Plant (incinerator) Section 1.3.5 – Incinerator Bottom Ash Processing Facility Section 1.3.6 – Installation Wide Issues Section 2.8 – Waste Recovery and Disposal Section 3- Waste Incineration Directive (IED)	Duly Made Date 27/06/12
Resubmitted Noise Impact Assessment, dated September 2012.	Part 7 – Noise and Vibration Mitigation	12/10/12
Response to regulation 61 notice	Operating techniques as set out in the response to the regulation 61 notice; and additional information submitted in response to request made on 16/03/2023.	16/11/2022 & 03/05/2023

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall perform a study to determine the extent to which the operation of the current systems in place at the plant to minimise NOx emissions can be further optimised such that emissions are reduced as far as possible below 180 mg/Nm^3 as a daily average, without significantly increasing emissions of other pollutants or having a significant negative effect on plant operation, reliability or bottom ash quality. The study shall be based on the results of trials carried out at the installation and shall have regard to the recommendations for test conditions set out in Section 5.4.3 of report titled 'Establishing factors that influence NOx reduction at waste incineration plant to levels below the upper end of the BAT-AELs' (dated 14/01/2022), or other methodology agreed in writing with the Environment Agency. A written report of the study shall be submitted to the Environment Agency for approval which shall include but not necessarily be limited to the following: • A brief description of the currently installed measures at the installation to minimise NOx emissions, including details of how the reagent dosing system responds to emissions monitoring data and historic data which illustrates the current achievable level of daily NOx emissions. • The results of trials conducted to further reduce daily average NOx emissions using currently installed measures, including: o a description of the parameters that were varied during the trial e.g. ammonia or urea feed rates, physical form of urea injected, air flows, and the range over which they were varied o the levels of NOx achieved and associated levels of ammonia and nitrous oxide emissions and reagent consumption o observed effects and predicted long-term impacts on plant operation, reliability and maintenance regime o any changes to the composition of the bottom ash and boiler ash and the implications of those changes for the ability to process and use the ash, as well as for the pollution potential of the ash both during processing and its subsequent use as a secondary aggregate o any other relevant cross-media effects The report shall also include a description of the extent to which current systems in place at the plant to minimise NOx emissions can be optimised on a permanent basis, including justification and an implementation plan where relevant.	12/03/24
IC2	For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall submit a report to the Environment Agency for approval on whether waste feed to the plant can be proven to have a low and stable mercury content. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic mercury emissions monitoring data and have regard to the Environment Agency Mercury Monitoring Protocol.	30/09/23

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC3	For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall submit a report to the Environment Agency for approval on whether dioxin emissions to air are stable. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic dioxin emissions monitoring data and have regard to the Environment Agency Dioxins Monitoring Protocol.	30/09/23
IC4	For the following activities referenced in schedule 1, table S1.1 (AR1), the operator shall calculate the gross electrical efficiency using the method set out in the general considerations section of the BAT conclusions and submit details of the calculation to the Environment Agency. [The calculation shall use the R1 efficiency status, boiler efficiency determination guidance (or other methodology as agreed in writing with the Environment Agency) to calculate boiler efficiency which can then be used to calculate Qth. Where the calculated gross electrical efficiency is below the range specified in BAT 20 of the BAT conclusions, the operator shall carry out an assessment of the opportunities to increase the energy efficiency of the installation. The assessment shall include but not necessarily be limited to: • Improvements that could be made to the furnace (including control systems) in order to increase the amount of thermal energy produced per unit of thermal energy in the waste. • Where relevant, improvements that could be made to the steam system and related components to allow a greater quantity of electricity to be generated per unit of thermal energy in the steam. • Improvements in the heat and electrical efficiency of the plant's ancillary systems that could be made in order to reduce the heat and electrical loads of the plant. • Where relevant, an implementation plan for the improvements identified, including the anticipated increase in the gross and/or net electrical efficiency of the plant which would be achieved. A written copy of the assessment shall be submitted to the Environment Agency for approval.	12/09/24
IC5	For the following activities referenced in schedule 1, table S1.1 (AR2), the operator shall submit a written 'primary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a qualified engineer, and shall assess the extent design specification and condition of primary containment systems where polluting liquids and solids are being stored, treated, and/or handled. The plan shall include: • an assessment of the physical condition of all primary containment systems (storage and treatment vessels) using a Written Scheme of Examination and their suitability for providing primary containment when subjected to the dynamic and static loads caused by catastrophic tank failure; • a program of works with timescales for the implementation of individual improvement measures necessary to demonstrate that the primary containment is fit for purpose or alternative	12/09/24 or other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	appropriate measures to ensure all polluting materials will be contained on site; and • a preventative maintenance and inspection regime The plan shall be implemented in accordance with the Environment Agency's written approval.	
IC6	For the following activities referenced in schedule 1, table S1.1 (AR2), the operator shall submit a written 'secondary and tertiary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a competent structural engineer, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of secondary and tertiary containment systems where all polluting liquids and solids are being stored, treated, and/or handled. The inspection shall consider, but not be limited to, the storage vessels, bunds, loading and unloading areas, transfer pipework/pumps, temporary storage areas, and liners underlying the site. The plan shall include: • an assessment of the physical condition of all secondary and/or tertiary containment systems, using a Written Scheme of Examination and their suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure; • a program of works with timescales for the implementation of individual improvement measures necessary for the secondary and/or tertiary containment systems to comply with CIRIA C736 (2014) guidance, or equivalent. • a preventative maintenance and inspection regime The plan shall be implemented in accordance with the Environment Agency's written approval.	12/09/24 or other date as agreed in writing with the Environment Agency
IC7	For the following activities referenced in schedule 1, table S1.1 (AR2), the operator shall carry out a review of the abatement plant on site, in order to determine whether the measures have been effective and adequate to prevent and where not possible minimise emissions released to air including but not limited to odour and ammonia. The operator shall submit a written report to the Environment Agency following this review for assessment and approval. The report shall include but not limited to the following aspects: • Full investigation and characterisation of the waste gas streams. • Abatement stack monitoring results (not limited to odour and ammonia) • Abatement process monitoring results (not limited to odour and ammonia)	12/09/24 or other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	• Details of air quality quantitative impact assessment including modelling and a proposal for site-specific “action levels” (not limited to odour concentration, hydrogen sulphide and ammonia). • Odour monitoring results at the site boundary • Records of odour complaints and odour related incidents • Recommendations for improvement including the replacement or upgrading the abatement plant • Timescales for implementation of improvements to the abatement plant The operator shall implement the improvements in line with the timescales as approved by the Environment Agency.	
IC8	For the following activities referenced in schedule 1, table S1.1 (AR2), the operator shall establish the methane emissions in the exhaust gas from engines burning biogas and compare these to the manufacturer’s specification and benchmark levels agreed in writing with the Environment Agency. The operator shall, as part of the methane leak detection and repair (LDAR) programme, develop proposals to assess the potential for methane slip and take corrective actions where emissions above the manufacturer’s specification or appropriate benchmark levels are identified.	12/09/24 or other date as agreed in writing with the Environment Agency

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 Mechanical Treatment (MT) plant	
Maximum quantity	The quantity of wastes accepted at the MT plant shall not exceed 262,080 tonnes a year. **The waste incineration plant can also directly accept all the wastes listed in this Table with the exception of waste codes:** **15 01 04, 15 01 07, 19 10 01, 19 10 02, 20 01 02 and 20 01 40.**
Waste code	**Description**
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 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
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
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/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 wastes
19 05 03	off-specification compost
19 10	**wastes from shredding of metal-containing wastes**

Table S2.2 Permitted waste types and quantities for the Mechanical Treatment (MT) plant	
Maximum quantity	The quantity of wastes accepted at the MT plant shall not exceed 262,080 tonnes a year. **The waste incineration plant can also directly accept all the wastes listed in this Table with the exception of waste codes:** **15 01 04, 15 01 07, 19 10 01, 19 10 02, 20 01 02 and 20 01 40.**
Waste code	**Description**
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
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
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
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

Table S2.3 Permitted waste types and quantities for the Anaerobic Digestion (AD) plant	
Maximum quantity	The quantity of wastes accepted for treatment by Anaerobic Digestion shall not exceed 40,000 tonnes a year.
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 02	animal tissue waste
02 01 03	plant tissue waste
02 01 06	animal faeces, urine and manure (including spoiled fully biodegradable animal bedding)
02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 02	animal tissue waste
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 (including waste from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 05	**wastes from the dairy products industry**
02 05 01	materials unsuitable for consumption or processing – biodegradable wastes derived from the processing of dairy products only
03	**WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD**
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 08	wastes from sorting of paper and cardboard destined for recycling
04	**WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES**
04 02	waste from the textile industry
04 02 01	organic matter from natural products, e.g. grease, wax

Table S2.3 Permitted waste types and quantities for the Anaerobic Digestion (AD) plant	
Maximum quantity	The quantity of wastes accepted for treatment by Anaerobic Digestion shall not exceed 40,000 tonnes a year.
Waste code	**Description**
19	**WASTE 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 the 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 wastes
19 06	**waste from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of source segregated biodegradable waste (from a process that accepts wastes which are listed in this table only) and made up of previously pasteurised and stabilised batches only
19 06 06	digestate from anaerobic treatment of animal and vegetable waste (previously digested sewage sludge only)
19 08	**waste from wastewater treatment works**
19 08 09	grease and oil mixture from oil/water separation containing only edible oil 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 (excluding veneers, plastic coatings or laminates) meeting EN 13432 or equivalent certified compostable or digestible packaging only
20 01 08	biodegradable kitchen and canteen waste containing compostable plastics meeting EN 13432 or equivalent certified compostable or digestible packaging (Category 3 ABPR waste only)
20 01 25	edible oil and fat
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste

Table S2.3 Permitted waste types and quantities for the Anaerobic Digestion (AD) plant	
Maximum quantity	The quantity of wastes accepted for treatment by Anaerobic Digestion shall not exceed 40,000 tonnes a year.
Waste code	**Description**
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	waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

Table S2.4 Permitted waste types and quantities for the Waste Incineration plant	
Maximum quantity	The quantity of wastes accepted for incineration shall not exceed 320,000 tonnes a year. **The waste incineration plant can also directly accept all the wastes listed in Table S2.2 with the exception of waste codes:** **15 01 04, 15 01 07, 19 10 01, 19 10 02, 20 01 02 and 20 01 40.**
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 01 09	agrochemical waste other than those mentioned in 02 01 08
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 06 02	wastes from preserving agents
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

Table S2.4 Permitted waste types and quantities for the Waste Incineration plant	
Maximum quantity	The quantity of wastes accepted for incineration shall not exceed 320,000 tonnes a year. **The waste incineration plant can also directly accept all the wastes listed in Table S2.2 with the exception of waste codes:** **15 01 04, 15 01 07, 19 10 01, 19 10 02, 20 01 02 and 20 01 40.**
Waste code	**Description**
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 01	waste bark and wood
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 02	**wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 13	waste plastic
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 09	textile packaging
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 01	**End-of-life vehicles and their components**
16 01 19	plastic
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
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 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09 wastes from aerobic treatment of solid wastes
19 06	**wastes from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of municipal waste

Table S2.4 Permitted waste types and quantities for the Waste Incineration plant	
Maximum quantity	The quantity of wastes accepted for incineration shall not exceed 320,000 tonnes a year. **The waste incineration plant can also directly accept all the wastes listed in Table S2.2 with the exception of waste codes:** **15 01 04, 15 01 07, 19 10 01, 19 10 02, 20 01 02 and 20 01 40.**
Waste code	**Description**
19 06 06	digestate from anaerobic treatment of animal and vegetable wastes
19 12	**waste from the mechanical treatment of waste(e.g. sorting crushing, compacting, palletising) 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**
20 01	**separately collected fractions (except 15 01)**
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29
20 01 32	medicines other than those mentioned in 20 01 31
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
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 41	wastes from chimney sweeping
20 03	**other municipal wastes**
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (activity AR1 Incineration Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A2 & A3 as marked on the plan showing emission points to air in Schedule 7	Particulate matter	Incineration exhausts gases	30 mg/m^3	½-hr average	Continuous	EN 14181
	Particulate matter		10 mg/m^3 Until 02/12/2023	daily average	Continuous	EN 14181
			5 mg/m^3 from 03/12/2023			
	Total Organic Carbon (TOC)		20 mg/m^3	½-hr average	Continuous	EN 14181
	Total Organic Carbon (TOC)		10 mg/m^3	daily average	Continuous	EN 14181
	Hydrogen chloride		60 mg/m^3	½-hr average	Continuous	EN 14181
	Hydrogen chloride		10 mg/m^3 Until 02/12/2023	daily average	Continuous	EN 14181
			8 mg/m^3 from 03/12/2023			
	Hydrogen fluoride		2 mg/m^3 until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	CEN TS 17340
			1 mg/m^3 from 03/12/2023			

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (activity AR1 Incineration Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	Carbon monoxide		100 mg/m^3	½-hr average	Continuous	EN 14181
	Carbon monoxide		50 mg/m^3	daily average	Continuous	EN 14181
	Sulphur dioxide		200 mg/m^3	½-hr average	Continuous	EN 14181
	Sulphur dioxide		50 mg/m^3 Until 02/12/2023	daily average	Continuous	EN 14181
			40 mg/m^3 from 03/12/2023			
	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		400 mg/m^3	½-hr average	Continuous	EN 14181
	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		200 mg/m^3 Until 02/12/2023	daily average	Continuous	EN 14181
			180 mg/m^3 from 03/12/2023			
	Cadmium & thallium and their compounds (total)		0.05 until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 14385
			0.02 mg/m^3 from 03/12/2023			
	Mercury and its compounds		0.05 mg/m^3 until 02/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually until 02/12/2023	BS EN 13211

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (activity AR1 Incineration Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	Mercury and its compounds		0.02 mg/m^3 from 03/12/2023 Limit does not apply if continuous monitoring has been specified by the Environment Agency	Average of three consecutive measurements of at least 30 minutes each	Bi-annually from 03/12/2023 Not required if continuous monitoring has been specified by the Environment Agency	BS EN 13211
	Mercury and its compounds		0.02 mg/m^3 from 03/12/2023	Daily average	Continuous from 03/12/2023 Not required unless continuous monitoring has been specified by the Environment Agency in line with sampling protocol	EN 14181
	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)		0.5 mg/m^3 Until 02/12/2023 0.3 mg/m^3 from 03/12/2023	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 14385
	Exhaust gas temperature		No limit set	-	Continuous	Traceable to national standards
	Exhaust gas pressure		No limit set	-	Continuous	Traceable to national standards

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (activity AR1 Incineration Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	Exhaust gas flow		No limit set	-	Continuous	BS EN 16911-2
	Exhaust gas oxygen content		No limit set	-	Continuous	EN 14181
	Exhaust gas water vapour content		No limit set	-	Continuous	EN 14181
	Ammonia (NH_3)		No limit Until 02/12/2023	½-hr average and /or daily average	Continuous Until 02/12/2023	BS EN 14181 BS EN 15267-3
			15 mg/m^3 from 03/12/2023	daily average	Continuous from 03/12/2023	EN 14181
	Nitrous oxide (N_2O)		No limit set	½-hr average and daily average	Continuous	EN 14181
	Carbon dioxide		No limit set	Continuous	Continuous	EN 14181
	Dioxins / furans (I-TEQ)		0.1 ng/m^3 Until 02/12/2023	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually until 02/12/2023	BS EN 1948 Parts 1, 2 and 3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (activity AR1 Incineration Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	Dioxins / furans (I-TEQ)		0.06 ng/m^3 from 03/12/2023 and 0.08 ng/m^3 if long term limit is specified by the Environment Agency in line with sampling protocol from 03/12/2023	periodic over minimum 6 hours, maximum 8 hour period and value over sampling period of 2 to 4 weeks for long term sampling	Bi-annually from 03/12/2023 and long term sampling if specified by the Environment Agency in line with sampling protocol from 03/12/2023	EN 1948 Parts 1, 2 and 3 and CEN TS 1948-5 if specified by the Environment Agency in line with sampling protocol
	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	EN 1948 Parts 1, 2 and 4
	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948 Parts 1, 2 and 3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (activity AR1 Incineration Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	Polybrominated dibenzo-dioxins and furans		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	Method based on procedural requirements of EN 1948
	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Annually	BS ISO 11338 Parts 1 and 2.
A6 as marked on the plan showing emission points to air in Schedule 7	Carbon monoxide	Back-up electrical generator	No limit set	In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5)	Every 1500 hours of operation or once every five years (whichever comes first) from 01/01/2030	In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5)

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**
A2 & A3 as marked on the plan showing emission points to air in Schedule 7	Particulate matter	Incineration exhausts gases	150 mg/m^3	½-hr average	Continuous	EN 14181 or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor
	Total Organic Carbon (TOC)		20 mg/m^3	½-hr average	Continuous	EN 14181 or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor
	Carbon monoxide		100 mg/m^3	½-hr average	Continuous	EN 14181 or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor

Table S3.1(b) Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1 as marked on the plan showing emission points to air in Schedule 7	No parameters set	Channelled emissions from Mechanical Treatment building stack	No limit set	-	-	-
A4 & A5 as marked on the plan showing emission points to air in Schedule 7	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	Gas Engine exhausts gases (Note 1)	500 mg/m^3	Average over sample period	Annual	BS EN 14792
	Carbon monoxide		1400 mg/m^3			BS EN 15058
	Sulphur dioxide		350 mg/m^3 [note 2]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur content
			162 mg/m^3 [note 3]			
	Total VOCs		No limit set			BS EN 12619
A7 as marked on the plan showing emission points to air in Schedule 7	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	Emergency flare stack [note 4]	150 mg/m^3	Average over sample period	[note 5]	BS EN 14792
	Carbon monoxide		50 mg/m^3			BS EN 15058
	Total VOCs		10 mg/m^3			BS EN 12619

Table S3.1(b) 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)**
Pressure relief valves	Digesters/Digestate storage tank(s)	Biogas release and operational events	No limit set	Recorded duration and frequency	Daily inspection	--
Vents from tank(s)	Oil/Fuel Storage tank(s)	No parameter set	No limit set	--	--	--
Note 1 – These emission limits are based on normal operating conditions and load - temperature 0°C (273 K); pressure 101.3 kPa and oxygen 5% (for gas engines burning biogas) and oxygen 3% (for medium combustion plants other than engines and gas turbines burning biogas). Note 2 – This emission limit applies until 31 December 2029, unless the gas engine is replaced. Note 3 – This emission limit applies from 1 January 2030, unless otherwise advised by the Environment Agency. Note 4 – These emission limits are based on normal operating conditions and load - temperature 0°C (273K); pressure 101.3 kPa and oxygen 3%. Note 5 – Monitoring to be undertaken in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted annually to the Environment Agency.						

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	Uncontaminated Surface water	No parameters set	-	-	-	-

Table S3.3 Process monitoring requirements for incineration plant				
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	Continuous	Anemometer	
Location close to the Combustion Chamber inner wall or as identified and justified in Application.	Temperature (° C)	Continuous	Traceable to national standards	As agreed in writing with the Agency.
Incineration plant	Gross electrical efficiency	within 6 months of any modification that significantly affects energy efficiency	Performance test at full load or other method as agreed in writing with the Environment Agency	

Table S3.3(a) Process monitoring requirements for anaerobic digestion				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Digester feed (digestion process)	pH	As described in site operating techniques	As described in site operating techniques	Process monitoring to be recorded using a SCADA system where relevant.
	Alkalinity			
	Temperature			
	Organic loading rate			
	Volatile fatty acids concentration			
	Ammonia			
	Liquid /foam level			
Biogas in digester	Flow	Continuous	In accordance with EU	Process monitoring to be

Table S3.3(a) Process monitoring requirements for anaerobic digestion				
			weights and measures Regulations	recorded using a SCADA system where relevant. Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	Methane	Continuous	None specified	
	CO_2	Continuous	None specified	
	O_2	Continuous	None specified	
	Hydrogen sulphide	Daily	None specified	
	Pressure	Continuous	None specified	
Digestate	Volatile fatty acids concentration	As described in site operating techniques	As described in site operating techniques	--
	Ammonia			
Digester and storage tanks	Integrity checks	Weekly	Visual assessment	In accordance with design specification and tank integrity checks.
Digester	Agitation /mixing	Continuous	Systems controls	Records maintained in daily operational records.
	Tank capacity and sediment assessment	Once every 5 years from date of commission	Non-destructive pressure testing integrity assessment every 5 years or as specified by manufacturers technical specification.	In accordance with design specification and tank integrity checks.
Waste reception building or area; Digester(s) and storage tank(s)	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.

Table S3.3(a) Process monitoring requirements for anaerobic digestion				
Diffuse emissions from all sources identified in the Leak Detection and Repair (LDAR) programme	VOCs including methane	Every 6 months or otherwise agreed in accordance with the LDAR programme	BS EN 15446 In accordance with the LDAR programme	Monitoring points as specified in a DSEAR risk assessment and LDAR programme. Limit as agreed with the Environment Agency as a percentage of the overall gas production.
CHP engine stacks	VOCs including methane	Annually	BS EN 12619	Total annual VOCs emissions from the CHP engine(s) to be calculated and submitted to the Environment Agency.
	Exhaust gas temperature		Traceable to National Standards	
	Exhaust gas pressure		Traceable to National Standards	
	Exhaust gas water vapour content		BS EN 14790-1	Unless gas is dried before analysis of emissions.
	Exhaust gas oxygen		BS EN 14789	
	Exhaust gas flow		BS EN 16911-1	
Meteorological conditions	Wind speed, air temperature, wind direction	Continuous	Method as specified in management system	Conditions to be recorded in operational diary and records. Equipment shall be calibrated on a 4 monthly basis, in accordance

Table S3.3(a) Process monitoring requirements for anaerobic digestion				
				with manufacturer's recommendations or as agreed in writing by the Environment Agency.
Emergency flare	Operating hours	Continuous	Recorded duration and frequency. Recording using a SCADA system or similar system	Date, time and duration of use of auxiliary flare shall be recorded.
	Quantity of gas sent to emergency flare			Quantity can be estimated from gas flow composition, heat content, ratio of assistance, velocity, purge gas flow rate, pollutant emissions.
Pressure relief valves and vacuum systems	Gas pressure	Continuous	Recording using a SCADA system	Continuous gas pressure shall be monitored.
	Re-seating	Weekly inspection	Visual	Operator must ensure that valves are re-seated after release in accordance with the manufacturer's design.
	Inspection, maintenance, calibration, repair and validation	Following foaming or overtopping or at 3 yearly intervals whichever is sooner	Written scheme of examination in accordance with condition 1.1.1	After a foaming event or sticking, build-up of debris, obstructions or damage, operator must ensure that pressure relief valve function remains within designed gas pressure in accordance with the

Table S3.3(a) Process monitoring requirements for anaerobic digestion				
				manufacturer's design by suitably trained and qualified personnel.
	Inspection, calibration and validation report	In accordance with design and construction specifications or after over topping or foaming event	Written scheme of examination in accordance with condition 1.1.1	Operator must ensure that valves are re-seated after release, after a foaming event or sticking, build-up of debris, obstructions or damage. Operator must ensure that PRV function remains within designed operation gas pressure in accordance with the manufacturer's design by suitably trained/qualified personnel. Inspection, calibration and validation report. In accordance with industry Approved Code of Practice
Storage tanks	Volume	Daily	Visual or flow metre measurement	Records of volume must be maintained.

Table S3.4 Residue quality					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method ***	**Other specifications**
Bottom Ash	TOC or otherwise as agreed in writing with the Environment Agency	3% or otherwise as agreed in writing with the Environment Agency	Quarterly	EN 14899 and either EN 15169 or EN 15935 or otherwise as agreed in writing with the Environment Agency	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'
Bottom Ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
APC Residues	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

Table S3.4 Residue quality					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method ***	**Other specifications**
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 3.6.1.	A2 & A3 A4 & A5	Quarterly Annually	1 Jan, 1 Apr, 1 Jul and 1 Oct 1 Jan
TOC or otherwise as agreed in writing with the Environment Agency Parameters as required by condition 3.6.1	Bottom Ash	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.6.1	Bottom Ash	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.6.1	Bottom Ash	Before use of a new disposal or recycling route	
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.6.1	APC Residues	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.6.1	APC Residues	Before use of a new disposal or recycling route	
Process monitoring – digester tank integrity Parameters as required by condition 3.6.1	As specified in schedule 3 table S3.3(a)	Every 5 years from the date of commissioning or as per the manufacturer's recommendation,	1 January

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
		whichever is sooner	
Process monitoring – under and over pressure relief systems Parameters as required by condition 3.6.1	As specified in schedule 3 table S3.3(a)	Every 12 months Yearly summary report of over-pressure and under-pressure events detailing mass balance release	1 January
Process monitoring – leak detection and repair (inspection, calibration and maintenance) Parameters as required by condition 3.6.1	As specified in schedule 3 table S3.3(a)	Every 3 years	1 January
Process monitoring – use of emergency flare Parameters as required by condition 3.6.1	As specified in schedule 3 table S3.3(a)	Every 12 months	1 January
Total annual VOCs emissions from gas engines (calculated)	As specified in schedule 3 table S3.3(a)	Every 12 months	1 January

Table S4.2: Annual production/treatment	
Parameter	**Units**
Incineration Plant	
Total Municipal Waste Incinerated	tonnes
Total Commercial and industrial Waste Incinerated	tonnes
Thermal energy produced e.g. steam for export	kWh
Electrical energy exported	kWh
Electrical energy used on installation	kWh
Waste heat utilised by the installation	kWh
Anaerobic Digestion Plant	
Total waste treated in the anaerobic digestion plant	tonnes
Electricity generated	MWh
Biomethane generated	tonnes or m^3
Whole digestate	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Incineration Plant		
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
Urea consumption	Annually	kg / tonne of waste incinerated
Activated Carbon consumption	Annually	kg / tonne of waste incinerated
Lime consumption	Annually	kg / tonne of waste incinerated
Water consumption	Annually	kg / tonne of waste incinerated
Periods of abnormal operation	Annually	No of occasions and cumulative hours for current calendar year for each line.
Anaerobic Digestion Plant		
Water usage	Annually	tonnes or m^3
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m^3
Emergency flare operation	Annually	hours
Electricity exported	Annually	MWh
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Incineration Plant		
Annual report required by condition 4.2.2	Annual performance report template	-
Emissions to air until 02/12/2023	Form air 1-8 or other form as agreed in writing by the Environment Agency	2013
Emissions to air from 03/12/2023	Forms air 1-9 (Activity AR1) or other forms as agreed in writing by the Environment Agency	12/09/23
Residue quality	Form residue 1 and 2 (Activity AR1) or other form as agreed in writing by the Environment Agency	12/09/23
Other performance indicators	Form performance 1 (Activity AR1) or other form as agreed in writing by the Environment Agency	12/09/23
Anaerobic Digestion Plant		
Air	Form air 1 (Activity AR2) or other form as agreed in writing by the Environment Agency	12/09/23
Process monitoring	Form process 1 (Activity AR2) or other form as agreed in writing by the Environment Agency	12/09/23
Water usage	Form water usage 1 (Activity AR2) or other form as agreed in writing by the Environment Agency	12/09/23
Energy usage	Form energy 1 (Activity AR2) or other form as agreed in writing by the Environment Agency	12/09/23
Other performance indicators	Form performance 1 (Activity AR2) or other form as agreed in writing by the Environment Agency	12/09/23
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 breach of permit conditions not related to limits	
To be notified within 24 hours of detection	
Condition breached	
Date, time and duration of breach	
Details of the permit breach i.e. what happened including impacts observed.	
Measures taken, or intended to be taken, to restore permit compliance.	

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

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

“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.

“APC residues” means air pollution control residues

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

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

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

“Biodegradable” means a material is capable of undergoing biological anaerobic or aerobic degradation leading to the production of CO_2, H_2O, methane, biomass, and mineral salts, depending on the environmental conditions of the process.

“bottom ash” means ash falling through the grate or 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. Further guidance ‘RGN2: Understanding the meaning of regulated facility Definition of regulated facility’ is available.

“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.

“CEM” Continuous emission monitor

“CEN” means Commité Européen de Normalisation

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

“combined heat and power” (CHP) or Cogeneration means the simultaneous generation in one process of thermal energy and electrical or mechanical energy.

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

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

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

“diffuse emissions” mean non-channelled emissions (e.g. of dust, organic compounds, odour) which can result in ‘area’ sources (e.g. tanks) or ‘point’ sources (e.g. pipe flanges). This also includes emissions from open-air windrow composting.

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

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

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

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

“existing medium combustion plant” means an MCP which was put into operation before 20 December 2018.

“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 lll of the Waste Framework Directive

“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 by 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.

“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, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“new medium combustion plant” means an MCP which was put into operation after 20 December 2018. This includes replacement MCP and Generators.

“operational area” means any part of a facility used for the handling, storing and treatment of waste.

“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.

“Pests” means Birds, Vermin and Insects.

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

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

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

“specified generator” means a group of generators other than excluded between 1 and 50 megawatts or less than 50 megawatts as defined in Schedule 25B(2) of SI 2018 No.110 of the EPR.

“stabilisation stage” means the stage of composting following sanitisation, during which biological conditions in the composting mass, give rise to compost that is nominally stable. “stable, stabilised” means the degree of processing and biodegradation at which the rate of biological activity has slowed to an acceptably low and consistent level and will not significantly increase under favourable, altered conditions.

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

“shut down” is any period where the plant is being returned to a non-operational state as described in the application or as 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

“year” means calendar year ending 31 December.

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

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

(a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or

(b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

(c) in relation to gases from 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,

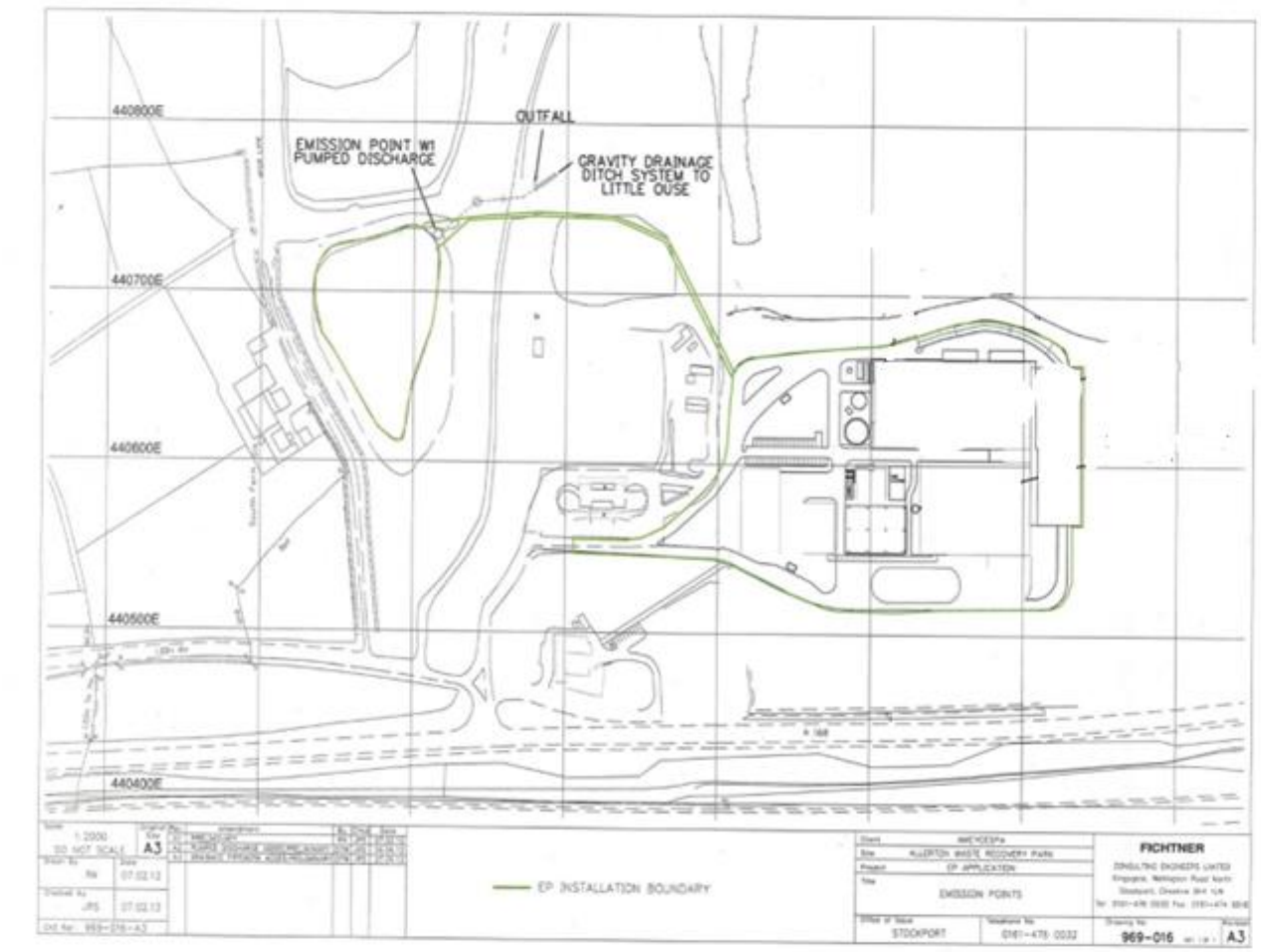
(d) In relation to gases from gas engines, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 5% dry.

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

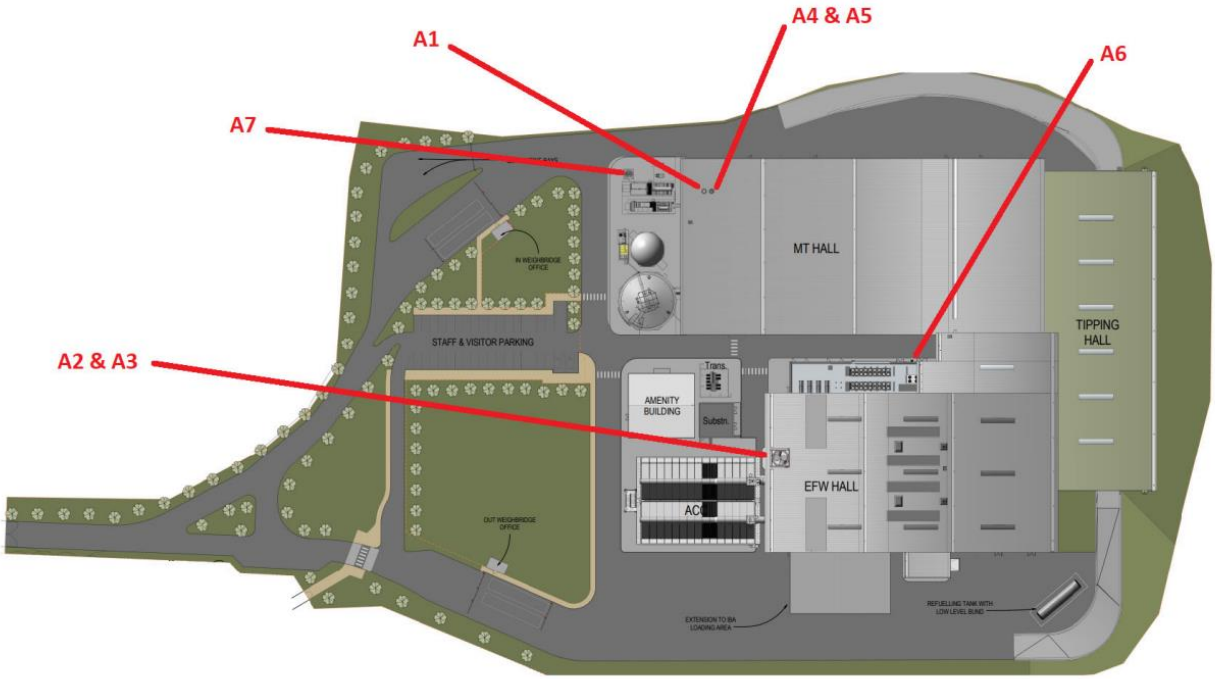
TEF schemes for dioxins and furans				
Congener	**I-TEF**	**WHO-TEF**		
	1990	**2005**	**1997/8**	
		Humans / Mammals	**Fish**	**Birds**
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
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
3,3',4,4',5,5'-HxCB(169)	0.03	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

Schedule 7 – Site plan



Plan showing emission points to air



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