Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Thalia MK ODC Limited

Milton Keynes Waste Recovery Park
9 Dickens Road
Old Wolverton
Milton Keynes
MK12 5QF

Variation application number

EPR/HP3323PW/V002

Permit number

EPR/HP3323PW

Milton Keynes Waste Recovery Park
Permit number EPR/HP3323PW

Introductory note

This introductory note does not form a part of the notice

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

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

The 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 and waste treatment plant consisting of mechanical treatment, anaerobic digestion and in-vessel composting. The relevant listed activities are Section 5.1 Part A(1)(b) and Section 5.4 Part A(1)(b)(i). The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the incineration plant are as follows:

Incineration Plant	
Furnace technology	Gasification
Number of lines	2
Principal waste type	Municipal and commercial & industrial waste
Stack height	55m
Incineration Permitted plant capacity	94,000 tonnes per year

Electrical generation capacity	7MWe
Anaerobic Digestion Plant & In-vessel composting plant	
Permitted plant capacity	36,000 tonnes
Combustion Plant	2 x CHP gas engines
Stack height	2 x 26m stacks
Electrical generation capacity	1MWe

The main features of the Installation are as follows:

Advanced thermal treatment (ATT) of waste by gasification classified as a 5.1 Part A(1)(b) activity comprises of the following processes.

A Mechanical Treatment (MT) plant processes up to 140,000 tonnes per annum (tpa) of municipal, industrial and commercial residual waste. It enables recyclates to be removed from the waste, it feeds the ATT process and extracts up to 36,000 tonnes of organic waste per annum which is transferred to the onsite anaerobic digestion (AD) and in-vessel composting (IVC) plant. It utilises a series of physical separation techniques: Waste reception; trommels; shredding; ballistic separation; near infra-red separation; air knives; magnetic separation and use of manual pickers.

Air from the dust filter units from the MT waste reception and tipping halls is extracted to two carbon filter units to control odour. Negative pressure is maintained within the MT hall to limit the release of fugitive emissions including odour.

The Advanced thermal treatment by gasification processes up to 94,000 tpa. The plant consists of two lines of ATT which thermally treats waste to produce syngas through gasification, which is combusted to generate high temperature steam which in turn drives a turbine to produce electricity.

Refuse derived fuel (RDF) is conveyed into the fuel bunker from the MT, both from treatment of residual, commercial and industrial wastes within the MT, and from direct delivery of RDF from third party waste providers. Material from the bunker is mixed before loading as fuel to achieve a consistent quality. The fuel hopper, located at the edge of the fuel bunker, provides fuel to the plunge feeders, and the plunge feeders push the fuel under the guillotine and into the gasification chamber.

The RDF is moved along the grate at the bottom of the gasification chamber by duplex feeders. As the fuel moves towards the ash transport system it is dried and gasified. Any remaining solids (bottom ash) are discharged into a bottom ash quench bath.

The syngas produced in the gasification process flows into the oxidation chamber. The oxidation chamber is designed to ensure a residence time greater than two seconds at a temperature of above 850°C.

Following the oxidation of the syn-gas, flue gas at approximately 950°C, flows around the outside of the tubes in the water tube boiler. The flue gas then flows through the tubes for two passes through the smoke tube boiler. Finally the flue gas flows around the outside of the tubes in the economiser. The flue gas leaving the economiser is approximately 150°C.

The steam turbine and condenser system produces electricity from the steam generated in the heat recovery and steam generation system. There is one turbine system for the two ATT lines. Approximately 7.0 MWe of electricity is generated by a steam turbine which is fed by the steam generating boiler. The electricity is used at the facility and also exported to the national grid.

Exhaust gases from ATT are treated by an air pollution control system that consists of flue gas recirculation to reduce the amount of NO_x formed in the oxidation chamber, dry lime injection (for acid gases), activated carbon (for dioxins, furans and mercury) and a bag filter system (for particulate matter).

Emissions from the ATT process are released via two 55m high stacks.

Continuous and periodic monitoring is undertaken for the flue gases in the stack.

Solid residues are sampled on a regular basis to assess bottom ash burnout and to monitor the levels of specified pollutants. Bottom ash from the gasifiers is removed from site for appropriate treatment, recovery or disposal. Prior to collection it is stored in the ash bunker to the south of the ATT facility.

A biological treatment process classified as a Section 5.4 Part A(1)(b)(i) activity comprises of the following processes.

Anaerobic Digestion (AD) processes the extracted organic fraction of the incoming residual, industrial and commercial waste from the MT plant. The biogas from the anaerobic digesters is combusted in two gas engines (DAA) to generate approximately 1 MWe of electricity, which is exported to the national grid.

Exhaust gases from the two AD engines are released via two 26m 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 emission standards. Emissions from the flare are monitored in accordance with the permit.

In-Vessel Composting (IVC) processes the digestate emerging from the AD fermenters following two periods in the Aerated Static Pile (ASP). Forced aeration, heating and pressure ventilation within the ASP reduces moisture content and allow aerobic conditions to develop. The output from the ASP system is screened using a trommel screen. Oversized material is discharged on a conveyor for return as feed for the ATT facility.

Three sealed aerobic tunnels heat and process the screened output from the AD digesters. The tunnels are equipped with an aerated floor system and a roof blower system. Once the required temperature within the mass has been achieved, the material is retrieved from the rear of the vessels into the compost storage building, where the material is held while quality testing is conducted.

Leachate from the composting ASPs and tunnels gravitate into the central leachate collection manifold. This is pumped into the leachate storage tank.

The AD and IVC and building exhausts are passed through a scrubber and biofilter system located on the roofs of the anaerobic digesters to control odour.

Overall the facility has an installed generating capacity of 8.2MWe, 1.2 MWe of this electricity is used to operate site activities, with the remaining 7.0 MWe being available for export to the national grid.

There are no releases of process effluents to ground or surface water from the Installation. Uncontaminated surface water run-off is captured, passed through an interceptor and then held in an attenuation tank prior to discharge to the local surface water highway drainage system.

There are no discharges of process effluent to sewer.

To ensure the effective management of the Installation 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/UP3937ZZ/A001	Duly made 26/04/13	
Additional Information Received	03/06/13	Request for definition of waste type

Status log of the permit		
Description	**Date**	**Comments**
Issue of Schedule 5 Notice seeking further information	07/06/13	
Additional information received	14/06/13	Further information for air quality impact assessment
Additional Information Received	09/07/13	Noise modelling input files
Issue of Schedule 5 Notice seeking further information	08/08/13	
Additional Information Received	23/08/13	Revised noise impact assessment
Additional Information Received	28/08/13	Revised air quality impact assessment
Additional Information Received	23/09/13	Updated site plan
Draft decision EPR/UP3937ZZ made available for consultation	02/10/13	
Further information received	30/10/13	Confirmation of detail relating to noise impact assessment
Permit EPR/UP3937ZZ determined	06/11/13	
Notified of change of Company	25/01/22	Name changed to Thalia Waste Management Limited
Variation issued	12/07/22	Varied permit issued to Thalia Waste Management Limited
Regulation 61 notice issued	13/06/22	Regulation 61 Notice requiring information for Statutory review of permit. BAT Conclusions published 03 December 2019.
Application EPR/HP3323PW/T001 (full transfer of permit EPR/UP3937ZZ)	Duly made 10/08/22	Application to transfer the permit in full to Thalia MK ODC Limited.
Transfer determined EPR/HP3323PW	15/12/22	Full transfer of permit complete
Regulation 61 notice response	20/12/22, 21/04/23 and 27/04/23	
Variation issued EPR/HP3323PW/V002	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/HP3323PW

Issued to

THALIA MK ODC LIMITED ("the operator")

whose registered office is

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

company registration number **08538422**

to operate a regulated facility at

Milton Keynes Waste Recovery Park
Dickens Road
Old Wolverton
MK12 5QF

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/UP3937ZZ

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/HP3323PW/V002 authorising,

THALIA MK ODC LIMITED (“the operator”),

whose registered office is

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

company registration number **08538422**

to operate an installation at

Milton Keynes Waste Recovery Park
Dickens Road
Old Wolverton
MK12 5QF

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 or other approval issued by the Environment Agency.

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 table S2.2; 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), 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, S3.3(a) and S3.3(b); and

(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.

4.2.6 For the following activities referenced in schedule 1, table S1.1 (AR2), the operator shall keep records of non-waste materials leaving the site, including the type of material, the batch number, the date of export off-site and the tonnage exported on that date. These records shall be maintained for at least 2 years.

4.2.7 For the following activities referenced in schedule 1, table S1.1 (AR2), the operator shall submit an annual report detailing the efficiency of removal of non-compostable and non-digestible materials from feedstock prior to processing and the level of contamination in the final recovered digestate and/or compost.

4.3 Notifications

4.3.1 In the event:

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

(i) inform the Environment Agency,

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

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

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

(i) inform the Environment Agency, and

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

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

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

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

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

Where the operator is a registered company:

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

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

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

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

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

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 of this permit.
AR2	S5.4 Part A(1) (b)(i)	Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment. R3: Recycling/reclamation of organic substances which are not used as solvents	From receipt of waste through to digestion and recovery of by-products (digestate). Anaerobic digestion of waste in 9 fermenter tunnels and 1 liquid digester tank followed by burning of biogas produced from the process. Waste types suitable for acceptance are limited to those specified in Table S2.2.
	Directly Associated Activities		
AR3	Electricity Generation associated with the incineration plant .	Generation of 7.0MWe electrical power using a steam turbine from energy recovered from the flue gases.	
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	Physical treatment for the purpose of recycling associated with the anaerobic digestion plant and in-vessel composting 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 the mechanical treatment plant utilising a series of physical separation techniques comprising the following: Waste reception; trommels; shredding; ballistic separation; near infra-red separation; air knives; magnetic

			separation and use of manual pickers. Shall be carried out in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system. Plastic waste must be removed to as low as practicable prior to anaerobic digestion. The operator must demonstrate that removal of plastics is not limited to only screening for macro plastics. Reporting requirements as specified in Table S4.1. Post-treatment of digestate in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system, including screening to remove contraries, for use as a soil conditioner. Heat treatment (pasteurisation) of waste in 3 pasteurisation tunnels for the purpose of recovery. Gas cleaning by biological or physical (carbon filtration) or chemical scrubbing. Waste types suitable for acceptance are limited to those specified in Table S2.2.
AR6	Steam and electrical power supply from the Anaerobic digestion of waste	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 1.43MW_{th}. 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.
AR7	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 required only during periods of breakdown or maintenance of the CHP engines.
AR8	Raw material storage associated with the anaerobic digestion plant and in-vessel composting 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.
AR9	Gas storage associated with the anaerobic digestion plant	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 the roof space of the digester and head space of nine fermenter tunnels. From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.
AR10	Digestate storage associated with the anaerobic digestion plant	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)	From the receipt of processed uncertified digestate produced from the on-site anaerobic digestion process to despatch for use off-site. Storage of processed uncertified liquid digestate in 1 storage tank. Storage of processed uncertified solid digestate in 6 covered bays in 1 building in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system.
AR11	Digestate treatment associated with the anaerobic digestion plant	In -vessel Composting of solid digestate fibre R3: Recycling/reclamation of organic substances which are not used as solvents	From the receipt of processed solid digestate fibre produced from the on-site anaerobic digestion process to treatment via composting and despatch for use off-site.
AR12	Surface water collection and storage associated	Collection and storage of uncontaminated roof	From the collection of uncontaminated roof and site surface water from non-

	with the anaerobic digestion plant, in-vessel composting plant and gasification plant	and site surface water in 2 attenuation tanks; and within the rainwater harvesting system.	operational areas only to re-use within the facility or discharge off-site.
AR13	Air treatment	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 EPR/UP3937ZZ/A001	• Parts B2 and B3 of the Application Form and Appendix B2_2. • Best Available Techniques and Operating Techniques Document and associated Appendices 1-12.	26/04/13
Application EPR/UP3937ZZ/A001	Mitigation measures identified in the updated noise impact assessment	30/10/13
Response to regulation 61 notice	Operating techniques as set out in the response to the regulation 61 notice, and additional information received in response to information requested dated 09/03/23.	20/12/22, 21/04/23 and 27/04/23

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1	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/Nm3 as a daily average, without significantly increasing emissions of other pollutants or having a significant negative effect on plant operation or reliability. The study shall be based on an appraisal of the currently installed measures to reduce NOx, any potential improvements identified, and, where relevant, the results of trials carried out at the installation. 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: • An appraisal of the currently installed measures at the installation to minimise NOx emissions • The potential for improvement to the currently installed measures, including the viability of performing trials to vary current operational parameters to reduce NOx emissions, and any additional measures which could be taken to further reduce NOx from the installation, such as installation of selective non-catalytic reduction (SNCR). • Where relevant, the results of trials conducted to further reduce daily average NOx emissions using currently installed measures, including: ○ a description of the parameters that were varied during the trial and the range over which they were varied	12/03/24

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	○ the levels of NOx achieved and any changes which were observed to the levels of other continuously monitored pollutants emitted during the trials ○ observed effects and predicted long-term impacts on plant operation, reliability and maintenance regime ○ 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.	
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 gasification 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.	31/12/23
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 from the gasification plant 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.	31/12/23
IC4	For the following activities referenced in schedule 1, table S1.1 (AR1). The operator shall calculate the gross electrical efficiency of the gasification plant 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.	12/09/24

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	A written copy of the assessment shall be submitted to the Environment Agency for approval.	
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 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.	12/09/24 from issue of variation notice or other date as agreed in writing with the Environment Agency
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	12/09/24 or other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	The plan shall be implemented in accordance with the Environment Agency's written approval.	
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) • 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.	12/09/24 or other date as agreed in writing with 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 input to and treatment at Installation	
Maximum quantity	The quantity of wastes accepted at the Mechanical Treatment plant shall not exceed 140,000 tonnes a year. The quantity of waste fed to the advanced thermal treatment plant shall not exceed 94,000 tonnes per year. Maximum total throughput of 36,000 tonnes per year to the anaerobic digestion and in-vessel composting plant
Waste code	**Description**
02	**Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting & Fishing, Food Preparation & Processing**
02 01	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting & fishing**
02 01 04	Waste plastics (except packaging)
02 01 07 (note 2)	Wastes from forestry
02 06	**Wastes from the baking and confectionery industry**
02 06 01 (note 2)	Materials unsuitable for consumption or processing – biodegradable wastes from the processing of materials used in bakery and confectionery
02 06 02	Wastes from preserving agents
02 07	**Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea & cocoa)**
02 07 04 (note 2)	Materials unsuitable for consumption or processing – biodegradable wastes from the processing of the raw materials used in the production of such beverages only (wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))
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 (note 2)	Waste bark and cork
03 01 05 (note 2)	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	**Wastes from Pulp, Paper and Cardboard production and processing**
03 03 01 (note 2)	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
03 03 10 (note 2)	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
04	**Wastes from the Leather, Fur and Textile Industries**
04 02	**Wastes from the Textile Industry**
04 02 21	Wastes from unprocessed textile fibres
04 02 22	Wastes from processed textile fibres
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)**

Table S2.2 Permitted waste types and quantities for input to and treatment at Installation	
Maximum quantity	The quantity of wastes accepted at the Mechanical Treatment plant shall not exceed 140,000 tonnes a year. The quantity of waste fed to the advanced thermal treatment plant shall not exceed 94,000 tonnes per year. Maximum total throughput of 36,000 tonnes per year to the anaerobic digestion and in-vessel composting plant
Waste code	**Description**
15 01 01 (note 1) (note 2)	Paper and cardboard packaging
15 01 02 (note 1) (note 2)	Plastic packaging
15 01 03 (note 2)	Wooden packaging – virgin timber only
15 01 04 (note 1)	Metallic packaging
15 01 05 (note 1)	Composite packaging
15 01 06 (note 1)	Mixed packaging
15 01 07 (note 1)	Glass packaging
15 01 09 (note 2)	Textile packaging
15 02	**Absorbents, wiping cloths, filter materials and protective clothing**
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	**Wastes not otherwise specified in the list**
16 01	**End-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)**
16 01 03 (note 1)	End-of-life tyres
16 02	**Wastes from electrical and electronic equipment**
16 02 14 (note 1)	Discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16 (note 1)	Components removed from discarded equipment other than those mentioned in 16 02 15
16 06	**Batteries and accumulators**
16 06 04 (note 1)	Alkaline batteries (except 16 06 03)
16 06 05 (note 1)	Other batteries and accumulators
17	**Construction and Demolition Wastes (Including excavated soil from contaminated sites)**
17 02	**Wood Glass and Plastic**
17 02 01	Wood
17 02 02 (note 1)	Glass
17 02 03	Plastic
17 03	**Bituminous mixtures, coal tar and tarred products**
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01
17 04	**Metals (including their alloys)**
17 04 01 (note 1)	Copper, bronze, brass
17 04 02 (note 1)	Aluminium
17 04 03 (note 1)	Lead
17 04 04 (note 1)	Zinc
17 04 05 (note 1)	Iron and steel
17 04 06 (note 1)	Tin
17 04 07 (note 1)	Mixed metals
17 04 11 (note 1)	Cables other than those mentioned in 17 04 10
17 05	**Soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	Soil and stones other than those mentioned in 17 05 03
17 05 08	Track ballast other than those mentioned in 17 05 07

Table S2.2 Permitted waste types and quantities for input to and treatment at Installation	
Maximum quantity	The quantity of wastes accepted at the Mechanical Treatment plant shall not exceed 140,000 tonnes a year. The quantity of waste fed to the advanced thermal treatment plant shall not exceed 94,000 tonnes per year. Maximum total throughput of 36,000 tonnes per year to the anaerobic digestion and in-vessel composting plant
Waste code	**Description**
17 06	**Insulation materials and asbestos-containing construction materials**
17 06 04	Insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 08	**Gypsum-based construction material**
17 08 02	Gypsum-based construction materials other than those mentioned in 17 08 01
17 09	**Other construction and demolition wastes**
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	**Wastes from Waste Management Facilities, off-site Waste Water Treatment Plants & 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 waste
19 05 03 (note 2)	Off-specification compost
19 06	**Wastes from anaerobic treatment of waste**
19 06 04 (note 2)	Digestate from anaerobic treatment of source segregated biodegradable waste and made up of previously pasteurised and stabilised batches only
19 06 06 (note 2)	Digestate from anaerobic treatment of animal and vegetable waste (previously digested sewage sludge only)
19 08	**Wastes from waste water treatment plants not otherwise specified**
19 08 01	Screenings
19 08 05 (note 2)	Sludges from treatment of urban waste water
19 12	**Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01 (note 2)	Paper and cardboard
19 12 02 (note 1)	Ferrous metal
19 12 03 (note 1)	Non-ferrous metal
19 12 04	Plastic and rubber
19 12 05 (note 1)	Glass
19 12 07 (note 2)	Wood other than that mentioned in 19 12 06
19 12 08	Textiles
19 12 09 (note 1)	Minerals (for example sand, stones)
19 12 10	Combustible waste (refuse derived fuel)
19 12 12 (note 2)	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	**Municipal Wastes (Household and Similar Commercial, Industrial and Institutional Wastes) including separately collected fractions**
20 01	**Separately Collected Fractions (except 15 01)**
20 01 01 (note 1)(note 2)	Paper and cardboard
20 01 02 (note 1)	Glass
20 01 08 (note 1)(note 2)	Biodegradable food waste
20 01 10	Clothes
20 01 11	Textiles
20 01 25 (note 2)	Edible oil and fat

Table S2.2 Permitted waste types and quantities for input to and treatment at Installation	
Maximum quantity	The quantity of wastes accepted at the Mechanical Treatment plant shall not exceed 140,000 tonnes a year. The quantity of waste fed to the advanced thermal treatment plant shall not exceed 94,000 tonnes per year. Maximum total throughput of 36,000 tonnes per year to the anaerobic digestion and in-vessel composting plant
Waste code	**Description**
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 (note 1)	Batteries and accumulators other than those mentioned in 20 01 33
20 01 36 (note 1)	Discarded electrical and electronic equipment other than those mentioned in 20 01 35
20 01 38 (note 2)	Wood other than that mentioned in 20 01 37
20 01 39 (note 1)	Plastics
20 01 40 (note 1)	Metals
20 01 41	Wastes from chimney sweeping
20 02	**Garden and park wastes (including cemetery waste)**
20 02 01 (note 1)(note 2)	Biodegradable waste
20 02 02 (note 1)	Soil and stones
20 02 03	Other non-biodegradable wastes
20 03	**Other municipal wastes**
20 03 01 (note 1)	Mixed municipal waste
20 03 02 (note 1)(note 2)	Waste from markets
20 03 03	Street-cleaning residues
20 03 06	Waste from sewage cleaning
20 03 07 (note 1)	Bulky-waste

Note 1: Waste only acceptable on the basis that it will be subject to screening for recycling or recovery within the Mechanical Treatment plant – materials not suitable for direct input to the advanced thermal treatment plant.

Note 2: Organic fraction of waste suitable for direct input to the anaerobic digestion plant. Wastes having any of the following characteristics shall not be accepted:

- wastes containing wood-preserving agents or other biocides and post-consumer wood
- wastes containing persistent organic pollutants
- wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Species (Amendment etc.) (EU Exit) Regulations 2019
- manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2013.
- Pest infested waste

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (AR1 - Gasification Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A6 & A7 (as shown on site plan in Schedule 7)	Particulate matter	Incineration lines 1 & 2	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 (AR1 - Gasification Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	Carbon monoxide		150 mg/m^3	95% of all 10-minute averages in any 24-hour period	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 (AR1 - Gasification 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 (AR1 - Gasification 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
	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
	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

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (AR1 - Gasification Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	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
	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.
A2 & A3 (as shown on site plan in Schedule 7)	Dust	Carbon filter from waste reception areas	5 mg/m^3	Average over sample period	Once every 6 months from 03/12/23	EN 13284-1
	TVOC		No limit			EN 12619

Table S3.1 Point source emissions to air – emission limits and monitoring requirements (AR1 - Gasification Plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A9 (as shown on site plan 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 (Gasification Plant)						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A6 & A7 (as shown on site plan 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		150 mg/m^3	95% of all 10-minute averages in any 24-hour period	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 (Anaerobic digestion and in-vessel composting plant).						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1 (as shown on site plan in Schedule 7)	Hydrogen sulphide	Biofilter with chemical scrubber stack from biological treatment process	No limit set	Average over sample period	Once every 6 months from 03/12/23	CEN TS 13649 for sampling NIOSH 6013 for analysis
	Ammonia		20 mg/m^3	Average over sample period		EN ISO 21877
	Odour concentration		No limit set	--		BS EN 13725
A4 & A5 as marked on the Site Plan in Schedule 7	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	AD gas engine 1 and gas engine 2 exhausts (Note 3)	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 until 31/12/29			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur content
			162 mg/m^3 from 01/01/30			
	Total VOCs		No limit set			BS EN 12619
A8 (as shown on site plan in Schedule 7)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	AD Standby flare stack (Note 2)	150 mg/m^3 from 03/12/23	Average over sample period	Note 1	BS EN 14792
	Carbon monoxide		50 mg/m^3 from 03/12/23			BS EN 15058
	Total VOCs		10 mg/m^3 from 03/12/23			BS EN 12619

Table S3.1(b) Point source emissions to air – emission limits and monitoring requirements (Anaerobic digestion and in-vessel composting plant).						
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: Following commissioning, 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. Note 2: These emission limits are based on normal operating conditions and load - temperature 0°C (273K); pressure 101.3 kPa and oxygen 3%. Note 3: 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).						

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 run-off	No parameters set	No limit set	-	-	-

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
As identified in the Application	Wind Speed and Direction	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.
Gasification 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 and in-vessel composting site				
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 weights and measures Regulations	Process monitoring to be recorded using a

Table S3.3(a) Process monitoring requirements for Anaerobic digestion and in-vessel composting site				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
	Methane	Continuous	None specified	SCADA system where relevant. Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations
	CO_2	Continuous	None specified	
	O_2	Continuous	None specified	
	Hydrogen sulphide	Daily	None specified	
	Pressure	Continuous	None specified	
Digestate batch	Volatile fatty acids concentration	One sample at the end of each batch (hydraulic retention time) cycle.	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.
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.

Table S3.3(a) Process monitoring requirements for Anaerobic digestion and in-vessel composting site				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
CHP engine stack(s)	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 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.

Table S3.3(a) Process monitoring requirements for Anaerobic digestion and in-vessel composting site				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
	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 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	750 mm freeboard must be maintained for storage lagoons. Records of volume must be maintained.

Table S3.3(a) Process monitoring requirements for Anaerobic digestion and in-vessel composting site				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Composting Digestate Fibre				
Representative internal core for each composting batch during sanitisation and stabilisation/maturation stage	Temperature	At least daily or a frequency as agreed in writing with the Environment Agency	Temperature probe	Temperature and moisture monitoring equipment shall be available on site and used as required to maintain aerobic conditions and ensure compliance with this permit. Equipment shall be calibrated on a 4 monthly basis or as agreed in writing by the Environment Agency.
	Moisture		Industry grab test as a minimum or oven drying	

Table S3.3 (b) Process monitoring requirements – odour abatement				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Odour abatement plant				
Closed biofilters				
Biofilter	Gas temperature – inlet and outlet	Daily	Temperature probe / Traceable to national standards	Odour abatement plant shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Odour abatement plant shall be managed in accordance with permit condition 3.4, the odour
	Biofilter media moisture	Daily	Moisture meter, Grab test, oven drying or recognised industry method	
	Thatching /compaction	Weekly	Back pressure	

Table S3.3 (b) Process monitoring requirements – odour abatement				
	Gas flow rate – inlet and outlet	Continuous	Gas flow meter / EN 16911-1 and MID for EN 16911-1	management plan and manufacturer's recommendations. Equipment shall be calibrated on a 4 monthly basis, or as agreed in writing by the Environment Agency.
	pH (biofilter drainage effluent)	Daily	pH metre or litmus paper	
	Efficiency assessment	Annual	Media health, air-flow distribution and emission removal efficiency (BS EN 13725 for odour removal)	
	Hydrogen sulphide – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	CEN TS 13649 for sampling NIOSH 6013 for analysis	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour management plan.
	Ammonia – inlet	Every 6 months or as agreed in writing by the Environment Agency.	EN ISO 21877	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour management plan.

Table S3.3 (b) Process monitoring requirements – odour abatement				
	Odour concentration – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	BS EN 13725	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour management plan.
Scrubbers (water/chemical/dry)				
Scrubber	Gas temperature – inlet and outlet	Continuous	Temperature probe / Traceable to national standards	Odour abatement plant shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Odour abatement plant shall be managed in accordance with permit condition 3.4, the odour management plan and manufacturer's recommendations. Equipment shall be calibrated on a 4 monthly basis, or as agreed in writing by the Environment Agency.
	Gas flow rate – inlet and outlet	Continuous	Gas flow meter / EN 16911-1 and MID for EN 16911-1	
	Moisture content or humidity – inlet and outlet (for dry scrubbers only)	Daily	Moisture meter	
	Moisture content or humidity – outlet (for wet scrubbers if used before other abatement systems)	Daily	Moisture meter	
	Back pressure	Weekly	Pressure differential using sensors	
	Efficiency assessment	Annual	Emission removal efficiency (BS EN 13725 for	

Table S3.3 (b) Process monitoring requirements – odour abatement				
			odour removal)	
	pH scrubber solution (pre-abatement)	Continuous	pH meter	
	pH scrubber solution (post-abatement)	Continuous	pH meter	
	Hydrogen sulphide – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	CEN TS 13649 for sampling NIOSH 6013 for analysis	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour management plan.
	Ammonia – inlet	Every 6 months or as agreed in writing by the Environment Agency.	EN ISO 21877	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour management plan.
Carbon filters				
Carbon filter	Carbon bed temperature – inlet and outlet	Continuous	Temperature probe	Odour abatement plant shall be managed in accordance with permit condition 3.4, the odour
	Gas flow rate – inlet and outlet	Continuous	Gas flow meter	

Table S3.3 (b) Process monitoring requirements – odour abatement				
	Moisture or humidity	Daily	Moisture meter	management plan and manufacturer's recommendations. Carbon filter(s) to be replaced in accordance with manufacturer's recommendations. Equipment shall be calibrated on a 4 monthly basis, or as agreed in writing by the Environment Agency.
	Back pressure	Weekly	Recognised industry method	
	Efficiency assessment	Annual	Emission removal efficiency (BS EN 13725 for odour removal)	
	Hydrogen sulphide – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	CEN TS 13649 for sampling NIOSH 6013 for analysis	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour management plan.
	Ammonia – inlet	Every 6 months or as agreed in writing by the Environment Agency.	EN ISO 21877	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour

Table S3.3 (b) Process monitoring requirements – odour abatement				
				management plan.
	Odour concentration – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	BS EN 13725	Action levels to be agreed on completion of IC7 as approved in writing by the Environment Agency. Action levels to be achieved in accordance with permit condition 3.3 and the odour management plan.

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 13137 or EN 15936 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.	A6 & A7 A1, A2, A3, A4, A5, A8	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(b)	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(b)	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(b)	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(b)	Every 12 months	1 January
Total annual VOCs emissions from gas engines (calculated)	As specified in schedule 3 table S3.3(b)	Every 12 months	1 January
Non-compostable contamination removal efficiency Parameters as required by conditions 2.3.4, 2.3.7 and 4.2.7	--	Every 12 months Yearly report of detailing contamination removal efficiency and progress with plastic reduction contamination	1 January

Table S4.2: Annual production/treatment	
Parameter	**Units**
Incineration Plant	
Total Municipal Waste Incinerated	tonnes
Total Commercial and industrial Waste Incinerated	tonnes
Total Commercial and Industrial waste input to mechanical treatment plant	tonnes
Total Recyclates recovered	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 and In-Vessel Composting Plant	

Table S4.2: Annual production/treatment	
Parameter	**Units**
Total waste treated in the anaerobic digestion plant and In-Vessel Composting Plant	tonnes
Electricity generated	MWh
Biomethane generated	tonnes or m^3
CLO outputs	tonnes
Recovered outputs	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
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 and In-Vessel Composting 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	%

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
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 1-7 or other form as agreed in writing by the Environment Agency	06/11/2013
Emissions to air from 03/12/2023	Forms air 1-7 (AR1) or other forms as agreed in writing by the Environment Agency	12/09/2023
Residue quality	Form residue 1 and 2 (AR1) or other form as agreed in writing by the Environment Agency	12/09/2023
Other performance indicators	Form performance 1 (AR1) or other form as agreed in writing by the Environment Agency	12/09/2023
Anaerobic Digestion Plant and In-Vessel Composting Plant		
Air	Form air 1 (AR2) or other form as agreed in writing by the Environment Agency	12/09/2023
Process monitoring	Form process 1 (AR2) or other form as agreed in writing by the Environment Agency	12/09/2023
Water usage	Form water usage 1 (AR2) or other form as agreed in writing by the Environment Agency	12/09/2023
Energy usage	Form energy 1 (AR2) or other form as agreed in writing by the Environment Agency	12/09/2023
Other performance indicators	Form performance 1 (AR2) or other form as agreed in writing by the Environment Agency	12/09/2023
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,

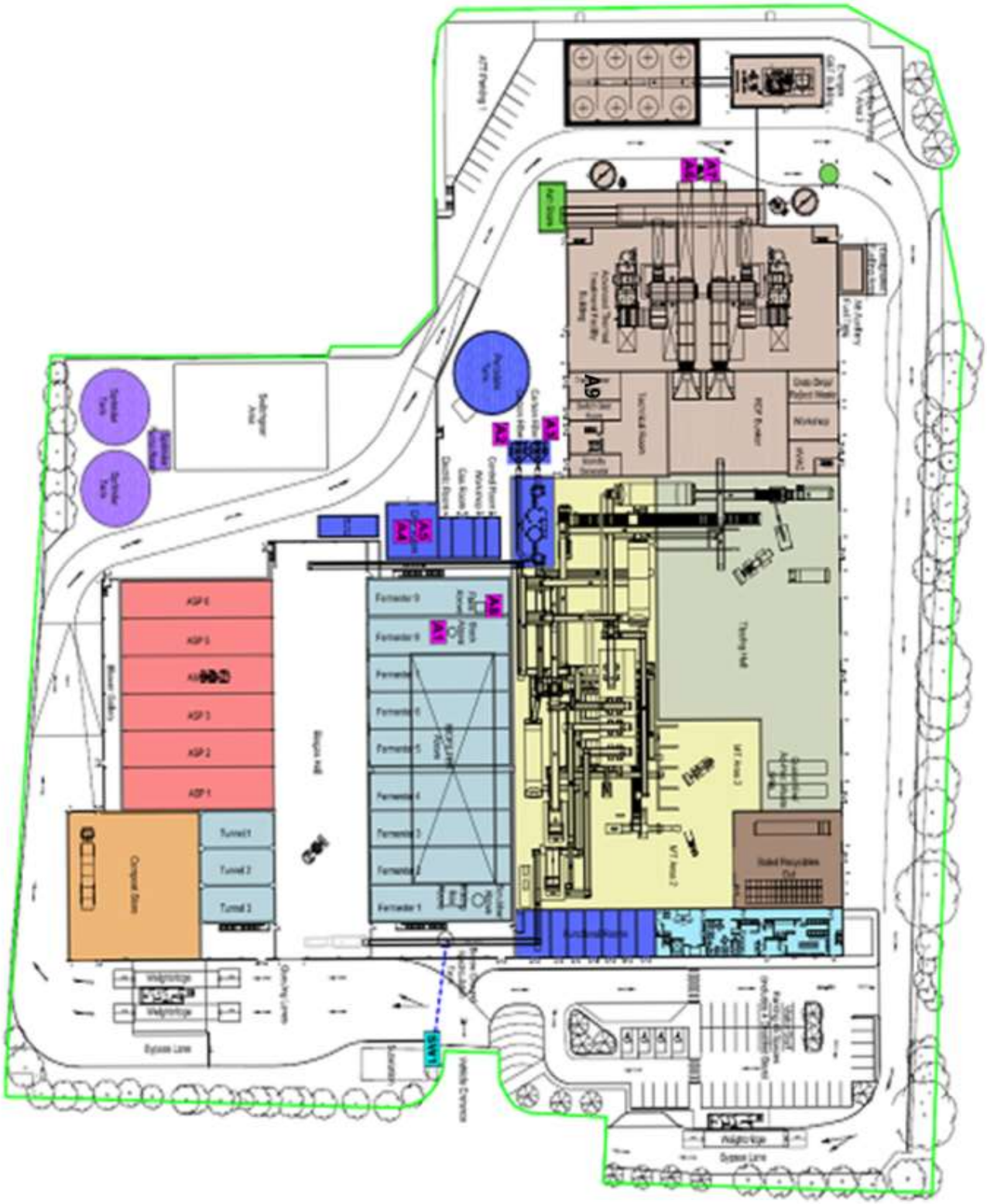
(d) In relation to gases from gas engines, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 5% dry.

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



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