

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Veolia ES Sheffield Limited
Sheffield Energy Recovery Facility
Bernard Road
Sheffield
South Yorkshire
S4 7YX

Variation application number

EPR/BM40821Y/V008

Permit number

EPR/BM40821Y

Sheffield Energy Recovery Facility

Permit number EPR/BM4082IY

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.

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.

The variation permits the following:

- Addition of a Section 5.1A(1)(a) activity so that healthcare orange bagged waste, under waste codes 18 01 03* and 18 02 02*, can be incinerated on the incineration line;
- Addition of non-hazardous waste codes (18 01 07, 18 01 09, 18 02 03, 18 02 08 and 20 01 99) to the list of waste that can be incinerated.
- Addition of a clinical waste transfer activity to accept a range of clinical waste at the site. Waste accepted will either be incinerated by the on-site incinerator or will be transferred off-site for treatment.
- Addition of a Section 5.3 A(1)(a)(iv) activity to allow the repackaging of more than 10 tonnes per day of hazardous clinical waste.

Also the permit has been updated to modern conditions.

The schedules specify the changes made to the permit.

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 received EPR/BM4082IY/A001	10/12/01	
Permit determined EPR/BM4082IY/A001	04/09/02	
Variation application EPR/BM4082IY/V002	16/03/05	WIR variation
Variation determined EPR/BM4082IY/V002	21/12/05	Consolidated permit issued.
Variation application EPR/BM4082IY/V003	21/08/07	Inclusion of the standby boilers within the installation.
Variation determined EPR/BM4082IY/V003	01/11/07	Consolidated permit issued.
Variation application EPR/BM4082IY/V004	Duly made 14/02/12	Application to vary permit.
Variation determined EPR/BM4082IY/V004	09/03/12	Varied permit issued.

Status log of the permit		
Description	Date	Comments
Agency variation determined EPR/BM4082IY/V005	10/02/14	Agency variation to implement the changes introduced by IED.
Application EPR/BM4082IY/V006	Duly made 29/10/15	Application to vary permit to increase annual throughput and add waste codes.
Additional information received	11/12/15	Clarification on waste codes.
Variation determined EPR/BM4082IY/V006	06/01/16	Varied permit issued.
Application EPR/BM4082IY/V007 (variation)	31/01/18	Variation application to amend Carbon monoxide emission limit value.
Variation determined EPR/BM4082IY/V007	27/04/18	Varied permit issued.
Application EPR/BM4082IY /V008 (variation and consolidation)	Duly made 14/10/20	Application to vary to include acceptance of clinical waste codes for incineration, inclusion of a clinical waste transfer and treatment activities and update the permit to modern conditions.
Variation determined and consolidation issued EPR/ BM4082IY/V008 (Billing ref. BP3605PR)	01/04/21	Varied and consolidated permit issued in modern format.

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/BM4082IY

Issued to

Veolia ES Sheffield Limited (“the operator”)

whose registered office is

**210 Pentonville Road
London
N1 9JY**

company registration number 03709317

to operate regulated facilities at

**Sheffield Energy Recovery Facility
Bernard Road
Sheffield
South Yorkshire
S4 7YX**

to the extent set out in the schedules.

The notice shall take effect from 01/04/21

Name	Date
Tamara Hemsley	01/04/21

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/BM4082IY

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BM4082IY/V008 authorising,

Veolia ES Sheffield Limited (“the operator”),

whose registered office is

210 Pentonville Road

London

N1 9JY

company registration number 03709317

to operate an installation and waste operation at

Sheffield Energy Recovery Facility

Bernard Road

Sheffield

South Yorkshire

S4 7YX

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

Name	Date
Tamara Hemsley	01/04/21

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 For the following activities referenced in schedule 1, table S1.1 (AR10) The operator shall comply with the requirements of an approved competence scheme or other approval issued by the Environment Agency.

1.2 Energy efficiency

1.2.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR9) 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.

1.3 Efficient use of raw materials

1.3.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR9) The operator shall:

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

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

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

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

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

1.4.1 The operator shall take appropriate measures to ensure that:

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

- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

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

2 Operations

2.1 Permitted activities

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

2.1.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR10) Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.1.3 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

2.2. The site

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

2.3 Operating techniques

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

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

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

2.3.4 Waste shall only be accepted if:

- (a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3 and S2.4; and
- (b) it conforms to the description in the documentation supplied by the producer or holder; and
- (c) 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”, 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 monitor(s) 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 on an incineration line.

2.3.13 Infectious clinical waste must be placed in the furnace without first being mixed with other categories of waste, using techniques which are no less effective than those described in the application.

2.3.14 Bottom ash and APC residues shall not be mixed.

2.4 Pre-operational conditions

2.4.1 The operations specified in schedule 1 table S1.3 shall not commence until the measures specified in that table 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 and S3.2 except in “abnormal operation”, when there shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1(a) and S3.2.

3.1.2 The limits given in schedule 3 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 S3.5 additional samples shall be taken and tested and appropriate action taken, whenever:

- (a) disposal or recovery routes change; or
- (b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

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

3.3 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.
- 3.3.3 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.
- 3.4.3 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, S3.1(a) and S3.2;
 - (b) process monitoring specified in table S3.3; and
 - (c) residue quality in table S3.4.
- 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, S3.1(a), S3.2 and S3.3 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 and S3.1(a); the Continuous Emission Monitors shall be used such that;
- (a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:

• Carbon monoxide	10%
• Sulphur dioxide	20%
• Oxides of nitrogen (NO & NO ₂ expressed as NO ₂)	20%
• Particulate matter	30%
• Total organic carbon (TOC)	30%
• Hydrogen chloride	40%
 - (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 3.5.5 (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 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 determined as the average of all the valid half-hourly average or 10-minute average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly average or 15 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.

3.6 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.
- 3.6.2 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.

3.7 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	Limits of specified activity
AR1	Section 5.1 A1 (a)	The incineration of hazardous waste in a waste incineration plant With a capacity of 10 tonnes per day or more.	From receipt of waste to discharge of exhaust gases. Waste charged direct to furnace feed hopper via hoist system. Waste codes 18 01 03* and 18 02 02* only. No more than 5% of the total waste throughput of the incineration line.
AR2	Section 5.1 A1 (b)	The incineration of non-hazardous waste in a waste incineration plant with a capacity of 3 tonnes per hour or more.	From receipt of waste to emission of exhaust gas and disposal of waste arising. Non-hazardous waste types and quantities as specified in Table S2.2 and S2.3 of this permit.
AR3	Section 5.3 A(1)(a)(iv)	Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day - Repackaging of hazardous clinical waste prior to treatment or disposal off site.	Repackaging of hazardous waste listed in Table S2.4 only prior to treatment or disposal off-site. Only repackaged hazardous waste accepted under codes 18 01 03* and 18 02 02* shall be transferred to the on-site incinerator for incineration. Only carried out inside a building.
AR4	Section 1.1 A(1)(a)	Burning of fuel in appliances with an aggregate thermal input of 50MW or more.	From receipt of fuel gas to connection to district heating scheme.
Directly Associated Activities			
AR5	Waste feedstock management.	Receipt of waste on site, tipping and mixing in bunker and delivery of mixed feedstock to incinerator grate feed system.	From receipt of waste on site to delivery to incinerator.

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR6	Carbon and lime storage	Storage of carbon and lime on site.	From receipt of carbon and lime on site to delivery to the abatement system.
AR7	Steam and electricity generation	Removal of useful heat from incineration waste gases in a boiler system to produce steam and the use of the steam in a turbine to produce electricity.	From receipt of feed water by the water treatment plant to export of electricity and heat from the installation.
AR8	Air Pollution Control	The removal of certain pollutants from the waste gas stream by the operation of the reactor and bag filter, the recirculation of residues and the removal and containment of the bag filter residues.	From delivery of carbon and lime to the scrubber/filter to storage of the residues.
AR9	Management of bottom ash and air pollution control residues	The quenching and storage of bottom ash and the storage of waste boiler cleaning ash and air pollution control residues.	From production and containment of on-site waste to collection for disposal off site.
Activity reference	Description of activities for waste operations		Limits of activities
AR10	Clinical waste transfer station	<p>D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary, pending collection, on site where it is produced)</p> <p>R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary, pending</p>	<p>The maximum quantity of waste stored for recovery or disposal shall not exceed 50 tonnes at any one time.</p> <p>The waste types permitted for storage (D15 and R13), and repackaging of waste (D14) are set out in table S2.4.</p> <p>Only waste accepted under codes 18 01 03*, 18 02 02*, 18 01 04, 18 01 07, 18 01 09, 18 02 03, 18 02 08 and 20 01 99 shall be</p>

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
		collection, on site where it is produced D14: Repacking prior to submission to any of the operations numbered D1 to D13.	transferred to the on-site incinerator for incineration. Light compaction of waste accepted under codes 18 01 04 and 18 02 03 only. Repacking shall only be carried out inside a building.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	<p>The response to questions 2.3 given in section 6 and annex C of the application</p> <p>The response to question:</p> <ul style="list-style-type: none"> • 2.1 given in section 4 of the application (management and control) • 2.2 given in section 5 and figures 6.4 and 6.7 of the application (raw materials – including water) • 2.4 given in section 7 of the application (Groundwater protection) • 2.5. given in section 8 of the application (waste handling and storage) • 2.6 given in section 9 of the application (Waste recovery and disposal) • 2.7 given in section 10 of the application (Energy efficiency) • 2.8 given in section 11 of the application (Accident prevention and control) • 2.9 given in section 12 of the application (Noise and vibration) • 2.11 given in section 14 of the application and specifically excludes section 3 of the application. 	10/12/01
Response to Schedule 4 Part 1 Notice issued 05/03/02	<p>Response to questions 5, 14, 15 and 21 and in appendices A and B of the response.</p> <p>Response to question:</p> <ul style="list-style-type: none"> • 3, 19 and 20 (Management and control); • 4, excluding references to sulphuric acid in box 1 (Raw materials – including water) • 7 (Waste handling and storage) • 8 (Waste recovery and disposal) • 9 and 23 (Energy efficiency) • 10 (Accident prevention and control) 	03/05/02

Table S1.2 Operating techniques		
Description	Parts	Date Received
	<ul style="list-style-type: none"> • 11 and 24 (Noise and vibration) • 13 (Decommissioning) 	
Further information	Whole document	14/06/02
Further information	<p>Response to further questions raised 14/06/02, questions 2 to 5</p> <p>Response to further questions raised 14/6/02, question 1 (Raw materials – including water)</p> <p>Response to further questions raised 5/06/02, question 5 (Energy efficiency)</p> <p>Response to further questions raised 14/06/02, question 6 (Noise and vibration)</p>	17/06/02
Further information	Response to further questions raised 5/06/02, questions 2 and 3	17/06/02
Further Information	<p>Headed 'Waste Categories'</p> <p>Headed 'Environmental Management System' (Management and control)</p> <p>Headed 'Fuel Oil Storage' (Raw materials – including water)</p>	27/08/02
Application for variation PP3332SL	The response to questions in sections C2.1, C2.2, C2.7 and C2.10 of the Application for variation	16/03/05
Application for variation QP3936US	The response to questions in sections C2.1, C2.2, C2.7 and C2.10 of the Application for variation	21/08/07
Application for variation EPR/BM4082IY/V006	All parts excluding waste codes 16 02 16 and 20 01 99.	29/10/15
Application for variation EPR/BM4082IY/V008	The response to question 3, 4 and 6 of application form C3. Supporting statement and Appendices (October 2020).	14/10/20
Responses to request for additional information on 15/02/21	Responses to questions 1 -4.	24/02/21

Table S1.3 Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
1	Discharge of process effluent from the Clinical Waste Transfer station (activity AR10 in table S1.1) to sewer.	Prior to the discharge of process effluent to sewer from the Clinical Waste Transfer Station the Operator shall identify the main chemical/biological constituents of the point source emission and assess the fate of the substances emitted and impact on receiving waters following the Environment Agency's risk assessment guidance https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit . The assessment shall be submitted to the Environment Agency for approval.

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
-	-

Table S2.2 Permitted waste types and quantities for incineration plant via the main reception hall bunker.	
Maximum quantity	245,000 tonnes per annum
Waste code	Description
02	Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting and Fishing, Food Preparation and Processing
02 02	Wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 02	animal-tissue waste (Catering Wastes & Former Foodstuffs Only)
02 02 03	materials unsuitable for consumption or processing (Catering Wastes & Former Foodstuffs Only)
02 03	Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 04	materials unsuitable for consumption or processing
15	Waste Packaging, Absorbents, Wiping Cloths, Filter Materials and Protective Clothing Not Otherwise Specified
15 01	Packaging
15 01 01	paper and cardboard 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
18	Wastes From Human or Animal Health Care and/or Related Research (except kitchen wastes not arising from immediate health care)

Table S2.2 Permitted waste types and quantities for incineration plant via the main reception hall bunker.	
Maximum quantity	245,000 tonnes per annum
Waste code	Description
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 (excluding X-ray photochemicals) – limited to bagged and containerised wastes and no sharps waste.
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 08	medicines other than those mentioned in 18 02 07
19	Wastes from Waste Management Facilities, Off-Site Waste Water Treatment Plants and the water industry
19 12	Wastes from the mechanical treatment of waste (e.g. 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 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 – limited to offensive hygiene wastes. No sharps waste.
20 02	Garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste

Table S2.2 Permitted waste types and quantities for incineration plant via the main reception hall bunker.	
Maximum quantity	245,000 tonnes per annum
Waste code	Description
20 03	Other municipal wastes
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 07	bulky waste

Table S2.3 Permitted waste types and quantities for incineration via the main plant hoist direct to the furnace feed hopper.	
Maximum quantity	Waste under codes 18 01 03* & 18 02 02* shall make up no more than 5% of the total waste throughput of the incineration line.
Waste code ^{Note1}	Description
18	WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans
18 01 03*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
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 02*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 02 08	Medicines other than those mentioned in 18 02 07
<p>Note 1: The following waste are specifically excluded from the waste codes listed:</p> <ul style="list-style-type: none"> Any waste containing cytotoxic and cytostatic medicines, anatomical waste (identifiable human or animal tissue arising from health care) or dental amalgam. Any sharps or clinical waste packed in plastic rigid boxes. <p>Biohazard waste: Any waste known or likely to contain ACDP Hazard Group 4 biological agents; any waste from a containment level 3 laboratory; and all microbiological cultures from any source, and potentially infected waste from pathology departments and other clinical or research laboratories (unless autoclaved before leaving the site of production)</p>	

Table S2.4 Permitted waste types and quantities for the clinical waste transfer station (Activity AR10 in Table S1.1)	
Maximum quantity	10,000 tonnes per annum and no more than 50 tonnes stored at any one time.
Waste code	Description
09	WASTES FROM THE PHOTOGRAPHIC INDUSTRY
09 01	wastes from the photographic industry
09 01 01*	Water based developer and activator solutions ¹
09 01 02*	Water-based offset plate developer solutions ¹
09 01 03*	Solvent based developer solutions ¹
09 01 04*	Fixer solutions ¹
09 01 05*	Bleach and bleach fixer solutions ¹
09 01 07	Photographic film and paper containing silver and silver compounds ¹
09 01 08	Photographic film and paper free of silver or silver compounds ¹
¹ This is limited to wastes of this type arising from medical practices or associated research activities.	
18	WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans
18 01 01	sharps (except 18 01 03)
18 01 02	Body parts and organs including blood bags and blood preserves (except 18 01 03)
18 01 03*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 01 04	Wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing diapers)
18 01 06*	chemicals consisting of or containing dangerous substances
18 01 07	Chemicals other than those mentioned in 18 01 06 (excluding X-ray photochemicals)
18 01 08*	cytotoxic and cytostatic medicines
18 01 09	Medicines other than those mentioned in 18 01 08
18 01 10*	Amalgam waste from dental care
18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals
18 02 01	sharps (except 18 02 02)
18 02 02*	wastes whose collection and disposal is subject to special requirements in order to prevent infection

Table S2.4 Permitted waste types and quantities for the clinical waste transfer station (Activity AR10 in Table S1.1)	
Maximum quantity	10,000 tonnes per annum and no more than 50 tonnes stored at any one time.
Waste code	Description
18 02 03	Wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 05*	chemicals consisting of or containing dangerous substances
18 02 06	Chemicals other than those mentioned in 18 02 05
18 02 07*	cytotoxic and cytostatic medicines
18 02 08	Medicines other than those mentioned in 18 02 07
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 31*	cytotoxic and cytostatic medicines
20 01 32	Medicines other than those mentioned in 20 01 31
20 01 99	Other fractions not otherwise specified (comprising of separately collected fractions of municipal clinical 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 subject to special requirements in order to prevent infection). 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)

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	Particulate matter	Incineration exhaust gas	30 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Particulate matter		10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Total Organic Carbon (TOC)		20 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Total Organic Carbon (TOC)		10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Hydrogen chloride		60 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Hydrogen chloride		10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Hydrogen fluoride		2 mg/m ³	periodic over minimum 1-hour period	Bi-annually	BS ISO 15713
A1	Carbon monoxide		150 mg/m ³	95% of all 10-minute averages in a calendar day	Continuous measurement	BS EN 14181
A1	Carbon monoxide		50 mg/m ³	daily average	Continuous measurement	BS EN 14181

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	Sulphur dioxide		200 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Sulphur dioxide		50 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)		400 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)		180 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1	Cadmium & thallium and their compounds (total)		0.05 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Bi-annually	BS EN 14385
A1	Mercury and its compounds		0.05 mg/m ³	periodic over minimum 30 minute, maximum 8 hour period	Bi-annually	BS EN 13211
A1	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	Bi-annually	BS EN 14385
A1	Ammonia (NH ₃)		No limit	95%ile of half hour averages to be	Continuous measurement	BS EN 14181

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)
				reported and max daily average during reporting period		
A1	Nitrous oxide (N ₂ O)		No limit	periodic over minimum 1-hour period	Bi-annually	BS EN ISO 21258
A1	Dioxins / furans (I-TEQ)		0.1 ng/m ³	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948 Parts 1, 2 and 3
A1	Dioxins / furans (WHO-TEQ Humans / Mammals)			periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948 Parts 1, 2 and 3
A1	Dioxins / furans (WHO-TEQ Fish)			periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948 Parts 1, 2 and 3
A1	Dioxins / furans (WHO-TEQ Birds)			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)
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals)			periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948-4
A1	Dioxin-like PCBs (WHO-TEQ Fish)			periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948-4
A1	Dioxin-like PCBs (WHO-TEQ Birds)			periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948-4
A1	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.			periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS ISO 11338 Parts 1 and 2.
A2	-	Lime silo filter vent	-	-	-	-
A3	-	Activated carbon silo filter vent	-	-	-	-
A4	-	Fuel oil storage vent	-	-	-	-

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)
A5(A), A5(B), A5(C),A6(A),A6(B)	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Standby boiler stack	80mg/m ³	periodic over minimum 4 hour period, data to be reported as a max hourly average	Annual – when boilers are on maximum firing rate	ISO 10849 or BS ISO 11564

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	Particulate matter	Incineration exhaust gas	150 mg/m ³	½-hr average	Continuous measurement	BS EN 14181 during abatement plant failure or alternative surrogate as specified in the Application during failure of the continuous emission monitor
A1	Total Organic Carbon (TOC)		20 mg/m ³	½-hr average	Continuous measurement	BS EN 14181 during abatement plant failure
A1	Carbon monoxide		150 mg/m ³	95% of all 10-minute averages in a calendar day	Continuous measurement	BS EN 14181 during abatement plant failure

Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1	Process effluent	pH	6 - 10.5	Instantaneous	Continuous	BS6068-2.50
		Temperature	43.3°C			Temperature probe
		Flow m³/s	0.007			MCERTS self-monitoring of effluent flow scheme
S2	Surplus rainwater from buildings, hardstanding areas and roadways to surface water drain via interceptor	-	-	-	-	-

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
As identified in the Application	Wind Speed and Direction	Continuous	Anemometer	
Location close to the Combustion Chamber inner wall or as identified and justified in Application.	Temperature (° C)	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1	Exhaust gas temperature	Continuous	Traceable to national standards	As agreed in writing with the Agency.

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
A1	Exhaust gas pressure	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1	Exhaust gas oxygen content	Continuous	BS EN 15267-3 BS EN 14181	
A1	Exhaust gas water vapour content	Continuous	BS EN 15267-3 BS EN 14181	Unless gas is dried before analysis of emissions.

Table S3.4 Residue quality					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method *	Other specifications
Bottom Ash	TOC or LOI	<3%(for TOC) <5% (for LOI)	Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		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		Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash	

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

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

Schedule 4 – Reporting

Drafting note: if the operator is required to submit Resource Efficiency Physical Index (REPI) data to the Pollution Inventory, please ensure that no metrics are repeated in this schedule.

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1	A1 A5(A), A5(B), A5(C),A6(A),A6(B)	Quarterly and Bi-annually for periodic monitoring Annually	1 Jan, 1 Apr, 1 Jul and 1 Oct 1 Jan and 1 Jul 1 Jan
Emissions to sewer Parameters as required by condition 3.5.1	S1	Every 6 months whenever a discharge is made during the period	1 Jan and 1 Jul
TOC or LOI Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Bottom Ash	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
Parameters as required by condition 3.5.1			
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	APC Residues	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	APC Residues	Before use of a new disposal or recycling route	
Functioning and monitoring of the incineration plant as required by condition 4.2.2		Annually	1 Jan

Table S4.2: Annual production/treatment	
Parameter	Units
Total Municipal Waste Incinerated	tonnes
Total Commercial Waste Incinerated	tonnes
Total hazardous clinical waste incinerated (18 01 03* and 18 02 02*)	tonnes
Electrical energy produced	KWh
Thermal energy produced exported from the EfW plant to district heating	KWh
Electrical energy exported	KWh
Electrical energy used on 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
Natural gas consumption on ERF	Annually	Kg / tonne of waste incinerated
Bottom Ash residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
APC residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
Urea consumption	Annually	Kg / tonne of waste incinerated
Activated Carbon consumption	Annually	Kg / tonne of waste incinerated
Lime consumption	Annually	Kg / tonne of waste incinerated
Water consumption	Annually	m ³ / 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
Air	Forms air 1-9 or other forms as agreed in writing by the Environment Agency	01/04/21
Sewer	Form sewer 1 or other form as agreed in writing by the Environment Agency	01/04/21

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Water and raw material usage	Form WU/RM1 1 or other form as agreed in writing by the Environment Agency	01/04/21
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	01/04/21
Waste disposal/recovery	Form R1 or other form as agreed in writing by the Environment Agency	01/04/21
Residue quality	Form residue 1 or other form as agreed in writing by the Environment Agency	01/04/21
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	01/04/21

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	

(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	
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	
Measures taken, or intended to be taken, to stop the emission	

Drafting Note: The time periods for notification should be based on the site-specific risk and deviations from 24 hours should be justified.

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.

“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][transported by the grate] or for incinerators which do not have a grate [installation specific definition of bottom ash];

“CEM” Continuous emission monitor

“CEN” means Comité 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 or 10 minute averages for CO over a calendar day during normal operation.

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

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

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

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

"infectious clinical waste" means clinical waste incorporating substances containing viable micro-organisms or their toxins which are known or reliably believed to cause disease in man or other living organisms

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

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

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

"year" means calendar year ending 31 December.

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

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

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

(b) Where the installation is an incineration plant 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.

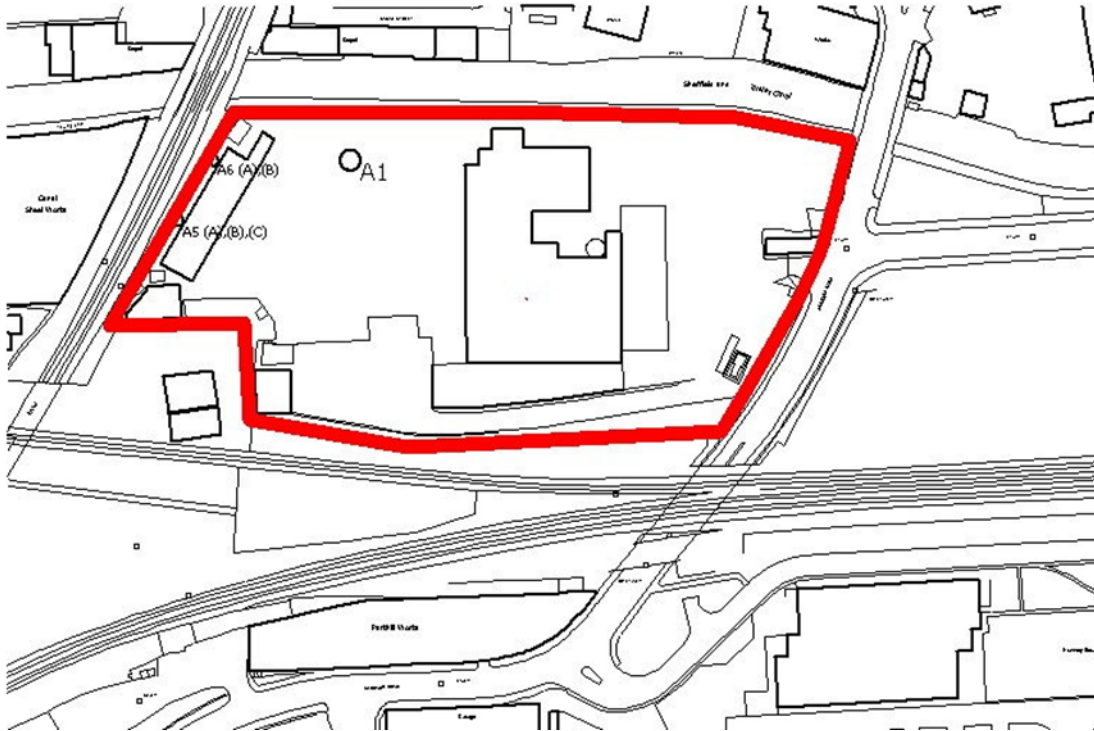
TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
		Humans / Mammals	Fish	Birds
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01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

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

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

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / mammals	Fish	Birds
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

Schedule 7 – Site plan



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