

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

FCC Recycling (UK) Limited
Greatmoor Energy from Waste Facility
Edgcott
Aylesbury
Buckinghamshire
HP18 0QN

Variation application number

EPR/UP3734HT/V005

Permit number

EPR/UP3734HT

Greatmoor Energy from Waste Facility

Permit number EPR/UP3734HT

Introductory note

This introductory note does not form a part of the notice

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

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

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

Brief description of the process

This permit controls the operation of a waste incineration plant. The relevant listed activity is S5.1 A1 (b). The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the permit are as follows:

| | |
|--------------------------------|---|
| Furnace technology | Moving Grate |
| Number of lines | 1 |
| Principal waste type | Municipal and commercial & industrial waste |
| Stack height | 95m |
| Permitted plant capacity | 345,000 tonnes per year |
| Electrical generation capacity | 31.2 MWe |

The installation is designed to burn residual municipal waste. The waste is weighed when entering the site and incoming waste vehicles discharge into the waste bunker. Overhead grab cranes are used to mix and break up the incoming materials, to ensure homogeneity of feed. Non-permitted wastes are removed prior to the waste entering the combustion chambers and removed off-site. Waste is loaded from the bunker into the combustion chamber via dedicated feed chutes and airlocks, using the grab cranes. The waste bunker is designed to provide up to seven days of waste storage capacity at the normal rate of throughput.

Air for combustion is drawn from the tipping hall reducing the escape of dust and odours. The reception area is enclosed, with rapid action access doors to manage traffic and louvered panels to control air movements.

Combustion takes place in two stages, with primary combustion undertaken on a moving mechanical grate to promote the mixing of burning/unburnt wastes. The combustion gas from the primary stage is incinerated in the secondary combustion chamber to reach the specified minimum temperature of 850 degrees centigrade for a minimum of two seconds. The unburnt material remaining on the grate is removed as Incinerator Bottom ash (IBA).

The heat from combustion is recovered within a waste heat boiler to form high pressure steam, which is used to drive turbines to generate electricity. A proportion of this site generated energy is used within the facility itself, but the majority will be exported to the National Grid.

The heat recovery boiler incorporates facilities to minimise dust carry-over and for online cleaning through rapping systems and soot blowers to minimise maintenance impacts.

The air pollution control system involves a process called "Selective Non-Catalytic Reduction" (SNCR) to control the release of nitrogen oxides (NOx) gases. Acid gases are treated by a "semi - dry" system using lime injection. Activated carbon which adsorbs dioxins, furans and gaseous mercury is also injected into the gas stream. The exhaust gases are then filtered through a bag filter, which traps fine particulate matter (dust) including the reaction products and excess reagents. The bag filters also remove heavy metals that are adsorbed onto particulate matter. These residues are known collectively as air pollution control (APC) residues. A metering system delivers the reagents in the right quantity to ensure low emissions, low reagent consumption and low residue levels.

The cleaned gases pass to the atmosphere via the stack. The gases are subject to extractive continuous sampling and monitoring, using certified Continuous Monitoring Equipment (CEMs). Feedback of monitoring data allows action to be taken to adjust the process if necessary before emission limits are exceeded.

The principal waste streams the Installation produces are IBA, APC residues and recovered ferrous and non-ferrous metals. APC residues are managed as hazardous waste.

The site is located approximately 2km east of the village of Edgcott, 1.7 km from HM Prisons Grendon Springhill, 14km to the northwest of Aylesbury town centre and 11km south of Buckingham at National Grid Reference SP 703 224. The Listed Lower Greatmoor Farm farmhouse and outbuildings are located to the south of the Energy from Waste (EfW) facility site, and is the nearest residential receptor.

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

| Status log of the permit | | |
|---|--------------------------|--|
| Description | Date | Comments |
| Application EPR/UP3734HT/A001 | Duly Made 05/06/11 | |
| Issue of Notice seeking further information | 16/11/11 | |
| Additional Information Received | 12/12/11 and 19/12/11 | Response to question 9 sent under separate cover |
| Issue of Notice seeking further information | 24/01/12 | |
| Additional Information Received | 01/02/12 | |
| Permit determined | 09/05/12 | |
| Notified of change of company name | 13/09/12 | Name changed to FCC Recycling (UK) Limited |

| Status log of the permit | | |
|--|-----------------------|--|
| Description | Date | Comments |
| Variation issued EPR/UP3734HT/V002 | 28/09/12 | Varied permit issued to FCC Recycling (UK) Limited |
| Agency variation determined EPR/UP3734HT/V003 | 21/02/14 | Agency variation to implement the changes introduced by IED |
| Application EPR/UP3734HT/V004 | Duly made 18/08/17 | Application to increase the annual waste throughput from 300,000 tonnes to 345,000 tonnes, and to vary and update the permit to modern conditions. |
| Permit determined | 18/01/18 | Consolidated permit issued |
| Regulation 61 notice issued | 21/09/22 | Regulation 61 Notice requiring information for Statutory review of permit. BAT Conclusions published 03 December 2019. |
| Regulation 61 notice response | 09/12/22 | |
| Variation issued EPR/UP3734HT/V005 | 16/03/23 | |

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

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

Permit number

EPR/UP3734HT

Issued to

FCC Recycling (UK) Limited (“the operator”)

whose registered office is

**3 Sidings Court
White Rose Way
Doncaster
England
DN4 5NU**

company registration number 02674166

to operate a regulated facility at

**Greatmoor Energy from Waste Facility
Edgcott
Aylesbury
Buckinghamshire
HP18 0QN**

to the extent set out in the schedules.

The notice shall take effect from 16/03/2023

| Name | Date |
|----------------------------------|------------|
| Principal Permitting Team Leader | 16/03/2023 |

Authorised on behalf of the Environment Agency

Schedule 1

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

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/UP3734HT

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/UP3734HT/V005 authorising,

FCC Recycling (UK) Limited (“the operator”),

whose registered office is

**3 Sidings Court
White Rose Way
Doncaster
England
DN4 5NU**

company registration number 02674166

to operate an installation at

**Greatmoor Energy from Waste Facility
Edgcott
Aylesbury
Buckinghamshire
HP18 0QN**

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

| Name | Date |
|----------------------------------|------------|
| Principal Permitting Team Leader | 16/03/2023 |

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
 - (c) referenced in schedule 1, table S1.1 (AR1) from 03/12/2023, in accordance with a written other than normal operating conditions (OTNOC) management plan.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 The operator shall review the written management system at least every 3 years or otherwise as requested by the Environment Agency.
- 1.1.4 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities.
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.
- 1.2.2 The operator shall provide and maintain steam and/or hot water pass-outs such that opportunities for the further use of waste heat may be capitalised upon should they become practicable.
- 1.2.3 The operator shall review the viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:
- (a) new plans for significant developments within 15 km of the installation;
 - (b) changes to the Local Plan;
 - (c) changes to the UK CHP Development Map or similar; and
 - (d) new financial or fiscal incentives for CHP.

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

1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;

- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

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

- 1.4.1 The operator shall take appropriate measures to ensure that:
 - (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

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

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
 - (a) it is of a type and quantity listed in schedule 2 table S2.2; and

- (b) it conforms to the description in the documentation supplied by the producer or holder.
- 2.3.5 Waste paper, metal, plastic or glass that has been separately collected for the purpose of preparing for re-use or recycling shall not be accepted. Waste from the treatment of these separately collected wastes shall only be accepted if incineration delivers the best environmental outcome in accordance with regulation 12 of the Waste (England and Wales) Regulations 2011.
- 2.3.6 Separately collected fractions other than those listed in condition 2.3.5 shall not be accepted unless they are unsuitable for recovery by recycling.
- 2.3.7 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.8 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.9 Waste shall not be charged if:
- (a) the combustion chamber temperature is below 850 °C,
 - (b) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded during abnormal operation; or
 - (c) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or
 - (d) continuous emission monitors to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation; or
 - (e) unless otherwise agreed in writing with the Environment Agency, there is a stoppage, disturbance or failure of the activated carbon abatement system, other than during abnormal operation.
 - (f) continuous emission monitors to demonstrate compliance with the emission limit values for particulates, TOC or CO in schedule 3 are unavailable unless alternative techniques, as agreed in writing with the Environment Agency, are used to demonstrate compliance with those emission limit values.
- 2.3.10 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.11 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as soon as possible.
- 2.3.12 The operator shall interpret the start of the period of “abnormal operation” as the earliest of the following:
- (a) a technically unavoidable stoppage, disturbance, or failure of continuous emission monitors.
 - (b) unless otherwise agreed in writing with the Environment Agency, a technically unavoidable stoppage, disturbance, or failure of the activated carbon abatement system
 - (c) Any other technically unavoidable stoppage, disturbance, or failure of the plant which is causing or could lead to an exceedance of an emission limit value in table S3.1.
- 2.3.13 The operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:
- (a) when the failed equipment is repaired and brought back into normal operation;

- (b) when the operator initiates a shut down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;
 - (c) The failed equipment has not been repaired and brought back into normal operation and a single period of abnormal operation reaches a duration of 4 hours after the start of abnormal operation on an incineration line
 - (d) Abnormal operation occurs on an incineration line and the cumulative duration of abnormal operation periods over 1 calendar year has reached 60 hours on that incineration line;
- 2.3.14 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition 2.3.9 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.9 is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.
- 2.3.15 Bottom ash and APC residues shall not be mixed.

2.4 Improvement programme

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

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.1.
- 3.1.2 The limits given in schedule 3, subject to condition 3.2.1, 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 limits and monitoring for emission to air for incineration plant

- 3.2.1 The limits for emissions to air apply as follows:
- (a) The limits in table S3.1 shall not be exceeded except during periods of abnormal operation.
 - (b) The limits in table S3.1 (a) shall not be exceeded during abnormal operation.
- 3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1 and S3.1(a); the Continuous Emission Monitors shall be used such that;
- (a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:

- Carbon monoxide 10%
 - Sulphur dioxide 20%
 - Oxides of nitrogen (NO & NO₂ expressed as NO₂) 20%
 - Particulate matter 30%
 - Total organic carbon (TOC) 30%
 - Hydrogen chloride 40%
 - Ammonia 40%
- (b) valid half-hourly average values or 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.2.2 (a).
- (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour or 10 minute period, the half-hourly average or 10-minute average shall in any case be considered valid if measurements are available for a minimum of 20 minutes or 7 minutes during the half-hour or 10-minute period respectively. The number of half-hourly or 10-minute averages so validated shall not exceed 5 or 15 respectively per day;
- (d) daily average values shall be calculated as follows:
- (i) the average of valid half hourly averages or 10 minute averages over a calendar day excluding half hourly averages or 10 minute averages during periods of abnormal operation. The daily average value shall be considered valid if no more than five half-hourly average or fifteen 10-minute average values in any day have been determined not to be valid;
- (e) no more than ten daily average values per year shall be determined not to be valid.

3.3 Emissions of substances not controlled by emission limits

- 3.3.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.3.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.
- 3.3.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.4 Odour

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used

appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Noise and vibration

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

3.5.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring

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

- (a) point source emissions specified in tables S3.1 and S3.1(a);
- (b) process monitoring specified in table S3.2; and
- (c) residue quality in table S3.3.

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

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

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

3.7 Pests

- 3.7.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.7.2 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.8 Fire prevention

- 3.8.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.
- 3.8.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
 - (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

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

- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year using the annual report form specified in schedule 4, table S4.4 or otherwise in a format agreed with the Environment Agency. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2;
 - (c) the performance parameters set out in schedule 4 table S4.3
 - (d) the functioning and monitoring of the incineration plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

- 4.3.1 In the event:
- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately:
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
 - (b) of a breach of any permit condition the operator must immediately:
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
 - (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

- 4.3.2 Any information provided under condition 4.3.1, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

| Table S1.1 activities | | | |
|---------------------------------------|---|---|---|
| Activity reference | Activity listed in Schedule 1 of the EP Regulations | Description of specified activity | Limits of specified activity |
| AR1 | S5.1 A1 (b) | The incineration of non-hazardous waste in a waste incineration plant with a capacity of 3 tonnes per hour or more. | From receipt of waste to emission of exhaust gas and removal from site of waste arising. Waste types and quantities as specified in Table S2.2 of this permit. |
| Directly Associated Activities | | | |
| AR2 | Electricity Generation | Generation of 31.2MWe electrical power using a steam turbine from energy recovered from the flue gases. | |
| AR3 | Back up electrical generator | For providing emergency electrical power to the plant in the event of supply interruption. | Emergency use to a maximum of 500 hours operation per year. Maximum of 50 hours testing per year. |

| Table S1.2 Operating techniques | | |
|--|---|---|
| Description | Parts | Date Received |
| Application EPR/UP3734HT/A001 | Best Available Techniques and operating techniques (all sections) BAT03 Questions in support of EPR 5.01 (all sections) <i>Residue Management Plan (all sections)</i> | Duly Made Date 05/06/11 |
| Response to Schedule 5 Notice dated 12/12/11 | Response to questions 3,4,5,6 and 7 | 12/12/11 |
| Application EPR/UP3734HT/V004 | Application supporting document: Greatmoor EfW – EP Variation, dated 15/06/17 (received 08/08/17), Ref: S1551-0230-0001JRS. | 08/08/17 |
| Response to regulation 61 notice | Operating techniques as set out in the response to the regulation 61 notice, and additional information via email on responses to BAT2, BAT20 and BAT18. | 09/12/2022, 25/01/2023 & 20/02/2023 |

| Table S1.3 Improvement programme requirements | | |
|---|---|----------|
| Reference | Requirement | Date |
| IC10 | The operator shall perform a study to determine the extent to which the operation of the current systems in place at the plant to minimise NOx emissions can be further optimised such that emissions are reduced as far as possible below 180 mg/Nm ³ as a daily average, without significantly increasing emissions of other pollutants or having a significant negative effect on plant operation, reliability or bottom ash quality. The study shall | 30/09/23 |

| Table S1.3 Improvement programme requirements | | |
|--|---|-------------|
| Reference | Requirement | Date |
| | <p>be based on the results of trials carried out at the installation and shall have regard to the recommendations for test conditions set out in Section 5.4.3 of report titled 'Establishing factors that influence NOx reduction at waste incineration plant to levels below the upper end of the BAT-AELs' (dated 14/01/2022), or other methodology agreed in writing with the Environment Agency. A written report of the study shall be submitted to the Environment Agency which shall include but not necessarily be limited to the following:</p> <ul style="list-style-type: none"> • A brief description of the currently installed measures at the installation to minimise NOx emissions, including details of how the reagent dosing system responds to emissions monitoring data and historic data which illustrates the current achievable level of daily NOx emissions. • The results of trials conducted to further reduce daily average NOx emissions using currently installed measures, including: <ul style="list-style-type: none"> ○ a description of the parameters that were varied during the trial e.g. ammonia or urea feed rates, physical form of urea injected, air flows, and the range over which they were varied ○ the levels of NOx achieved and associated levels of ammonia and nitrous oxide emissions and reagent consumption ○ observed effects and predicted long-term impacts on plant operation, reliability and maintenance regime ○ any changes to the composition of the bottom ash and boiler ash and the implications of those changes for the ability to process and use the ash, as well as for the pollution potential of the ash both during processing and its subsequent use as a secondary aggregate ○ any other relevant cross-media effects <p>The report shall also include a description of the extent to which current systems in place at the plant to minimise NOx emissions can be optimised on a permanent basis, including justification and an implementation plan where relevant.</p> | |
| IC11 | The operator shall submit a report to the Environment Agency on whether waste feed to the plant can be proven to have a low and stable mercury content. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic mercury emissions monitoring data and have regard to the Environment Agency Mercury Monitoring Protocol. | 30/09/23 |
| IC12 | The operator shall submit a report to the Environment Agency on whether dioxin emissions to air are stable. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic dioxin emissions monitoring data and have regard to the Environment Agency Dioxins Monitoring Protocol. | 30/09/23 |

Schedule 2 – Waste types, raw materials and fuels

| Table S2.1 Raw materials and fuels | |
|------------------------------------|------------------------|
| Raw materials and fuel description | Specification |
| Fuel Oil | < 0.1% sulphur content |

| Table S2.2 Permitted waste types and quantities for incineration plant | |
|--|---|
| Maximum quantity | Maximum total throughput 345,000 tonnes per year |
| Waste code | Description |
| 02 | Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting and Fishing, Food Preparation and Processing |
| 02 01 | wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing |
| 02 01 04 | waste plastics (except packaging) |
| 02 01 07 | wastes from forestry |
| 02 01 09 | agrochemical wastes other than those mentioned in 02 01 08 |
| 02 02 | Wastes from the preparation and processing of meat, fish and other foods of animal origin |
| 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 06 | Wastes from the baking and confectionary industry |
| 02 06 01 | materials unsuitable for consumption or processing |
| 03 | Wastes from Wood Processing and the Production of Panels and Furniture, Pulp, Paper and Cardboard |
| 03 01 | wastes from wood processing and the production of panels and furniture |
| 03 01 01 | waste bark and cork |
| 03 01 05 | sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04 |
| 03 03 | Wastes from pulp, paper and cardboard production and processing |
| 03 03 01 | waste bark and wood |

| Table S2.2 Permitted waste types and quantities for incineration plant | |
|--|--|
| Maximum quantity | Maximum total throughput 345,000 tonnes per year |
| Waste code | Description |
| 03 03 07 | mechanically separated rejects from pulping of waste paper and cardboard |
| 03 03 08 | wastes from sorting of paper and cardboard destined for recycling |
| 04 Wastes from the Leather, Fur and Textile Industries | |
| 04 02 | Wastes from the textile industry |
| 04 02 09 | wastes from composite materials (impregnated textile, elastomer, plastomer) |
| 04 02 10 | organic matter from natural products (e.g. grease, wax) |
| 04 02 21 | wastes from unprocessed textile fibres |
| 04 02 22 | wastes from processed textile fibres |
| 09 Wastes from the Photographic Industry | |
| 09 01 | Wastes from the photographic industry |
| 09 01 07 | photographic film and paper containing silver or silver compounds |
| 09 01 08 | photographic film and paper free of silver or silver compounds |
| 15 Waste Packaging, Absorbents, Wiping Cloths, Filter Materials and Protective Clothing Not Otherwise Specified | |
| 15 01 | Packaging (including separately collected municipal packaging waste) |
| 15 01 01 | paper and cardboard packaging |
| 15 01 02 | plastic packaging |
| 15 01 03 | wooden packaging |
| 15 01 05 | composite packaging |
| 15 01 06 | mixed packaging |
| 15 01 09 | textile packaging |
| 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 |
| 17 Construction and Demolition Wastes (including Excavated Soil from Contaminated Sites) | |

| Table S2.2 Permitted waste types and quantities for incineration plant | |
|---|---|
| Maximum quantity | Maximum total throughput 345,000 tonnes per year |
| Waste code | Description |
| 17 02 | wood, glass and plastic |
| 17 02 01 | wood |
| 17 02 03 | plastic |
| 17 06 | Insulation materials and asbestos-containing construction materials |
| 17 06 04 | insulating materials other than those mentioned in 17 06 01 and 17 06 03 |
| 17 09 | Other construction and demolition wastes |
| 17 09 04 | mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 |
| 18 | Wastes From Human or Animal Health Care and/or Related Research (except kitchen wastes not arising from immediate health care) |
| 18 01 | Wastes from natal care, diagnosis, treatment or prevention of disease in humans |
| 18 01 04 | wastes whose collection and disposal is not subject to special requirements in order to prevent infection |
| 18 01 07 | chemicals other than those mentioned in 18 01 06 |
| 18 01 09 | medicines other than those mentioned in 18 01 08 |
| 18 02 | wastes from research, diagnosis, treatment or prevention of disease involving animals |
| 18 02 03 | wastes whose collection and disposal is not subject to special requirements in order to prevent infection |
| 18 02 06 | chemicals other than those mentioned in 18 02 05 |
| 18 02 08 | medicines other than those mentioned in 18 02 07 |
| 19 | Wastes from Waste Management Facilities, Off-Site Waste Water Treatment Plants and the Preparation of Water for Human Consumption and Water for Industrial Use |
| 19 05 | Wastes from aerobic treatment of solid wastes |
| 19 05 01 | non-composted fraction of municipal and similar wastes |
| 19 05 02 | non-composted fraction of animal and vegetable wastes |
| 19 05 03 | off-specification compost |
| 19 06 | Wastes from anaerobic treatment of waste |

| Table S2.2 Permitted waste types and quantities for incineration plant | |
|---|---|
| Maximum quantity | Maximum total throughput 345,000 tonnes per year |
| Waste code | Description |
| 19 06 04 | digestate from anaerobic treatment of municipal waste |
| 19 06 06 | digestate from anaerobic treatment of animal and vegetable waste |
| 19 08 | Wastes from waste water treatment plants not otherwise specified |
| 19 08 01 | screenings |
| 19 08 05 | sludges from treatment of urban waste water |
| 19 12 | Wastes from the mechanical treatment of waste (e.g. 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 waste 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 fraction (except 15 01) |
| 20 01 01 | paper and cardboard |
| 20 01 08 | biodegradable kitchen and canteen waste |
| 20 01 10 | clothes |
| 20 01 11 | textiles |
| 20 01 38 | wood other than that mentioned on 20 01 37 |
| 20 01 39 | plastics |
| 20 01 99 | other fractions not otherwise specified (comprising only of non-clinical human and animal offensive/hygiene waste (not arising from healthcare and/or related research i.e. not including waste from natal care, diagnosis, treatment or prevention of disease) which is not subject to special requirements in order to prevent infection) |
| 20 02 | Garden and park wastes (including cemetery waste) |

| Table S2.2 Permitted waste types and quantities for incineration plant | |
|---|---|
| Maximum quantity | Maximum total throughput 345,000 tonnes per year |
| Waste code | Description |
| 20 02 01 | biodegradable waste |
| 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 |

Schedule 3 – Emissions and monitoring

| Emission point ref. & location | Parameter | Source | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard(s) or method(s) |
|---|----------------------------|-----------------------------|--|---|----------------------|-------------------------------------|
| A1 as shown on site plan in Schedule 7. | Particulate matter | Incineration exhausts gases | 30 mg/m ³ | ½-hr average | Continuous | EN 14181 |
| | Particulate matter | | 10 mg/m ³ Until 02/12/2023 | daily average | Continuous | EN 14181 |
| | | | 5 mg/m ³ from 03/12/2023 | | | |
| | Total Organic Carbon (TOC) | | 20 mg/m ³ | ½-hr average | Continuous | EN 14181 |
| | Total Organic Carbon (TOC) | | 10 mg/m ³ | daily average | Continuous | EN 14181 |
| | Hydrogen chloride | | 60 mg/m ³ | ½-hr average | Continuous | EN 14181 |
| | Hydrogen chloride | | 10 mg/m ³ Until 02/12/2023 | daily average | Continuous | EN 14181 |
| | | | 8 mg/m ³ from 03/12/2023 | | | |
| | Hydrogen fluoride | | 2 mg/m ³ until 02/12/2023 | Average of three consecutive measurements of at least 30 minutes each | Bi-annually | CEN TS 17340 |
| | | | 1 mg/m ³ from 03/12/2023 | | | |

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements. | | | | | | |
|---|---|---|---|---|----------------------|-------------------------------------|
| Emission point ref. & location | Parameter | Source | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard(s) or method(s) |
| | Carbon monoxide | | 150 mg/m ³ | 95% of all 10-minute averages in any 24-hour period | Continuous | EN 14181 |
| | Carbon monoxide | | 50 mg/m ³ | daily average | Continuous | EN 14181 |
| | Sulphur dioxide | | 200 mg/m ³ | ½-hr average | Continuous | EN 14181 |
| | Sulphur dioxide | | 50 mg/m ³ Until 02/12/2023 | daily average | Continuous | EN 14181 |
| | | | 40 mg/m ³ from 03/12/2023 | | | |
| | Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) | | 400 mg/m ³ | ½-hr average | Continuous | EN 14181 |
| | Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) | | 200 mg/m ³ Until 02/12/2023 | daily average | Continuous | EN 14181 |
| | | | 180 mg/m ³ from 03/12/2023 | | | |
| | Cadmium & thallium and their compounds (total) | | 0.05 until 02/12/2023 | Average of three consecutive measurements of at least 30 minutes each | Bi-annually | BS EN 14385 |
| | | | 0.02 mg/m ³ from 03/12/2023 | | | |
| Mercury and its compounds | 0.05 mg/m ³ until 02/12/2023 | Average of three consecutive measurements of at least 30 minutes each | Bi-annually until 02/12/2023 | BS EN 13211 | | |

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements. | | | | | | |
|---|--|--------|--|---|---|-------------------------------------|
| Emission point ref. & location | Parameter | Source | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard(s) or method(s) |
| | Mercury and its compounds | | 0.02 mg/m ³ from 03/12/2023 | Average of three consecutive measurements of at least 30 minutes each | Bi-annually from 03/12/2023 | BS EN 13211 |
| | | | Limit does not apply if continuous monitoring has been specified by the Environment Agency | | Not required if continuous monitoring has been specified by the Environment Agency | |
| | Mercury and its compounds | | 0.02 mg/m ³ from 03/12/2023 | Daily average | Continuous from 03/12/2023 | EN 14181 |
| | | | | | Not required unless continuous monitoring has been specified by the Environment Agency in line with sampling protocol | |
| | Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) | | 0.5 mg/m ³ Until 02/12/2023 | Average of three consecutive measurements of at least 30 minutes each | Bi-annually | BS EN 14385 |
| | | | 0.3 mg/m ³ from 03/12/2023 | | | |
| | Exhaust gas temperature | | No limit set | - | Continuous | Traceable to national standards |
| Exhaust gas pressure | No limit set | - | Continuous | Traceable to national standards | | |
| Exhaust gas flow | No limit set | - | Continuous from 01/01/2023 | BS EN 16911-2 | | |

| 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) |
| | Exhaust gas oxygen content | | No limit set | - | Continuous | EN 14181 |
| | Exhaust gas water vapour content | | No limit set | - | Continuous | EN 14181 |
| | Ammonia (NH ₃) | | No Limit Until 02/12/2023 | ½-hr average and / or daily average | Continuous measurement (where CEM installed) Until 02/12/2023 | BS EN 14181 |
| | | | 15 mg/m ³ from 03/12/2023 | daily average | Continuous from 03/12/2023 | EN 14181 |
| | Nitrous oxide (N ₂ O) | | No limit set | ½-hr average and daily average | Continuous | EN 14181 |
| | Carbon dioxide | | No limit set | Continuous | Continuous | EN 14181 |
| | Dioxins / furans (I-TEQ) | | 0.1 ng/m ³ Until 02/12/2023 | periodic over minimum 6 hours, maximum 8 hour period | Bi-annually until 02/12/2023 | BS EN 1948 Parts 1, 2 and 3 |

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

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements. | | | | | | |
|--|--|------------------------------|-------------------------------|---|--|---|
| Emission point ref. & location | Parameter | Source | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard(s) or method(s) |
| | Polybrominated dibenzodioxins and furans | | No limit set | periodic over minimum 6 hours, maximum 8 hour period | Bi-annually | Method based on procedural requirements of EN 1948 |
| | Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6. | | No limit set | periodic over minimum 6 hours, maximum 8 hour period | Annually | BS ISO 11338 Parts 1 and 2. |
| A2 as shown on site plan in Schedule 7. | Carbon monoxide | Back-up electrical generator | No limit set | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5) | Every 1500 hours of operation or once every five years (whichever comes first) from 01/01/2030 | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators' Published 16 February 2021 (formerly known as TGN M5) |

| Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements | | | | | | |
|--|----------------------------|-----------------------------|-------------------------------|---|-----------------------------|--|
| Emission point ref. & location | Parameter | Source | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard or method |
| A1 as shown on site plan in Schedule 7 | Particulate matter | Incineration exhausts gases | 150 mg/m ³ | ½-hr average | Continuous | EN 14181 or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor |
| | Total Organic Carbon (TOC) | | 20 mg/m ³ | ½-hr average | Continuous | EN 14181 or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor |
| | Carbon monoxide | | 150 mg/m ³ | 95% of all 10-minute averages in any 24-hour period | Continuous | EN 14181 or alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor |

Table S3.2 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 Agency. |
| Incineration plant | Gross electrical efficiency | within 6 months of any modification that significantly affects energy efficiency | Performance test at full load or other method as agreed in writing with the Environment Agency | |

| Table S3.3 Residue quality | | | | | |
|--|---|---|---|--|--|
| Emission point reference or source or description of point of measurement | Parameter | Limit | Monitoring frequency | Monitoring standard or method * | Other specifications |
| Bottom Ash | TOC or otherwise as agreed in writing with the Environment Agency | 3% or otherwise as agreed in writing with the Environment Agency | Quarterly | EN 14899 and either EN 13137 or EN 15936 or otherwise as agreed in writing with the Environment Agency | Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis' |
| Bottom Ash | Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs. | | Quarterly | Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis' | |
| Bottom Ash | Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions | | Before use of a new disposal or recycling route | Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis' | |
| APC Residues | Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs. | | Quarterly | Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis' | |

| Table S3.3 Residue quality | | | | | |
|--|--|--------------|---|--|-----------------------------|
| Emission point reference or source or description of point of measurement | Parameter | Limit | Monitoring frequency | Monitoring standard or method * | Other specifications |
| APC Residues | Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions | | Before use of a new disposal or recycling route | Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis' | |

* Or other equivalent standard as agreed in writing with the Environment Agency.

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

| Table S4.1 Reporting of monitoring data | | | |
|---|---|---|-------------------------------|
| Parameter | Emission or monitoring point/reference | Reporting period | Period begins |
| Emissions to air Parameters as required by condition 3.6.1. | A1 | Quarterly | 1 Jan, 1 Apr, 1 Jul and 1 Oct |
| TOC or otherwise as agreed in writing with the Environment Agency Parameters as required by condition 3.6.1 | Bottom Ash | Quarterly | 1 Jan, 1 Apr, 1 Jul and 1 Oct |
| Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.6.1 | Bottom Ash | Quarterly | 1 Jan, 1 Apr, 1 Jul and 1 Oct |
| Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.6.1 | Bottom Ash | Before use of a new disposal or recycling route | |
| Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.6.1 | APC Residues | Quarterly | 1 Jan, 1 Apr, 1 Jul and 1 Oct |
| Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.6.1 | APC Residues | Before use of a new disposal or recycling route | |

| Table S4.2: Annual production/treatment | |
|--|--------------|
| Parameter | Units |
| Total Municipal Waste Incinerated | tonnes |
| Total Commercial Waste Incinerated | tonnes |
| Electrical energy produced | kWh |
| Thermal energy produced e.g. steam for export | kWh |
| Electrical energy exported | kWh |
| Electrical energy used on installation | kWh |
| Waste heat utilised by the installation | kWh |

| Table S4.3 Performance parameters | | |
|---|--------------------------------|---|
| Parameter | Frequency of assessment | Units |
| Annual report as required by condition 4.2.2 | Annually | - |
| Electrical energy exported, imported and used at the installation | Annually | kWh / tonne of waste incinerated |
| Fuel oil consumption | Annually | kg / tonne of waste incinerated |
| Bottom Ash residue | Annually | Route, tonnes and tonnes / tonne of waste incinerated |
| APC residue | Annually | Route, tonnes and tonnes / tonne of waste incinerated |
| Ammonia consumption | Annually | kg / tonne of waste incinerated |
| 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. |

| Table S4.4 Reporting forms | | |
|---|---|---------------------|
| Media/parameter | Reporting format | Date of form |
| Annual report required by condition 4.2.2 | Annual performance report template | 16/03/23 |
| Emissions to air until 02/12/2023 | Form air 1 or other form as agreed in writing by the Environment Agency (as referenced in Variation Notice EPR/UP3734HT/V004) | - |
| Emissions to air from 03/12/2023 | Forms air 1-9 or other forms as agreed in writing by the Environment Agency | 16/03/23 |

| Table S4.4 Reporting forms | | |
|-----------------------------------|---|---------------------|
| Media/parameter | Reporting format | Date of form |
| Residue quality | Form residue 1 and 2 or other form as agreed in writing by the Environment Agency | 16/03/23 |
| Other performance indicators | Form performance 1 or other form as agreed in writing by the Environment Agency | 16/03/23 |

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

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

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

| | |
|--|--|
| (c) Notification requirements for the breach of permit conditions not related to limits | |
| To be notified within 24 hours of detection | |
| Condition breached | |
| Date, time and duration of breach | |
| Details of the permit breach i.e. what happened including impacts observed. | |
| Measures taken, or intended to be taken, to restore permit compliance. | |

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

Part B – to be submitted as soon as practicable

| | |
|--|--|
| Any more accurate information on the matters for notification under Part A. | |
| Measures taken, or intended to be taken, to prevent a recurrence of the incident | |

| | |
|--|--|
| Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission | |
| The dates of any unauthorised emissions from the facility in the preceding 24 months. | |

| | |
|-----------|--|
| Name* | |
| Post | |
| Signature | |
| Date | |

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“abnormal operation” means: any technically unavoidable stoppages, disturbances, or failures of the plant or the measurement devices. Abnormal operation starts as defined in condition 2.3.12 and ends as defined in condition 2.3.13. Abnormal operation is limited to 4 hours for a single occurrence and a total of 60 hours per year per line.

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

“APC residues” means air pollution control residues

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

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

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

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

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

“bi-annually” 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 emissions value means ‘the average of at least 43 valid half hourly averages or for CO the average of at least 43 valid half hourly averages or 129 valid 10 min averages’

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

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

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

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

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

“Hazardous property” has the meaning in Annex III of the Waste Framework Directive

“incineration line” means all of the incineration equipment related to a common discharge to air location.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“ISO” means International Standards Organisation.

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

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

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

"PAH" means Poly-cyclic aromatic hydrocarbon, and comprises Anthanthrene, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[b]naph(2,1-d)thiophene, Benzo[c]phenanthrene, Benzo[ghi]perylene, Benzo[a]pyrene, Cholanthrene, Chrysene, Cyclopenta[c,d]pyrene, Dibenz[ah]anthracene, Dibenz[a,i]pyrene Fluoranthene, Indo[1,2,3-cd]pyrene, Naphthalene

"PCB" means Polychlorinated Biphenyl. Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in the table below.

"Pests" means Birds, Vermin and Insects.

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

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

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

"shut down" is any period where the plant is being returned to a non-operational state as described in the application or as agreed in writing with the Environment Agency.

"TOC" means Total Organic Carbon. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC. In respect of Bottom Ash, this means the total carbon content of all organic species present in the ash (excluding carbon in elemental form).

"Waste code" means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk

"Waste Framework Directive" or "WFD" means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

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

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

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content
- (c) in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry.

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

assumed to be at the detection limit as a maximum. However the minimum value should be used when assessing compliance with the emission limit value in table S3.1.

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

| TEF schemes for dioxin-like PCBs | | | |
|---|-------------------------|---------------|--------------|
| Congener | WHO-TEF | | |
| | 2005 | 1997/8 | |
| | Humans / mammals | Fish | Birds |
| Non-ortho PCBs | | | |
| 3,4,4',5-TCB (81) | 0.0001 | 0.0005 | 0.1 |
| 3,3',4,4'-TCB (77) | 0.0003 | 0.0001 | 0.05 |
| 3,3',4,4',5 - PeCB (126) | 0.1 | 0.005 | 0.1 |
| 3,3',4,4',5,5'-HxCB(169) | 0.03 | 0.00005 | 0.001 |
| Mono-ortho PCBs | | | |

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

“year” means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, table S2.2, for that table, they have the meaning given below:

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

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

‘PCBs’ means

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

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

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

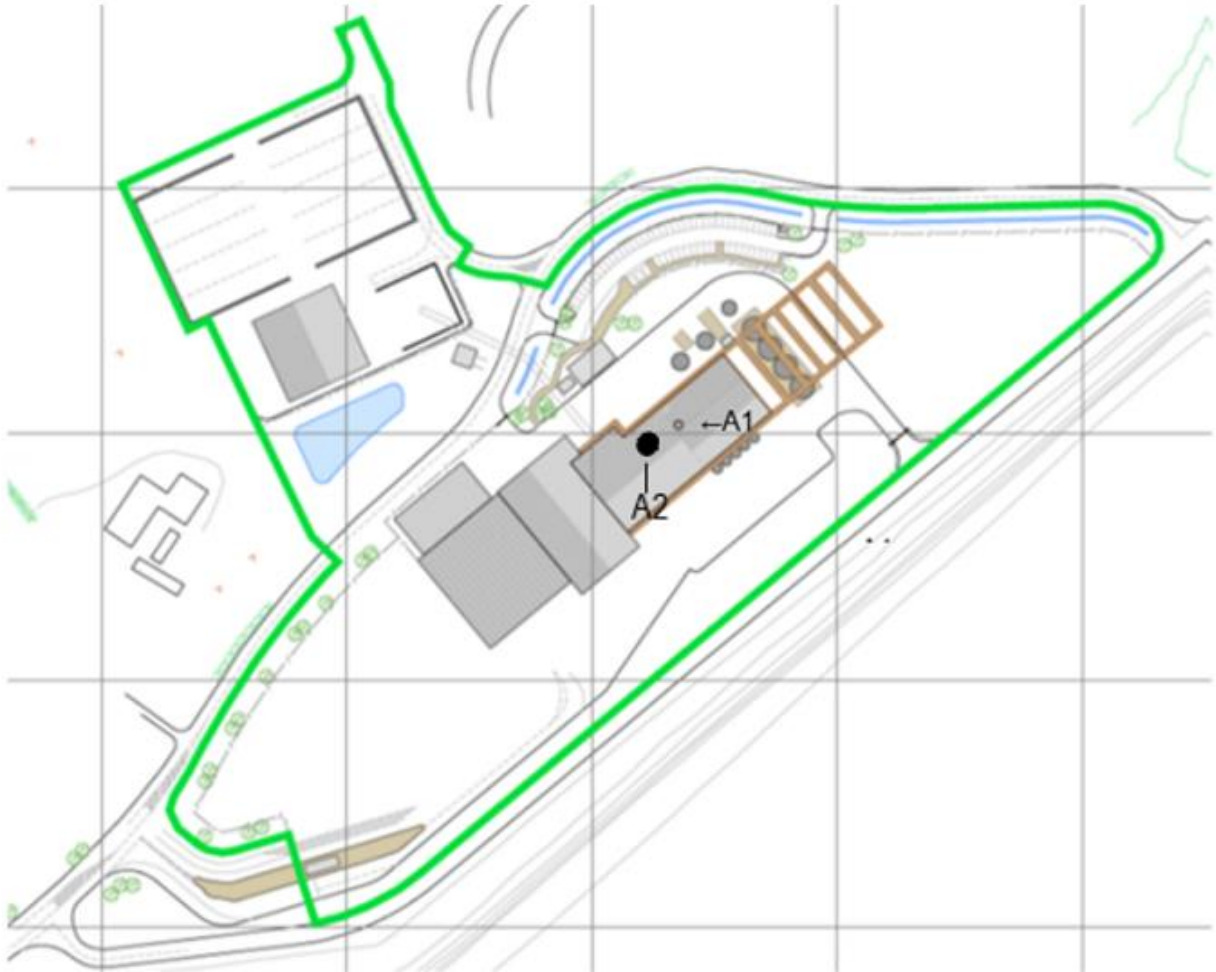
‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste

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

Schedule 7 – Site plan



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