Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Gent Fairhead & Co. Limited

Rivenhall Integrated Waste Management Facility
Rivenhall Airfield
Woodhouse Lane
Kelvedon
Essex
CO5 9DF

Permit number

EPR/FP3335YU

Rivenhall Integrated Waste Management Facility
Permit number EPR/FP3335YU

Introductory note

This introductory note does not form a part of the permit

This permit controls the operation of an integrated waste management facility. The permit implements the requirement of the EU Directives on Industrial Emissions and Waste.

The main features of the permit are as follows:

The Installation will be operated by Gent Fairhead and Co. Limited and will be located at Rivenhall Airfield, Woodhouse Lane, Kelvedon, Essex, CO5 9DF. The centre of the site is located at National Grid reference TL 82293 20519.

The proposed installation will consist of the following scheduled activities:

- paper pulp plant – Section 6.1 A(1)(a);
- anaerobic digestion (AD) facility with the combustion of resultant biogas – Section 5.4 A(1)(b)(i); and
- waste incineration plant (utilising CHP) processing non-hazardous refuse derived fuel (RDF) and solid recovered fuel (SRF) – Section 5.1 A(1)(b)

The directly associated activities are:

- mechanical and biological treatment (MBT) facility;
- materials recycling facility (MRF); and
- waste water treatment plant (WWTP)

The paper pulp plant will be capable of recycling up to 170,000 tonnes per annum of recovered printing paper, writing paper and card, to produce 85,500 tonnes per annum of recycled paper pulp which will be transported off-site and used to predominantly manufacture printing and writing paper, white surface packaging and some tissue.

The AD facility will process up to 30,000 tonnes per annum of biodegradable waste and will comprise separately collected municipal or commercial food wastes and/or other green wastes. The anaerobic digestion plant will consist of digesters, storage tanks and combustion plant (two gas engines and an emergency flare). Biodegradable waste will be delivered to the site in covered vehicles and will be deposited in an enclosed waste reception building fitted with odour abatement (biofilter). The waste will be pre-treated and transferred into the digesters where it will undergo digestion at 36ºC to 38ºC. Biogas drawn from the digesters will be used to generate electricity and heat from the two gas engines. The majority of the electricity produced (1 MWe) will be exported to the grid with a proportion used at the facility. The heat produced from the engines will be recovered via heat exchangers and integrated in the process heating requirements including the pasteurisation of wastes as required by the Animal By-Products Regulations.

The MBT facility is designed for the treatment of up to approximately 170,000 tonnes per annum of municipal or commercial wastes that require some pre-treatment in order to remove moisture and recyclates (in combination with the adjacent MRF) and to manufacture a RDF suitable for energy recovery in the waste incineration plant. The MBT process is designed to treat received waste in a series of enclosed vessels. The waste will remain in the vessels for a minimum of 7 days enabling the bio-drying process to occur, during which time the waste will lose up to 12% moisture content. This enables easier extraction of recyclables, particularly plastics and metals, within the mechanical processes in the MRF.

The MRF will have a maximum design capacity to process 300,000 tonnes per annum. The purpose of the MRF is to identify and recover recyclates from incoming untreated Municipal Solid Wastes (MSW) and Commercial & Industrial (C&I) wastes, from the shredded and biologically dried output from the MBT facility,

and recover further recyclates from incoming RDF, where possible. The MRF will receive about half of its waste from the output from the MBT facility and the other half from directly delivered untreated MSW and C&I wastes, with a small amount of RDF also being processed through the MRF. The majority of the output from the MRF will be RDF which is fed to the waste incineration plant for combustion.

The waste incineration plant will have a design capacity to process up to 595,000 tonnes of non-hazardous RDF and SRF. The waste incineration plant will comprise of two lines with a moving grate furnace technology and boilers, each of a thermal input of 92 MW that will generate steam, with a turbine capacity for electricity generation of 49 MWe as well as heat supply in the form of high-pressure steam (35 MW) to the paper pulp plant and waste water treatment plant. About 28 MWe electricity will be exported to the grid.

The furnace is designed to ensure that a temperature of at least 850°C is achieved for a period of two seconds in the combustion chamber. To ensure that the temperature does not fall below 850°C, auxiliary burners firing on low sulphur gas oil will be automatically switched on. Hot gases from the combustion process will pass to two boilers which will raise steam to operate the steam turbines which in turn will operate electric generating sets for export to the grid.

The main pollutants from the Installation will be gaseous combustion products. Emissions from the waste incineration plant will be controlled to the Industrial Emissions Directive (Chapter IV) standards. Combustion gases from the waste incineration plant will be cleaned before they are emitted to atmosphere. Point source emissions from the waste incineration plant, paper pulp plant and AD facility will be routed via one windshield, 58 metres above surrounding ground levels (total height from the base is 78 metres). The abatement techniques proposed for cleaning the gases from the waste incineration plant are as follows:

- selective non-catalytic reduction (SNCR) where ammonia will be injected into the gas stream to reduce oxides of nitrogen release
- lime will be injected to neutralise acid gases
- activated carbon injection will be used to remove mercury, dioxins and furans; and
- bag filtration system will be used to remove heavy metals and particulates.

Pollutants from the waste incineration plant including oxides of nitrogen, carbon monoxide, particulate matter, sulphur dioxide, hydrogen chloride, ammonia and total organic carbon will be continuously monitored. Hydrogen fluoride, heavy metals, dioxins, dioxin-like PCBs and PAHs will be monitored periodically. Pollutants from the gas engines at the AD facility will be monitored annually. Emissions are abated to low levels by the use of techniques that are considered to be BAT.

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

There will be no process discharges from the Installation to surface waters, ground water or sewer. Process waters will be treated at the waste water treatment plant (WWTP) and stored in the on-site lagoon (Upper Lagoon) to be re-used on site. Uncontaminated site surface water run-off arising from rain water will also be directed to the on-site lagoon and re-used on site. Sludge from the WWTP will be dewatered and the solid fraction sent for incineration. The liquid fraction will be re-circulated for further treatment.

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

There are seven non-statutory sites (local wildlife sites and ancient woodland) located within 2 km of the Installation. Assessment by the Environment Agency shows that emissions from activities undertaken at the Installation are unlikely to have a significant impact on the habitat sites.

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

Status log of the permit		
Description	**Date**	**Comments**
Application EPR/FP3335YU/A001	Duly made 06/03/17	Application for an integrated waste management facility consisting a paper pulp plant, an anaerobic digestion facility and waste incineration plant and other directly associated activities.
Additional information received	16/03/17	Revised cost-benefit analysis graphs and noise modelling data.
Additional information received	30/03/17	Additional information – site condition report.
Additional information received	31/03/17	Nitrogen dioxide process contributions at sensitive receptors.
Additional information received	04/04/17	Additional information – site condition report.
Additional information received	06/04/17	Revised stack height assessment.
Additional information received	13/04/17	Additional information on air quality modelling, monitoring of stack emissions, IBA sampling protocol and revised fire prevention plan
Additional information received	12/05/17	Response to Schedule 5 notice dated 26/04/17.
Additional information received	26/05/17	Revised Application documents (BAT assessment, noise measurements, HHRA, air quality assessment, abnormal emissions assessment, clarification of FPP aspects, specific energy consumption, air quality assessment methodology and stack height justification).
Additional information received	31/05/17	Revised air quality /noise model input files, clarification on cadmium and thallium concentrations, and stack height information.
Additional information received	13/06/17	Revised site plan and justification of wastes proposed for incineration.
Additional information received	04/07/17	Revised Figure 4 diagram – dispersion modelling report.
Additional information received	09/08/17	Clarification of issues raised from consultation of draft decision #1.
Additional information received	11/08/17	Clarification of issues raised from consultation of draft decision #2.
Additional information received	15/08/17	Clarification of issues raised from consultation of draft decision #3.
Permit determined (Billing Ref: FP3335YU)	11/09/17	Permit issued to Gent Fairhead & Co. Limited.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/FP3335YU

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

Gent Fairhead & Co. Limited ("the operator"),

whose registered office is

Court of Noke
Pembridge
Leominster
Herefordshire
HR6 9HW

company registration number **02392879**

to operate an installation at

Rivenhall Integrated Waste Management Facility
Rivenhall Airfield
Woodhouse Lane
Kelvedon
Essex
CO5 9DF

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

Name	Date
Mike Jenkins	**11/09/2017**

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

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

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

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

1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

1.2.1 The operator shall:

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

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

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

1.2.2 The operator shall provide and maintain steam and/or hot water pass-outs such that opportunities for the further use of waste heat may be capitalised upon should they become practicable.

1.3 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").

2.2 The site

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

2.3 Operating techniques

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

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

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

2.3.4 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3, S2.4, S2.5 and S2.6; and

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

(c) at the waste incineration plant and the MBT facility, it having been separately collected for recycling, it is subsequently unsuitable for recovery by recycling.

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

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

(b) the composition of the waste;

(c) the handling requirements of the waste;

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

(e) the waste code of the waste.

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

2.3.7 Waste shall not be charged, or shall cease to be charged, if:

(a) the combustion chamber temperature is below, or falls below, 850°C; or

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

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

(d) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than under abnormal operating conditions; or

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

2.3.8 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition 2.3.7 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.7 is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.

2.3.9 The operator shall record the beginning and end of each period of “abnormal operation”.

2.3.10 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.

2.3.11 Where, during “ abnormal operation”, on an incineration line, any of the following situations arise, waste shall cease to be charged on that line until normal operation can be restored:

(a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 due to stoppages, disturbances or failures of the abatement plant, or continuous emission monitors are out of service, as the case may be, for a total of 4 hours uninterrupted duration;

(b) there is a technically unavoidable stoppage, disturbance or failure of the activated carbon abatement system for a total of 4 hours uninterrupted duration;

(c) the cumulative duration of “ abnormal operation” periods over 1 calendar year has reached 60 hours;

(d) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1(a).

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

2.3.12 The operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:

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

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

(c) when a period of four hours has elapsed from the start of the “abnormal operation”;

(d) when, in any calendar year, an aggregated period of 60 hours “abnormal operation” has been reached.

2.3.13 Bottom ash and APC residues shall not be mixed.

2.4 Improvement programme

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

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

2.5 Pre-operational conditions

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

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 except in “abnormal operation”, when there shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.1(a).

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.3. 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 of substances not controlled by emission limits

3.2.1 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.

3.2.2 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.

3.2.3 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.

3.2.4 The operator shall carry out monitoring of soil and groundwater in accordance with IED articles 14(1)(b), 14(1)(e) and 16(2) to the protocol approved in writing with the Environment Agency under pre-operational condition 7.

3.3 Odour

3.3.1 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.

3.3.2 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.

3.4 Noise and vibration

3.4.1 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.

3.4.2 The operator shall:

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

3.5 Monitoring

3.5.1 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 and S3.1(a);

(b) process monitoring specified in table S3.2;

(c) residue quality specified in table S3.3.

3.5.2 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.

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

3.5.4 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 and S3.1(a) unless otherwise agreed in writing by the Environment Agency.

3.5.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1, 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%

(b) valid half-hourly average values 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 3.5.5(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 period, the half-hourly average shall in any case be considered valid if measurements are available for a minimum of 20 minutes during the half-hour. The number of half-hourly averages so validated shall not exceed 5 per day;

(d) daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly 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.

3.6 Pests

3.6.1 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 Fire prevention

3.7.1 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.

3.7.2 The operator shall:

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

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

4 Information

4.1 Records

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

(a) be legible;

(b) be made as soon as reasonably practicable;

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

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

(i) off-site environmental effects; and

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

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

4.2 Reporting

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

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. 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; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

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

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

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

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

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

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

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

4.3 Notifications

4.3.1 In the event:

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

(i) inform the Environment Agency,

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

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

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

(i) inform the Environment Agency, and

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

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

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

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

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

Where the operator is a registered company:

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

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

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

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

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

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 and WFD Annex I and II operations**	**Limits of specified activity and waste types**
AR1	Section 5.1 A(1)(b)	The incineration of non-hazardous waste in a waste incineration plant with a capacity exceeding 3 tonnes per hour	From receipt of waste to emission of exhaust gas and disposal of waste arising. The incineration of non-hazardous waste including the operation of incineration lines, boilers and auxiliary burners; facilities for the treatment of exhaust gases; on-site facilities for the treatment and storage of residues, surface water and waste water; systems for controlling and monitoring incineration operations and receipt, storage and handling of wastes and raw materials (including fuels). Waste types suitable for acceptance are limited to those specified in Table S2.2 of this permit (including output from the MBT facility and WWTP).
AR2	Section 6.1 A(1)(a)	Producing, in industrial plant, pulp from timber or other fibrous materials	From receipt of waste to emission of exhaust gas and disposal of waste arising. Waste types suitable for acceptance are limited to those specified in Table S2.3 of this permit.
AR3	Section 5.4 A(1)(b)(i)	**Anaerobic Digestion Facility** Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day 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 two tanks followed by burning of biogas produced from the process. Waste types suitable for acceptance are limited to those specified in Table S2.4 of this permit (including leachate from the MBT facility).

AR4	Section 5.4 A(1)(b)(i)	**Mechanical Biological Treatment Facility** Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment. R3: Recycling/reclamation of organic substances which are not used as solvents R4: Recycling/reclamation of metals and metal compounds R5: Recycling/reclamation of other inorganic compounds R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken as a DAA to Activity AR1. From receipt of waste to treatment in bio-drying vessels and despatch of refuse derived fuel to the materials recycling facility for processing and waste incineration plant for incineration. Despatch of leachate to the anaerobic digestion facility. Biological treatment of waste consisting of bio-drying for the purpose of recovery. Treatment of waste in an enclosed building and on an impermeable surface with a sealed drainage system including sorting, separation, screening, baling and shredding. Waste types suitable for acceptance are limited to those specified in Table S2.5 of this permit.
Directly Associated Activities			
AR5	Materials Recycling Facility	Recovery of recyclable materials from residual wastes. R3: Recycling/reclamation of organic substances which are not used as solvents R4: Recycling/reclamation of metals and metal compounds R5: Recycling/reclamation of other inorganic compounds R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary	Undertaken as a DAA to Activity AR1. From receipt of waste to treatment, storage and despatch of recyclable materials and segregated wastes off-site for recovery. Despatch of non-recyclable materials to the waste incineration plant for incineration. Treatment of waste in an enclosed building and on an impermeable surface with a sealed drainage system including sorting, separation, screening, baling, shredding and compaction. Waste types suitable for acceptance are limited to those specified in Table S2.6 of this permit (including output from the MBT facility).

		storage, pending collection, on the site where it is produced)	
AR6	Waste Water Treatment Plant (WWTP)	Physico-chemical treatment of site process water. R3: Recycling/reclamation of organic substances which are not used as solvents R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken as a DAA to Activity AR1 and AR2. From receipt of site process water (waste incineration plant and paper pulp plant) to treatment at the WWTP and despatch of sludge to the waste incineration plant for incineration and treated process water to the Upper lagoon for storage. **There shall be no discharge of any liquids from this Installation to surface waters.**
AR7	Electricity and steam generation	Generation of electrical power (49 MWe) and heat (35 MW) using a steam turbine from energy recovered from the flue gases. Amounts of electricity and heat can vary depending on waste throughput and demand, as described in the Application. Generation of electrical power (1 MWe) and heat from two gas engines.	The export of electricity to the grid and for on-site operations. The export of steam to adjacent paper pulp plant and waste water treatment plant.
AR8	Back-up electrical generator	For providing emergency electrical power.	The use of electricity for on-site plant and equipment operation in the event of supply interruption.
AR9	Emergency flare operation	D10: Incineration on land	Undertaken as a DAA to Activity AR3. From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases. Use of one auxiliary flare required only during periods of breakdown or maintenance of the gas engines.
AR10	Storage of waste pending recovery or disposal	R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary	Undertaken as a DAA to Activity AR2 and AR3.

		storage, pending collection, on the site where it is produced)	From the receipt of permitted waste to pre-treatment and despatch to paper pulp plant and anaerobic digestion facility. Storage of residual wastes from pre-treatment to despatch off-site for recovery or disposal. Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system. Waste types suitable for acceptance are limited to those specified in Tables S2.3 and S2.4 (including leachate from the MBT facility).
AR11	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	Undertaken as a DAA to Activity AR3. From the receipt of waste to despatch for anaerobic digestion or despatch off-site for recovery. Pre-treatment of waste in an enclosed building and on an impermeable surface with a sealed drainage system including shredding, sorting, screening, compaction, baling, mixing and maceration. Post-treatment of digestate in an enclosed building and on an impermeable surface with sealed drainage system, including screening to remove contraries, centrifuge or pressing and addition of thickening agents (polymers) or drying for use as a fertiliser or soil conditioner (drying for the purpose of use as a fuel is not permitted). Heat treatment (pasteurisation) of waste in three tanks for the purpose of recovery. Gas cleaning by biological or chemical scrubbing.

			Waste types suitable for acceptance are limited to those specified in Table S2.4.
AR12	Gas storage	Storage of biogas produced from on-site anaerobic digestion of permitted waste in roof space of digesters. 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)	Undertaken as a DAA to Activity AR3. From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.
AR13	Digestate storage	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken as a DAA to Activity AR3. From the receipt of processed uncertified digestate produced from the on-site anaerobic digestion process to despatch for use off-site.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	Supporting Information of the application document provided in response to section 3a – technical standards, Part B3 of the application form (excluding references to the AD facility as a standard rules facility); Annex 4 – Environmental Risk Assessment; Annex 8 – Pest Management Plan.	06/03/17
Additional information	Monitoring of stack emissions; IBA sampling protocol	13/04/17
Response to Schedule 5 Notice dated 26/04/17	Operating techniques described in the responses to the Notice: Responses 1 and 2 (environmental risk assessment), Response 3 (pest management), Responses 4 and 5 (back-up generator), Response 7 (site surface water streams), Response 8 (discharges to River Blackwater), Responses 9 and 10 (water use), Responses 26 to 28 (energy efficiency).	12/05/17
Additional information	Revised BAT assessment and stack height justification	26/05/17 & 31/05/17

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
1	The operator shall submit a written report to the Environment Agency on the implementation of the site Environmental Management System (EMS) following the completion of each activity in Table S1.1 of the permit and the progress made in the certification of the system by an external body or if appropriate submit a schedule by which the EMS will be certified.	Within 6 months of commissioning each activity
2	The operator shall submit a written proposal to the Environment Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point A1 and A2, identifying the fractions within the PM_{10} and $PM_{2.5}$ ranges. On receipt of written approval from the Environment Agency to the proposal and the timetable, the operator shall carry out the tests and submit to the Environment Agency a report on the results.	Within 6 months of commissioning activity AR1
3	The operator shall submit a written report to the Environment Agency on the commissioning of each activity in Table S1.1 of the permit. The report shall summarise the environmental performance of the activities as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the activities against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions and confirm that the Environmental Management System (EMS) has been updated accordingly.	Within 4 months of commissioning each activity
4	The operator shall carry out checks to verify the residence time, minimum temperature and oxygen content of the exhaust gases in the furnace whilst operating under the anticipated most unfavourable operating conditions. The results shall be submitted in writing to the Environment Agency and include a comparison with the CFD modelling submitted with pre-operational condition 5.	Within 4 months of commissioning activity AR1

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
5	The operator shall submit a written report to the Environment Agency describing the performance and optimisation of: • The Selective Non-Catalytic Reduction (SNCR) system and combustion settings to minimise oxides of nitrogen (NOx).The report shall include an assessment of the level of NOx, N_2O and NH_3 emissions that can be achieved under optimum operating conditions; • The lime injection system for minimisation of acid gas emissions; and • The carbon injection system for minimisation of dioxins and heavy metal emissions.	Within 4 months of commissioning activity AR1
6	The operator shall carry out an assessment of the impact of emissions to air of the following component metals subject to emission limit values – As and Cr (VI). A report on the assessment shall be made to the Environment Agency. Emissions monitoring data obtained during the first year of operation shall be used to compare the actual emissions with those assumed in the impact assessment submitted with the Application. An assessment shall be made of the impact of each metal against the relevant EQS/EAL. In the event that the assessment shows that an EQS/EAL can be exceeded, the report shall include proposals for further investigative work.	15 months from the completion of commissioning activity AR1
7	The operator shall submit a written summary report to the Environment Agency to confirm the results of calibration and verification testing that the performance of Continuous Emission Monitors for parameters as specified in Table S3.1 and Table S3.1(a) complies with the requirements of BS EN 14181, specifically the requirements of QAL1, QAL2 and QAL3.	Initial calibration report to be submitted to the Environment Agency within 3 months of commissioning activity AR1 Full summary evidence compliance report to be submitted within 18 months of commissioning activity AR1

Table S1.4 Pre-operational measures	
Reference	**Pre-operational measures**
1	Prior to the commencement of commissioning of each activity in Table S1.1 of the permit, the operator shall submit a summary of the site Environment Management System (EMS) to the Environment Agency and obtain the Environment Agency's written approval to it. The operator shall make available for inspection all documents and procedures which form part of the EMS. The EMS shall be developed in line with the requirements set out in Environment Agency web guide on developing a management system for environmental permits (found on www.gov.uk). The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.
2	Prior to the commencement of commissioning of activity AR1, the operator shall submit to the Environment Agency for approval, a protocol for the sampling and testing of incinerator bottom ash for the purposes of assessing its hazard status and obtain the Environment Agency's written approval to it. Sampling and testing shall be carried out in accordance with the protocol as approved.
3	At least 6 months (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of any part of the installation, the operator shall provide a written commissioning plan, including the phased commissioning proposal and timelines for completion, for approval by the Environment Agency and obtain the Environment Agency's written approval to it. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.
4	Prior to the commencement of commissioning of each of the following activities in Table S1.1 of the permit – AR1, AR2, AR3, AR4, AR5 and AR6, the operator shall submit a written report to the Agency detailing the waste pre-acceptance and waste acceptance procedures to be implemented for that activity and obtain the Environment Agency's written approval to it. The waste pre-acceptance and acceptance procedures shall include the process and systems by which wastes unsuitable for treatment at the site will be controlled. The procedures shall be implemented in accordance with the written approval from the Environment Agency.
5	After completion of furnace design and at least three calendar months before commencement of commissioning of activity AR1, the operator shall submit a written report to the Environment Agency of the details of the computational fluid dynamic (CFD) modelling and obtain the Environment Agency's written approval to it. The report shall demonstrate whether the design combustion conditions comply with the residence time and temperature requirements as defined by Chapter IV and Annex VI of the IED.
6	At least 4 months (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of any part of the installation, the operator shall submit a report on the baseline conditions of soil and groundwater at the installation and obtain the Environment Agency's written approval to it. The report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for in Article 22(3) of the IED. The report shall contain information, supplementary to that already provided in Application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.

Table S1.4 Pre-operational measures	
Reference	**Pre-operational measures**
7	At least 4 months (or any other date as agreed in writing with the Environment Agency) prior to the commencement of commissioning of any part of the installation, the operator shall submit the written protocol referenced in condition 3.2.4 for the monitoring of soil and groundwater and obtain the Environment Agency's written approval to it. The protocol shall demonstrate how the operator will meet the requirements of Articles 14(1)(b), 14(1)(e) and 16(2) of the IED. The procedure shall be implemented in accordance with the written approval from the Environment Agency.
8	At least 6 months before the commencement of commissioning of any part of the installation, the operator shall submit a written report to the Environment Agency specifying arrangements for continuous and periodic monitoring of emissions to air to comply with Environment Agency guidance notes M1 and M2 and obtain the Environment Agency's written approval to it. The report shall include the following: • Plant and equipment details, including accreditation to MCERTS • Methods and standards for sampling and analysis • Details of monitoring locations, access and working platforms
9	At least 6 months (or any other date as agreed in writing with the Environment Agency) prior to the commencement of commissioning of each activity in Table S1.1 of the permit, the operator shall submit a revised odour management plan to the Environment Agency and obtain the Environment Agency's written approval to it. The plan shall incorporate all the required detailed information as specified in the Environment Agency's review of the site's odour management plan (dated 30/05/2017) relevant to the activities covered. The plan shall take into account the appropriate measures for odour control specified in the Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and Mechanical Biological Treatment Sector (Reference LIT 8707, August 2013). The plan shall also include all the required information as specified in the Environment Agency Horizontal Guidance H4 – Odour Management.
10	At least 6 months (or any other date as agreed in writing with the Environment Agency) prior to the commencement of commissioning of each activity in Table S1.1 of the permit, the operator shall submit a revised fire prevention plan to the Environment Agency and obtain the Environment Agency's written approval to it. The plan shall take into account the Environment Agency's technical guidance, Fire prevention plans (dated November 2016). The appropriate measures for fire prevention shall, as a minimum, include: • the management of storage of feedstock, product and/or waste piles • the measures to prevent, detect and contain fires; and • the management of fire-waters The plan shall incorporate all the required detailed information as specified in the Environment Agency's review of the site's fire prevention plan (dated 31/05/2017) relevant to the activities covered. The operator shall implement the procedures and measures as approved by the Environment Agency.
11	Prior to the commencement of commissioning of any part of the installation, the operator shall provide the Environment Agency with a written report describing the detailed programme of noise and vibration monitoring that will be carried out at the site at the commissioning stage and also when the plant is fully operational and obtain the Environment Agency's written approval to it. The report shall include confirmation of locations, time, frequency and methods of monitoring. The monitoring programme shall be carried out in accordance with the Environment Agency's written approval.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Fuel oil	<0.1% sulphur content

Table S2.2 Permitted waste types and quantities for the waste incineration plant	
Maximum quantity	**The annual waste throughput for the waste incineration plant shall not exceed 595,000 tonnes (including output from the MBT facility and WWTP).**
Waste code	**Description**
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	**wastes from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01	paper and cardboard
19 12 04	plastic and rubber
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 41	wastes from chimney sweeping
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste

Table S2.2 Permitted waste types and quantities for the waste incineration plant	
Maximum quantity	**The annual waste throughput for the waste incineration plant shall not exceed 595,000 tonnes (including output from the MBT facility and WWTP).**
Waste code	**Description**
20 02 03	other non-biodegradable wastes
20 03	**other municipal wastes**
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

Table S2.3 Permitted waste types and quantities for the paper pulp plant	
Maximum quantity	**The annual waste throughput for the paper pulp plant shall not exceed 170,000 tonnes.**
Waste code	**Description**
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01	paper and cardboard
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard

Table S2.4 Permitted waste types and quantities for anaerobic digestion facility	
Maximum quantity	**Annual throughput for the anaerobic digestion facility shall not exceed 30,000 tonnes (including leachate from the MBT facility)**
Waste code	**Description**
02	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing**
02 01	**wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 01 01	sludges from washing and cleaning – vegetables, fruit and other crops
02 01 02	animal tissue waste
02 01 03	plant tissue waste
02 01 06	animal faeces, urine and manure (including spoiled straw) only

Table S2.4 Permitted waste types and quantities for anaerobic digestion facility	
Maximum quantity	**Annual throughput for the anaerobic digestion facility shall not exceed 30,000 tonnes (including leachate from the MBT facility)**
Waste code	**Description**
02 01 07	wastes from forestry
02 01 99	residues from commercial mushroom cultivation
02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	sludges from washing and cleaning
02 02 02	animal tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 02 99	sludges from gelatine production, animal gut contents
02 03	**wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 03 99	sludge from production of edible fats and oils to include seasoning residues, molasses residues, residues from production of potato, corn or rice starch
02 04	**wastes from sugar processing**
02 04 03	sludges from on-site effluent treatment
02 04 99	other biodegradable wastes
02 05	**wastes from the dairy products industry**
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	**wastes from the baking and confectionery industry**
02 06 01	materials unsuitable for consumption or processing
02 06 03	sludges from on-site effluent treatment
02 07	**wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
02 07 99	spent grains, hops and whisky filter sheets/cloths, yeast and yeast-like residues, sludge from production process
03	**Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard**
03 01	**wastes from wood processing and the production of panels and furniture**
03 01 01	waste bark and cork

Table S2.4 Permitted waste types and quantities for anaerobic digestion facility	
Maximum quantity	**Annual throughput for the anaerobic digestion facility shall not exceed 30,000 tonnes (including leachate from the MBT facility)**
Waste code	**Description**
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 02	green liquor sludge
03 03 08	paper and cardboard – not allowed if any non-biodegradable coating or preserving substance is present
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
04	**Wastes from the leather, fur and textile industries**
04 01	**wastes from the leather and fur industry**
04 01 01	fleshings and lime split wastes
04 01 05	tanning liquor free of chromium
04 01 07	sludges not containing chromium
04 02	**wastes from the textile industry**
04 02 10	organic matter from natural products, e.g. grease, wax
07	**Wastes from organic chemical processes**
07 01	**wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 08*	glycerol waste from bio-diesel manufacture from non-waste vegetable oils only
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging – not allowed if any non-biodegradable coating or preserving substance is present. Excludes laminates such as Tetrapaks.
15 01 02	biodegradable plastic packaging – must be independently certified to BS EN 13432
15 01 03	untreated wooden packaging – not allowed if any non-biodegradable coating or preserving substance is present
15 01 05	composite packaging – must conform to BS EN 13432 and not allowed if any non-biodegradable coating or preserving substance is present
16	**Wastes not otherwise specified in the list**
16 10	**aqueous liquid wastes destined for off-site treatment**
16 10 02	liquor/leachate from a composting process that accepts waste input types listed in this table only
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	waste types listed within this table, Table S2.4, that have been mixed together only
19 02 06	sludge types from waste listed within this table, Table S2.4, that have been heat treated only

Table S2.4 Permitted waste types and quantities for anaerobic digestion facility	
Maximum quantity	**Annual throughput for the anaerobic digestion facility shall not exceed 30,000 tonnes (including leachate from the MBT facility)**
Waste code	**Description**
19 02 10	glycerol not designated as hazardous i.e. excludes EWC code 19 02 08
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	**wastes from anaerobic treatment of waste**
19 06 03	liquor from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table only)
19 06 04	digestate from anaerobic treatment of source segregated biodegradable waste (from a process that treats wastes which are listed in this table only)
19 06 05	liquor from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
19 06 06	digestate from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 12	sludges from biological treatment of industrial waste water
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 12	waste types listed in this table, Table S2.4, that have been subjected to mechanical treatment only
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard – not allowed if any non-biodegradable coating or preserving substance is present. Excludes laminates such as Tetrapaks.
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 01 38	untreated wood where no non-biodegradable coating or preserving substance is present
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 03	**other municipal wastes**
20 03 01	mixed municipal waste – only separately collected biodegradable wastes of types listed within this table, Table S2.4
20 03 02	waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

Table S2.5 Permitted waste types and quantities for the mechanical biological treatment plant	
Maximum quantity	**The annual waste throughput for the mechanical biological treatment plant shall not exceed 170,000 tonnes.**
Waste code	**Description**
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
15 02	**absorbents, filter materials, wiping cloths and protective clothing**
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 03	off-specification compost
19 10	**wastes from shredding of metal-containing wastes**
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard
20 01 38	wood other than that mentioned in 20 01 37
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 02 03	other non-biodegradable wastes
20 03	**other municipal wastes**
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues

Table S2.6 Permitted waste types and quantities for the materials recycling facility	
Maximum quantity	**The annual waste throughput for the materials recycling facility shall not exceed 300,000 tonnes (including output from the MBT facility).**
Waste code	**Description**
15	**Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 07	glass packaging
15 02	**absorbents, filter materials, wiping cloths and protective clothing**
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 03	off-specification compost
19 10	**wastes from shredding of metal-containing wastes**
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 02 03	other non-biodegradable wastes
20 03	**other municipal wastes**

Table S2.6 Permitted waste types and quantities for the materials recycling facility	
Maximum quantity	**The annual waste throughput for the materials recycling facility shall not exceed 300,000 tonnes (including output from the MBT facility).**
Waste code	**Description**
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1 & A2 (as shown on site plan in schedule 7)	Particulate matter	Waste incineration plant	30 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Particulate matter		10 mg/m^3	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Total Organic Carbon (TOC)		20 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Total Organic Carbon (TOC)		10 mg/m^3	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Hydrogen chloride		60 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Hydrogen chloride		10 mg/m^3	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Hydrogen fluoride		2 mg/m^3	periodic over minimum 1-hour period	Quarterly in first year. Then Bi-annual	BS ISO 15713
A1 & A2 (as shown on site plan in schedule 7)	Carbon monoxide		100 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Carbon monoxide		50 mg/m^3	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan	Sulphur dioxide		200 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
in schedule 7)						
A1 & A2 (as shown on site plan in schedule 7)	Sulphur dioxide		50 mg/m^3	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		400 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		150 mg/m^3	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Cadmium & thallium and their compounds (total)		0.05 mg/m^3	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A1 & A2 (as shown on site plan in schedule 7)	Mercury and its compounds		0.05 mg/m^3	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 13211
A1 & A2 (as shown on site plan in schedule 7)	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)		0.5 mg/m^3	periodic over minimum 30 minute, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 14385
A1 & A2 (as shown on site plan in schedule 7)	Water vapour content		No limit set	continuous	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan in schedule 7)	Ammonia (NH_3)		No limit set	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3
A1 & A2 (as shown on site plan	Nitrous oxide (N_2O)		No limit set	daily average	Continuous measurement	BS EN 14181 and BS EN 15267-3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
in schedule 7)						
A1 & A2 (as shown on site plan in schedule 7)	Dioxins / furans (I-TEQ)		0.1 ng/m^3	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1 & A2 (as shown on site plan in schedule 7)	Dioxins / furans (WHO-TEQ Humans / Mammals)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1 & A2 (as shown on site plan in schedule 7)	Dioxins / furans (WHO-TEQ Fish)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1 & A2 (as shown on site plan in schedule 7)	Dioxins / furans (WHO-TEQ Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1 & A2 (as shown on site plan in schedule 7)	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948-4
A1 & A2 (as shown on site plan in schedule 7)	Dioxin-like PCBs (WHO-TEQ Fish)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948-4
A1 & A2 (as shown on site plan in schedule 7)	Dioxin-like PCBs (WHO-TEQ Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948-4

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1 & A2 (as shown on site plan in schedule 7)	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS ISO 11338 Parts 1 and 2
A3 (as shown on site plan in schedule 7)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	AD plant – gas engine 1 [note 1]	500 mg/m^3	Hourly average	Annually	BS EN 14792
	Sulphur dioxide		350 mg/m^3			BS EN 14791
	Carbon monoxide		1400 mg/m^3			BS EN 15058
	Total VOCs		1000 mg/m^3			BS EN 12619:2013
A4 (as shown on site plan in schedule 7)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	AD plant – gas engine 2 [note 1]	500 mg/m^3	Hourly average	Annually	BS EN 14792
	Sulphur dioxide		350 mg/m^3			BS EN 14791
	Carbon monoxide		1400 mg/m^3			BS EN 15058
	Total VOCs		1000 mg/m^3			BS EN 12619:2013
A5 (as shown on site plan in schedule 7)	No parameter set	Paper pulp plant	No limit set	--	--	--
A6 (as shown on site plan in schedule 7)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	AD plant – emergency flare [note 2]	150 mg/m^3	Hourly average	[note 3]	BS EN 14792
	Carbon monoxide		50 mg/m^3			BS EN 15058
	Total VOCs		10 mg/m^3			BS EN 12619:2013
A7 (as shown on site plan in schedule 7)	No parameter set	Building ventilation /louvres	No limit set	--	--	--

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A8 (as shown on site plan in schedule 7)	No parameter set	Biofilter	No limit set	--	--	--
Note 1 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in section 4.5.1 of LFTGN08 v2 2010 shall apply. Note 2 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 3 per cent (dry gas). The measurement uncertainty specified in section 5.3.1 of LFTGN05 v2 2010 shall apply. Note 3 - Monitoring to be undertaken 12 months after commissioning of the emergency flare. 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.						

Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1 & A2 (as shown on site plan in schedule 7)	Particulate matter	Waste incineration plant	150 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3 during abatement plant failure
A1 & A2 (as shown on site plan in schedule 7)	Total Organic Carbon (TOC)	Waste incineration plant	20 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3 during abatement plant failure
A1 & A2 (as shown on site plan in schedule 7)	Carbon monoxide	Waste incineration plant	100 mg/m^3	½-hr average	Continuous measurement	BS EN 14181 and BS EN 15267-3 during abatement plant failure during abatement plant failure

Table S3.2 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 Environment Agency.
A1 & A2	Exhaust gas temperature	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 & A2	Exhaust gas pressure	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 & A2	Exhaust gas oxygen content	Continuous	BS EN 15267-3 BS EN 14181	
A1 & A2	Exhaust gas water vapour content	Continuous	BS EN 15267-3 BS EN 14181	Unless gas is dried before analysis of emissions.
Bio-drying vessels (MBT plant)	Temperature (°C)	Continuous	Temperature probes	--
Biogas from Digesters	Flow	Continuous	In accordance with EU weights and measures Regulations	--
	Methane	Continuous	None specified	Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	Hydrogen sulphide	Daily	None specified	--
Representative sample of digester's contents	Key parameters to include temperature, ammonia, volatile fatty acids, organic loading rate, alkalinity and pH	As described in Application	As described in Application	--
Waste water treatment plant	Key parameters to include pH, temperature, conductivity, ammonia, nitrate,	As described in Application	As described in Application	--

Table S3.2 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
	BOD, residual hardness, residual silica, total dissolved solids			
Waste reception building; digesters, storage tanks and site boundary	Odour	As specified in Application	Olfactory monitoring	Odour detection as specified in Application.
Digesters and all storage tanks	Integrity checks	Weekly	Visual assessment	--
Biofilter	Temperature	As required	Temperature probe	Biofilter shall be regularly checked and maintained to ensure appropriate temperature and moisture content.
	Moisture	As required	None specified	
	Thatching/compaction	As required	None specified	
Carbon filtration system filter	Key process parameters to include, temperature, differential pressure, air flow, moisture and dust filters (where installed).	In accordance with manufacturer's recommendations.	None specified	Odour abatement (Carbon filter) shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Carbon filters to be replaced when saturated in accordance with manufacturer's recommendations. Differential pressure determined by upstream and downstream measurement of the activated carbon unit or other method agreed in writing with the Environment Agency.

Table S3.3 Residue quality					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method [note 1]**	**Other specifications**
Bottom Ash from incineration line 1 and 2	TOC	<3%	Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	--
Bottom Ash from incineration line 1 and 2	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	No limit set	Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	--
Bottom Ash from incineration line 1 and 2	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No limit set	Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	--
APC Residues from incineration line 1 and 2	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese,	No limit set	Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	--

Table S3.3 Residue quality					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method [note 1]**	**Other specifications**
	Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.				
APC Residues from incineration line 1 and 2	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'	--
Note 1 – or other equivalent standard as agreed in writing with the Environment Agency.					

Schedule 4 – Reporting

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Emissions to air Parameters as required by condition 3.5.1	A1 and A2	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Emissions to air Parameters as required by condition 3.5.1	A3, A4, A6	Annually	1 Jan, 1 Apr, 1 Jul and 1 Oct
TOC Parameters as required by condition 3.5.1	Bottom Ash (from incineration line 1)	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
TOC Parameters as required by condition 3.5.1	Bottom Ash (from incineration line 2)	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	Bottom Ash (from incineration line 1 and 2)	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	Bottom Ash (from incineration line 1 and 2)	Before use of a new disposal or recycling route	
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	APC Residues (from incineration line 1 and 2)	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	APC Residues (from incineration line 1 and 2)	Before use of a new disposal or recycling route	

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Functioning and monitoring of the incineration plant as required by condition 4.2.2	Plant function	Annually	1 Jan

Table S4.2 Annual production/treatment	
Parameter	**Units**
Total Refuse Derived Fuel + Solid Recovered Fuel Incinerated	tonnes
Total Waste Incinerated	tonnes
Digestate produced	tonnes
Electrical energy produced	KWh
Thermal energy produced e.g. steam for export	KWh
Electrical energy exported	KWh
Electrical energy used by the installation	KWh
Waste heat utilised by the installation	KWh

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Electrical energy exported, imported and used at the installation	Annually	KWh / tonne of waste incinerated
Fuel oil consumption	Annually	Kg / tonne of waste incinerated
Mass of Bottom Ash produced	Annually	Kg / tonne of waste incinerated
Mass of APC residues produced	Annually	Kg / tonne of waste incinerated
Mass of Other solid residues produced	Annually	Kg / tonne of waste incinerated
Ammonia consumption	Annually	Kg / tonne of waste incinerated
Activated carbon consumption	Annually	Kg / tonne of waste incinerated
Lime consumption	Annually	Kg / tonne of waste incinerated
Water consumption	Annually	Kg / tonne of waste incinerated
Periods of abnormal operation	Annually	No of occasions and cumulative hours for current calendar year for each line.
Emergency flare operation	Annually	hours

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air	Form air 1-8 or other form as agreed in writing by the Environment Agency	11/09/17
Water and raw material usage	Form WU/RM1 or other form as agreed in writing by the Environment Agency	11/09/17
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	11/09/17
Residue quality	Form residue 1 or other form as agreed in writing by the Environment Agency	11/09/17
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	11/09/17
Waste disposal/recovery	Form R1 or other form as agreed in writing by the Environment Agency	11/09/17

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

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

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

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

"*abatement equipment*" means that equipment dedicated to the removal of polluting substances from releases from the installation to air or water media.

"abnormal operation" means any technically unavoidable stoppages, disturbances, or failures of the abatement plant or the measurement devices, during which the emissions into the air and the discharges of waste water may exceed the prescribed emission limit values.

"*accident*" means an accident that may result in pollution.

"*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.

"*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.

"*bottom ash*" means ash falling through the grate

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

"*CEM*" Continuous emission monitor

"*CEN*" means Commité Européen de Normalisation

"*bi-annual*" means twice per year with at least five months between tests;

"*commissioning*" means testing of the new incineration plant that involves any operation of the furnace or as agreed with the Environment Agency.

"*daily average*" for releases of substances to air means the average of valid half-hourly averages over a calendar day during normal operation.

"*digestate*" means material resulting from an anaerobic digestion process.

"*dioxin and furans*" means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

"*disposal*" means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

"*emissions to land*" includes emissions to groundwater.

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

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

"*groundwater*" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"*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.

'List of Wastes' means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time

"*LOI*" means loss on ignition a technique used to determine the combustible material by heating the ash residue to a high temperature

"*MCERTS*" means the Environment Agency's Monitoring Certification Scheme.

"*PAH*" means Poly-cyclic aromatic hydrocarbon, and comprises Anthanthrene, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[b]naph(2,1-d)thiophene, Benzo[c]phenanthrene, Benzo[ghi]perylene, Benzo[a]pyrene, Cholanthrene, Chrysene, Cyclopenta[c,d]pyrene, 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:

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

"*shut down*" is any period where the plant is being returned to a non-operational state and there is no waste being burned as described in the application or agreed in writing with the Environment Agency.

"start up" is any period, where the plant has been non-operational, after igniting the auxiliary burner until waste has been fed to the plant [in sufficient quantity to cover the grate and] to initiate steady-state conditions as described in the application or agreed in writing with the Environment Agency.

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

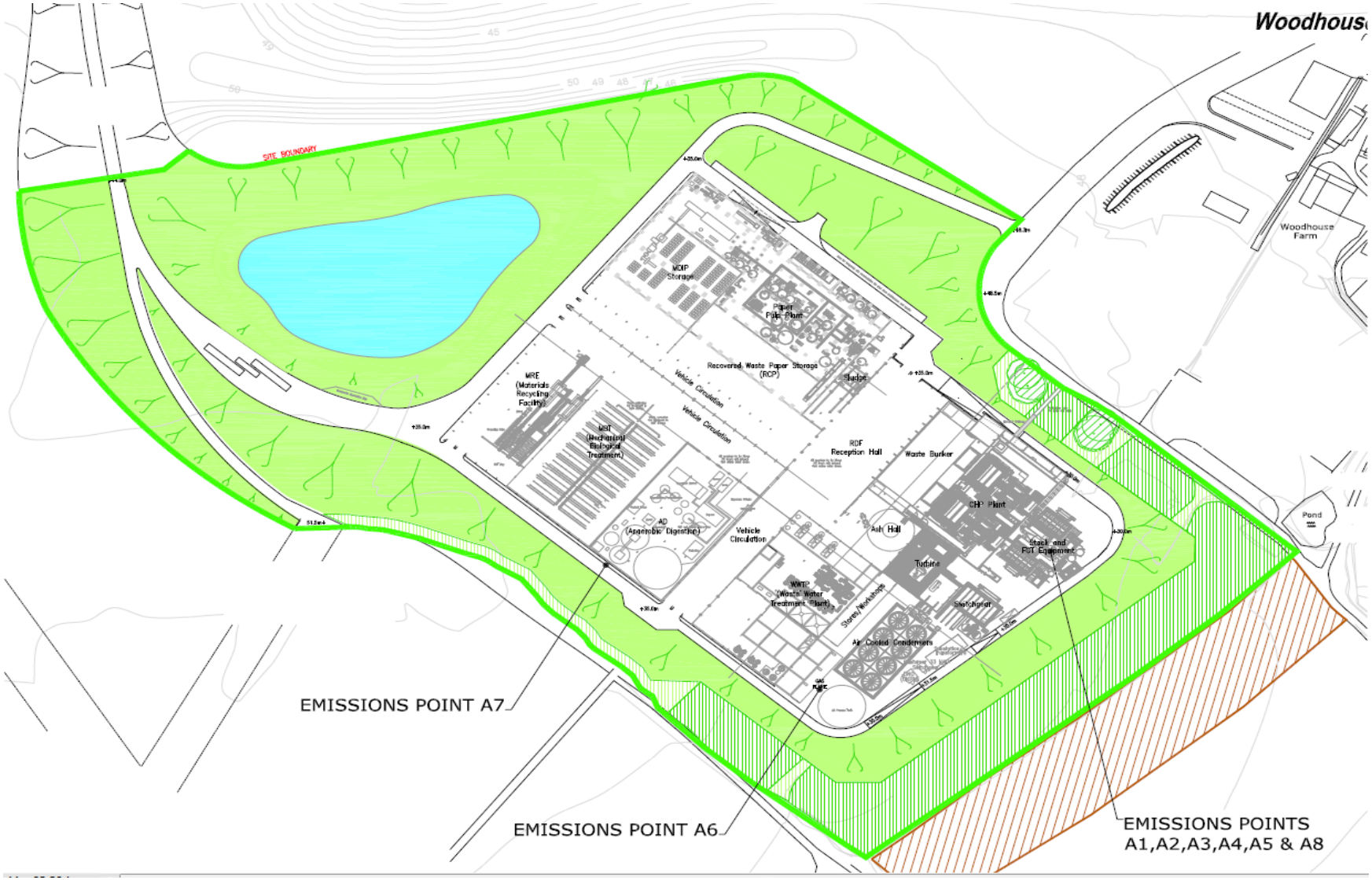
For dioxins/furans and dioxin-like PCBs the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their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

TEF schemes for dioxins and furans				
Congener	**I-TEF**	**WHO-TEF**		
	1990	**2005**	**1997/8**	
		Humans / Mammals	**Fish**	**Birds**
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

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



END OF PERMIT