



Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Medisort Limited

Hillingdon Clinical Waste Incinerator
Hillingdon Hospital
Pield Heath Road
Uxbridge
Middlesex
UB8 3NN

Variation application number

EPR/YP3004SE/V004

Permit number

EPR/YP3404SE

Hillingdon Clinical Waste Incinerator

Permit number EPR/YP3404SE

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.

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.

Changes introduced by this variation notice/statutory review EPR/YP3404SE/V003

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 opportunity has also been taken to remove previously completed improvement conditions (IC1 – IC12, permit reference EPR/YP3404SE/V002) from the permit improvement programme requirements in Table S1.2.

Changes introduced by variation application made by the operator EPR/YP3404SE/V004

This variation also incorporates a normal variation to update the permit to reflect improvements to the operation of the installation, and to achieve the requirements of the IED and the Waste Incineration BREF/BAT conclusions.

The changes cover:

- The installation of a twin pass boiler

A replacement twin pass boiler has been installed. Waste heat from the incinerator combustion gases will transfer energy to the water via a tube and shell boiler. This will reduce exhaust gas temperature to 180-250 °C to allow efficient operation of the ceramic filter technology. It will also increase the water temperature within the boiler to produce steam which is subsequently exported to the adjoining hospital.

- Installation of an automated combustion control system (Intelligent Combustion Management System (ICMS))

The previous control system had no human machine interface and no program architecture to allow for safe control of the combustion process. An ICMS is being installed which will provide fully automated sequencing and optimal control of the combustion process. The system will be capable of gathering, displaying, and recording all required plant operational data. The ICMS will control the waste feed to the primary combustion chamber and maintain the operation as continuously as possible to limit the number of start-up and shut down sequences.

- Improvements to the acid gas and particulates abatement

Particulate emissions shall be removed using a dry ceramic pollution control system. This replaces the aging fabric filter system previously installed on the plant. Emissions of HCl and SO₂ shall be abated by the addition of sodium bicarbonate which will be automatically injected into the gas flow with the dosing controlled via the ICMS system. Sodium bicarbonate is used due to its high efficiency given the operating

temperatures (200 to 250°C) for the flue gases. Ceramic filters will abate particulate emissions to be less than that of the Waste Incinerator BAT-AEL of 5 mg/Nm³ for particulates.

- Improvements to external areas of hardstanding and surface water drainage systems

Areas of external hardstanding and drainage are being improved to assist site drainage at peak rainfall. Overall layout of the site drainage is unchanged.

- Modifications to the bin wash system to utilise waste steam

Waste heat, in the form of steam, will be used to provide hot water within the bin wash. Up to 120 kg/hr of steam will be bled from the boiler, at a continuous pressure ranging between 4.0 and 5.5 Bar(g). The hot water demand for the bin wash system is 65°C Celsius at a pressure of 1.5-2.5Bar (g).

Brief description of the process

This permit controls the operation of a clinical waste incineration plant. The relevant listed activity is S5.1 A1(a) - *the incineration of hazardous waste in a waste incineration plant with a capacity of 10 tonnes per day or more*. The permit implements the requirements of the EU Directives on Industrial Emissions and Waste. The facility is designed to incinerate up to 8,000 tonnes per annum of hazardous and non-hazardous solid waste including clinical and pharmaceutical waste.

The facility also operates a clinical waste transfer station, which is allowed to store a maximum 50 hazardous waste and 120 non-hazardous waste at any one time.

Waste undergoes pre-acceptance and acceptance procedures. Incoming waste is weighed and stored until transferred or incinerated. All waste treatment takes place in a building with sealed drainage.

The incinerator feed is placed into a loading chamber via an automatic bin tipper. Waste is not loaded into the incinerator until ideal furnace conditions are met. Feed rates, air flows and temperatures are controlled using a fully automated sequencing combustion control system, an Intelligent Combustion Management System (ICMS). The ICMS controls and optimises the operation of the combustion process. The primary burning chamber (a pulsed hearth system) reduces the waste to a fine ash. The chamber is configured to operate under starved air conditions, which results in a partially burnt gas being given off the wastes as they are destroyed. The internal hearth arrangement is designed to slowly manoeuvre the waste materials and resultant residues through the chamber until their ultimate discharge via an automatic and continuous removal system.

A secondary after-burning chamber provides a turbulent and high temperature environment for thorough treatment and oxidation of the partially burnt flue gases that are produced during the incineration process. The chamber is built for the high temperature operation required and has sufficient volume to ensure that all treated products are resident for at least two seconds during normal operations.

Gases are subjected to abatement by sodium bicarbonate and activated carbon injection to neutralise acid gases and adsorb heavy metals and organic compounds entrained within, followed by ceramic filters to abate particulates before discharge through a 36.5m high stack. The exhaust system is fitted with an MCERTs accredited continuous emission monitoring system (CEMS), which links to the ICMS and provides operational control and a permanent and constant record of all flue gas emissions to atmosphere.

The Flue Gas Treatment (FGT) system is dry and so no liquid effluents arise from this. The bins used to transport waste are washed internally and externally (using steam) after use for sanitisation. Any wastewater is discharged to foul sewer.

Bottom ashes are discharged to a quench pit, transferred via an enclosed system to a skip and are subsequently sent to authorised disposal.

A preventative maintenance programme is in place to keep start-ups, shut-downs and abnormal operating conditions to a minimum. A power outage would cause the incinerator to go into safe shut down mode. Hillingdon Trust have confirmed the hospital generator can carry the load required by the incinerator in the event of power outage, and this option will be considered at the time of outage. There is an emergency relief vent (discharge point A2). Prior to use, the stage 3 burner will automatically ignite, raising the temperature of the flue gases within to an excess of 1,000°C to ensure complete combustion of the flue gases. Simultaneously the waste feed system will stop, preventing further feed of waste.

Energy is recovered from the combustion gases by a waste heat boiler. The boiler provides the adjacent Hillingdon hospital with steam to run heating and hot water supplies and reduces the hospital's need to use fossil fuels for heat generation.

To ensure effective management of the facility a documented environmental management system (EMS) will be in place, certified to ISO 14001.

Furnace technology	Pulsed heath furnace
Number of lines	1
Principal waste type	Clinical
Stack height	36.5m
Permitted plant capacity	8,000 tonnes per year
Steam export capacity	Approximately 6 tonnes per hour

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 KP3530BU	Duly Made 22/03/2005	
Additional information received	19/10/2005 11/11/2005 01/12/2005 and 14/12/2005	As a result of further information requests, which were dated 19/10/2005, 1/11/2005 and 16/11/2005
Permit KP3530BU determined	16/12/2005	Original permit issued to Clinical Energy Limited
Application LP3037UU for transfer	21/08/2007	
Request for transfer date	17/09/2007	
Application for transfer determined LP3037UU	19/09/2007	Determination date of transfer
Permit LP3037UU transfer date	28/09/2007	Effective date of transfer, permit transferred in full to SRCL Limited
Application SP3030XB (variation)	Duly Made 24/10/2007	
Variation SP3030XB determined and issued	14/03/2008	
Application EPR/LP3037UU/V003 (variation)	05/05/2009	Environment Agency raised variation

Status log of the permit		
Description	Date	Comments
Application EPR/YP3404SE/T001 (Full transfer of permit EPR/LP3037UU)	Duly Made 24/05/2021	Application to transfer the permit in full to Medisort Limited.
Additional information received	25/05/2021	Email confirmation of EMS implementation.
Transfer determined EPR/YP3404SE	28/05/2021	Full transfer of permit to Medisort Limited, effective 31/05/2021.
Regulation 61 notice issued	10/12/2021	Regulation 61 Notice requiring information for Statutory review of permit. BAT Conclusions published 03 December 2019.
Application EPR/YP3404SE/V002 (variation and consolidation)	Duly made 21/07/2022	Application to vary and update the permit to modern conditions. Variation adds Transfer Station Activity onto the existing permit.
Additional information received	15/11/2022	Email confirmation of waste residency times, EWC codes, updates to management plans (accident and amenity, habitats assessment and other appropriate measures information).
Variation determined and consolidation issued EPR/YP3404SE EAWML 408227	07/03/2023	Varied and consolidated permit issued in modern format.
Regulation 61 notice response received	28/07/2023	
Application EPR/YP3404SE/V003 (Variation)	Duly made 29/09/2023	Variation to: <ul style="list-style-type: none"> • install of a twin pass boiler • Install an automated combustion control system (Intelligent Combustion Management System (ICMS)) • change the acid gas reagent from lime to sodium bicarbonate • replace the bag filters with clay ceramic filters to abate particulates • improve external areas of hardstanding and surface water drainage systems • modify to the bin wash system to utilise waste steam
Environment Agency Waste Incineration Sector Review Permit reviewed Variation determined EPR/YP3404SE/V004	29/01/2024	Varied and consolidated permit issued. Variation V003 (permit review) and V004 (operator-initiated variation) have been issued as one Notice.

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/YP3404SE

Issued to

Medisort Limited (“the operator”)

whose registered office is

Ford Road

Wick

Littlehampton

West Sussex

BN17 7QU

company registration number 06856504

to operate a regulated facility at

Hillingdon Clinical Waste Incinerator

Hillingdon Hospital

Field Heath Road

Uxbridge

Middlesex

UB8 3NN

to the extent set out in the schedules.

The notice shall take effect from 29/01/2024

Name	Date
Sandra Cavill	29/01/2024

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/YP3404SE

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/YP3004SE/V004 authorising,

Medisort Limited (“the operator”),

whose registered office is

**Ford Road
Wick
Littlehampton
West Sussex
BN17 7QU**

company registration number 06856504

to operate an installation at

**Hillingdon Clinical Waste Incinerator
Hillingdon Hospital
Pield Heath Road
Uxbridge
Middlesex
UB8 3NN**

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

Name	Date
Sandra Cavill	29/01/2024

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) in accordance with a written other than normal operating conditions (OTNOC) management plan.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 The operator shall review the written management system at least every 3 years or otherwise as requested by the Environment Agency.
- 1.1.4 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.5 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

- 1.2.1 For the following activities referenced in schedule 1, table S1.1 (AR1), 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 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 For the following activities referenced in schedule 1, table S1.1 (AR1), 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), 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 green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

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

- (a) it is of a type and quantity listed in schedule 2 tables S2.2 and S2.3; and
 - (b) it conforms to the description in the documentation supplied by the producer or holder.
- 2.3.5 For AR1 waste paper, metal, plastic or glass that has been separately collected for the purpose of preparing for re-use or recycling shall not be accepted. Waste from the treatment of these separately collected wastes shall only be accepted if incineration delivers the best environmental outcome in accordance with regulation 12 of the Waste (England and Wales) Regulations 2011.
- 2.3.6 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 The operator shall burn only those hazardous wastes where the throughputs, calorific values and pollutant compositions are within the ranges specified in table S2.2 of schedule 2, unless otherwise agreed in writing with the Environment Agency.
- 2.3.10 The operator shall ensure that prior to accepting waste subject to condition 2.3.9 at the site, it has obtained sufficient information about the hazardous wastes to be burned to demonstrate compliance with the characteristics described in condition 2.3.9.
- 2.3.11 The operator shall take representative samples of all hazardous waste deliveries to the site unless otherwise agreed in writing with the Environment Agency and test a representative selection of these samples to verify conformity with the information obtained as required by condition 2.3.10. These samples shall be retained for inspection by the Environment Agency for a period of at least 1 month after the material is incinerated and results of any analysis made of such samples will be retained for at least 2 years after the material is incinerated.
- 2.3.12 Waste shall not be charged if:
- (a) the combustion chamber temperature is below 850 °C,
 - (b) it is hazardous waste with a hazardous halogenated organic content of more than 1% (expressed as chlorine) and the combustion chamber temperature is below 1,100 °C.
 - (c) it is cytotoxic or cytostatic waste and the combustion chamber temperature is below 1,000°C
 - (d) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded during abnormal operation; or
 - (e) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or
 - (f) 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
 - (g) there is a stoppage, disturbance or failure of the activated carbon abatement system, other than during abnormal operation; or
 - (h) 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.

- 2.3.13 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.14 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.
- 2.3.15 The operator shall interpret the start of the period of “abnormal operation” as the earliest of the following:
- (a) a technically unavoidable stoppage, disturbance, or failure of continuous emission monitors;
 - (b) a technically unavoidable stoppage, disturbance, or failure of the activated carbon abatement system; or
 - (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.
- 2.3.16 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; or
 - (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.
- 2.3.17 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 2.3.12 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.12 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.
- 2.3.18 If Infectious clinical waste is burned, it 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.
- 2.3.19 Bottom ash and APC residues shall not be mixed.

2.4 Improvement programme

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

2.5 Pre-operational conditions

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

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3, subject to condition 3.2.1, shall not be exceeded.
- 3.1.3 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.4. Additional samples shall be taken and tested and appropriate action taken, whenever:
- (a) disposal or recovery routes change; or
 - (b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

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

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

• Carbon monoxide	10%
• Sulphur dioxide	20%
• Oxides of nitrogen (NO & NO ₂ expressed as NO ₂)	20%
• Particulate matter	30%
• Total organic carbon (TOC)	30%
• Hydrogen chloride	40%
• Ammonia	40%
 - (b) valid half-hourly average values or 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.2.2 (a).
 - (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour or 10 minute period, the half-hourly average or 10-minute average shall in any case be considered valid if measurements are available for a minimum of 20 minutes or 7 minutes during the half-hour or 10-minute period respectively. The number of half-hourly or 10-minute averages so validated shall not exceed 5 or 15 respectively per day.
 - (d) daily average values shall be calculated as follows:
 - (i) the average of valid half hourly averages or 10 minute averages over a calendar day excluding half hourly averages or 10 minute averages during periods of abnormal operation. The daily average value shall be considered valid if no more than five half-hourly average or fifteen 10-minute average values in any day have been determined not to be valid.

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

3.3 Emissions of substances not controlled by emission limits

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

3.4 Odour

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Noise and vibration

- 3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.5.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring

- 3.6.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1, S3.1(a) and S3.2;
 - (b) process monitoring specified in table S3.3;
 - (c) residue quality in table S3.4
- 3.6.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and unless otherwise agreed in writing by the Environment Agency have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges. Newly installed Data handling and acquisition systems (DAHS), or DAHS replacing existing DAHS, shall have MCERTS certification.
- 3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.1(a) and S3.2 unless otherwise agreed in writing by the Environment Agency.

3.7 Pests

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

3.8 Fire prevention

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

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 For the following activities referenced in schedule 1, table S1.1 (AR1), 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 (a)	The incineration of hazardous waste in a waste incineration plant with a capacity of 10 tonnes per day or more.	<p>From receipt of waste to emission of exhaust gas and removal from site of waste arising.</p> <p>Incineration of waste specified in Table S2.2, with a maximum treatment capacity of 8,000 tonnes per annum and 22.5 tonnes per day.</p> <p>All infectious waste shall be stored inside a building.</p> <p>Waste shall be stored on impermeable surfacing with sealed drainage.</p> <p>Waste shall not be stored in vehicles or vehicle trailers, unless they are being received for immediate offloading or prepared for imminent transfer (that is, they will be removed from site within 24 hours, or 72 hours if over a weekend).</p> <p>Pharmaceutical, chemical, anatomical and palletised waste shall be stored securely within designated areas of the building.</p> <p>Infectious clinical waste shall be stored for no longer than 7 days.</p> <p>Refrigerated anatomical waste shall be stored for no longer than 14 days.</p> <p>Unrefrigerated anatomical waste shall be stored for no longer than 24 hours, or up to 72 hours if over a weekend.</p> <p>The following waste types shall be stored on site for no longer than 6 months:</p> <ul style="list-style-type: none"> • non-infectious cytotoxic and cytostatic medicines • other hazardous chemicals or other hazardous wastes <p>Notwithstanding the limits given above where a shorter storage time period is given in an agreed management plan then that time period shall take precedence.</p>

			No waste types shall be submitted to this activity other than those hazardous wastes specified in Schedule 2, Table S2.2.
Directly Associated Activities			
AR2	Supply of heat and steam	Supply of heat and steam to the site	
AR3	Cleaning and disinfection of containers and carts.	Steam cleaners	<p>Handling, cleaning and storage of containers and carts prior to dispatch.</p> <p>Bin, container or cart washing equipment shall be purpose-built, contained and located in a designated area of the facility provided with an impermeable surface with self-contained drainage. The cart or bin wash must be designed to collect and contain all wash waters, including any spray.</p>
AR4	Raw material handling and storage.	Raw material handling and storage	From receipt and storage to point of use.
Activity reference	Description of activities for waste operations		Limits of activities
AR5	<p>Repackaging of non-hazardous and hazardous waste.</p>	<p>R12 Exchange of waste for submission to any of the operations numbered R1 to R11.</p> <p>D14 Repackaging prior to submission to any of the operations numbered D1 to D13</p>	<p>No more than 10 tonnes per day of hazardous waste shall be repackaged.</p> <p>Repackaging is limited to:</p> <ul style="list-style-type: none"> • taking a waste package (for example a bag, drum or box) out of one cart or bulk container (for example a skip) and placing it into another cart or bulk container (for example, a skip) • taking a waste package from a cart or bulk container (for example, skip) and placing it onto a pallet or vehicle • taking a waste package from a pallet and placing it into a cart or bulk container (for example, skip) <p>Waste shall not be transferred, removed or separated from its primary packaging (for example bags, bins, boxes and blister packs).</p> <p>Washing and disinfection of reusable sharps bins and repackaging of wastes shall take place within a building on an impermeable surface with sealed drainage.</p>

			<p>Repackaging shall take place within a building on an impermeable surface with sealed drainage.</p> <p>Repackaging of waste shall not change either the maximum storage times for waste on site or the amount that can be stored.</p> <p>Bin, container or cart washing equipment shall be purpose-built, contained and located in a designated area of the facility provided with self-contained drainage. The washer must be designed to collect and contain all wash waters, including any spray.</p> <p>No waste types shall be submitted to this activity other than those wastes specified in Schedule 2, Table S2.3.</p>
<p>AR6</p>	<p>Storage of hazardous and non-hazardous waste.</p>	<p>R13 Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).</p> <p>D15 Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where the waste is produced).</p>	<p>From receipt and storage of hazardous and non-hazardous waste on site to its repackaging on site or its transfer off-site.</p> <p>The maximum quantity of hazardous waste stored shall not exceed 50 tonnes at any one time.</p> <p>The total amount of waste stored on site prior to incineration (AR1) and waste stored (AR6) including both hazardous and non-hazardous waste, shall not exceed 170 tonnes.</p> <p>No waste shall be treated or compacted.</p> <p>Waste shall be stored on impermeable surfacing with sealed drainage.</p> <p>Waste shall not be stored in vehicles or vehicle trailers, unless they are being received for immediate offloading or prepared for imminent transfer (that is, they will be removed from site within 24 hours, or 72 hours if over a weekend).</p> <p>Pharmaceutical, chemical, anatomical and palletised waste shall be stored securely within designated areas of the building.</p> <p>Non-infectious offensive waste shall be stored for no longer than 7 days if outside, or for no longer than 14 days if stored in a building.</p> <p>Refrigerated anatomical waste shall be stored for no longer than 14 days.</p> <p>Unrefrigerated anatomical waste shall be stored for no longer than</p>

			<p>24 hours, or up to 72 hours if over a weekend.</p> <p>The following waste types shall be stored on site for no longer than 6 months:</p> <ul style="list-style-type: none"> • non-infectious, non-hazardous medicines • other non-hazardous chemicals or other non-hazardous wastes <p>Notwithstanding the limits given above where a shorter storage time period is given in an agreed management plan then that time period shall take precedence.</p> <p>No waste types shall be submitted to this activity other than those wastes specified in Schedule 2, Table S2.3.</p>
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Table S1.2 Operating techniques		
Description	Parts	Date Received
Application KP3330BU	Application Form B2, questions 2.1, 2.2, 2.7 and 2.10 (as superseded by V004)	22/03/2005
Application	Application Form Part A and supporting documents including: <ul style="list-style-type: none"> • Hillingdon Site green line plan; • Emission Points, Foul sewer line, surface water line plan; and • IMS Information (reference MED 2 IMS INFO). 	02/10/2021
Request for further information	Application Forms C3 and C4, along with supporting documents including: <ul style="list-style-type: none"> • Non-Technical Summary (ref. E004.2.1); • Environmental Management System (ref. E002) and Environmental Policy (ref. E001 i3) • Waste Storage and Waste Flow (ref. D002.1) 	18/07/2022
Response to Schedule 5 Notice dated 29/09/2022	Response to all questions, including the following documents: <ul style="list-style-type: none"> • Habitats Assessment (referenced E004); • Accident Management Plan – Waste Transfer HH (reference H011) and appendices; • Medisort Submitted Documents matrix; and • Waste Storage Residency for Hillingdon WT (reference E050.0.0). 	15/11/2022
Healthcare waste: appropriate measures for permitted facilities Version published 13 July 2020	All relevant parts	NA

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application variation EPR/YP3404SE/V004	Application Form Part C3, question 3 Operating techniques (including Appendix A – Operating techniques in Supporting Information)	28/07/2023
Response to regulation 61 notice	Operating techniques as set out in the response to the regulation 61 notice.	28/07/2023

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1 – IC12	Reference permit V002	Completed
IC13	<p>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 NO_x emissions can be further optimised such that emissions are reduced as far as possible below 180 mg/Nm³ as a daily average, without significantly increasing emissions of other pollutants or having a significant negative effect on plant operation or reliability. The study shall be based on an appraisal of the currently installed measures to reduce NO_x, any potential improvements identified, and, where relevant, the results of trials carried out at the installation. A written report of the study shall be submitted to the Environment Agency for approval which shall include but not necessarily be limited to the following:</p> <ul style="list-style-type: none"> • An appraisal of the currently installed measures at the installation to minimise NO_x emissions • The potential for improvement to the currently installed measures, including the viability of performing trials to vary current operational parameters to reduce NO_x emissions, and any additional measures which could be taken to further reduce NO_x from the installation, such as installation of selective non-catalytic reduction (SNCR). • Where relevant, the results of trials conducted to further reduce daily average NO_x emissions using currently installed measures, including: <ul style="list-style-type: none"> ○ a description of the parameters that were varied during the trial and the range over which they were varied ○ the levels of NO_x achieved and any changes which were observed to the levels of other continuously monitored pollutants emitted during the trials ○ observed effects and predicted long-term impacts on plant operation, reliability and maintenance regime ○ any other relevant cross-media effects <p>The report shall also include a description of the extent to which current systems in place at the plant to minimise NO_x emissions can be optimised on a permanent basis,</p>	6 months from issue of variation notice.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	including justification and an implementation plan where relevant.	
IC14	The operator shall submit a report to the Environment Agency for approval on whether waste feed to the plant can be proven to have a low and stable mercury content. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic mercury emissions monitoring data and have regard to the Environment Agency Mercury Monitoring Protocol.	3 months from issue of variation notice or as otherwise agreed with the Environment Agency.
IC15	The operator shall submit a report to the Environment Agency for approval on whether dioxin emissions to air are stable. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic dioxin emissions monitoring data and have regard to the Environment Agency Dioxins Monitoring Protocol.	3 months from issue of variation notice or as otherwise agreed with the Environment Agency.
IC16	<p>The operator shall calculate the boiler efficiency using the method set out in the general considerations section of the BAT conclusions and submit details of the calculation to the Environment Agency. The calculation shall use the R1 efficiency status, boiler efficiency determination guidance (or other methodology as agreed in writing with the Environment Agency) to calculate boiler efficiency which can then be used to calculate Qth.</p> <p>Where the calculated boiler efficiency is below the range specified in BAT 20 of the BAT conclusions, the operator shall carry out an assessment of the opportunities to increase the energy efficiency of the installation.</p> <p>The assessment shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> • Improvements that could be made to the furnace (including control systems) in order to increase the amount of thermal energy produced per unit of thermal energy in the waste. • Improvements that could be made to the steam system and related components to allow a greater quantity of heat to be generated per unit of thermal energy produced from the waste. • Improvements in the heat efficiency of the plant's ancillary systems that could be made in order to reduce the heat loads of the plant. • Where relevant, an implementation plan for the improvements identified, including the anticipated increase in the boiler efficiency. <p>A written copy of the assessment shall be submitted to the Environment Agency for approval.</p>	12 months from issue of variation notice
IC17	The operator shall review techniques against the following sections of the Chemical waste: appropriate measures for	12 months from issue of variation notice

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>permitted facilities guidance (Version published 18 November 2020):</p> <ul style="list-style-type: none"> • Waste pre-acceptance, acceptance and tracking appropriate measures • Waste storage, segregation and handling appropriate measures <p>The operator shall submit a report to the Environment Agency for approval to demonstrate which measures are currently complied with. Where measures are not currently complied with the report shall include details and justification of:</p> <ul style="list-style-type: none"> • When measures will be complied with; and/or • Measures that are not relevant; and/or • Alternative techniques 	
IC18	<p>The operator shall review plant operation and emissions monitoring data over at least the previous 12 months to establish how daily average emissions should be determined. The operator shall submit a report to the Environment Agency for approval that summarises the review and include but not necessarily be limited to:</p> <ul style="list-style-type: none"> • The number of days on which the plant did not operate for a complete 24 hours • Where the plant did not operate for 24 hours the number of hours that it did operate for and the number of hours where emissions were considered to be stable taking into account start-up and shut-down definitions. • A proposal for the number of half hourly averages or 10 minute averages that are required for a daily average value to be valid 	14 months from issue of variation notice
IC19	<p>The operator shall carry out an assessment of the power demand associated with critical equipment required to maintain combustion and abatement systems and prevent operation of the emergency release valve (ERV) until the plant can be shut down safely or returned to normal operation. A comparison of this load (kWe) with the current provision for back-up power systems, and their response time in the event of:</p> <ul style="list-style-type: none"> (i) fluctuations in power to the site, and (ii) the total loss of power to the facility <p>shall be undertaken. Critical equipment shall include but not be limited to, the ID fan, compressed air systems, boiler feedwater pumps, PLC and auxiliary burners, CEMS as well as any other equipment identified in your response to the Regulation 61 Notice (received on 28/07/2023).</p>	3 months from issue of variation notice

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	A report of the assessment shall be submitted to the Environment Agency for approval.	
IC20	<p>Upon notification from the Environment Agency following the operation of the emergency release valve (ERV) due to loss of or fluctuations in power</p> <p>The operator shall undertake an assessment of the technical and practical viability of installing back-up power equipment at the installation that are of sufficient capacity (as a minimum for the kW_e identified in IC19 and have an appropriate response time to avoid activation of the emergency release valve (ERV) and maintains combustion following interruption or failure of power supply to the facility.</p> <p>A report on the assessment shall be submitted to the Environment Agency for approval.</p> <p>The operator shall install and integrate measures for the provision of back-up power within 12 months from the date of approval</p>	6 months from written notification from the Environment Agency
IC21	<p>The operator shall develop a method for assessing and identifying the root cause of the operation of the emergency release valve (ERV). The method shall have regard to the approach proposed in the Report titled 'Emergency Releases from the Incineration of Hazardous and Healthcare Waste' dated 26 June 2023 and shall include as a minimum an assessment of the adequacy of:</p> <ul style="list-style-type: none"> • The design and specification of equipment to prevent mechanical and electrical failure of critical equipment • The provision of back-up systems, redundancy and availability of spares for critical equipment • Planned Preventative Maintenance of critical equipment • Site management including Operating Procedures and management of personnel • A rolling assessment of mitigation measures that will prevent re-occurrence of the cause of an ERV activation <p>The operator shall submit details of the method to be used to the Environment Agency for approval and incorporate it into their Environmental Management System.</p>	3 months from issue of variation notice
IC22	<p>The operator shall undertake a detailed review of the design, provision of redundancy and maintenance regimes for critical equipment and operating procedures that may result in operation of the emergency release valve (ERV).</p> <p>The review shall have regard to the immediate and root causes and mitigation measures identified in the Report</p>	9 months from issue of variation notice

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>titled 'Emergency Releases from the Incineration of Hazardous and Healthcare Waste' dated 26 June 2023.</p> <p>A report of the findings of the review and details of proposed improvements to reduce the potential for activation of the ERV, including timescales for their implementation, shall be submitted to the Environment Agency for approval.</p>	
IC23	<p>Following notification from the Environment Agency after repeat operation of the emergency release valve (ERV), the Operator shall undertake air dispersion modelling on the short-term environmental impact of the operation of the ERV on air quality and the environment. The assessment shall follow the approach in the Environment Agency's Air Emissions Risk Assessment guidance and have regard to the nature and duration of ERV activations that occurred during the last 3 years of the operation of the installation.</p> <p>The methodology for the impact assessment including assumptions on pollutant concentrations, exhaust gas characteristics and event durations shall be agreed with the Environment Agency in advance of the modelling being undertaken.</p> <p>The operator shall submit a report summarising the dispersion modelling and the results to the Environment Agency for approval</p>	9 months from written notification from the Environment Agency

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
PO1	<p>Prior to the commencement of commissioning, the Operator shall send a summary of the site Environment Management System (EMS) to the Environment Agency and obtain the Environment Agency's written approval to the EMS summary.</p> <p>The summary shall include a copy of the full other than normal operating conditions (OTNOC) management plan which shall be prepared in accordance with BAT 18 of the BAT conclusions and include:</p> <ul style="list-style-type: none"> • a list of potential OTNOC situations that are considered to be abnormal operation under the definition in Schedule 6 of this permit. • a definition of start-up and shut-down conditions having regard to any Environment Agency guidance on start-up and shut-down. • any updates on the design of critical equipment to minimise OTNOC since the permit application. <p>The Operator shall make available for inspection all documents and procedures which form part of the EMS. The EMS shall be developed in line with the requirements set out in Environment Agency web guide on developing a management system for environmental permits (found on www.gov.uk) and BAT 1 of the incineration BAT conclusions. The EMS shall include the approved OTNOC management plan.</p>

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
	The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.
PO2	Not used.
PO3	Prior to the commencement of commissioning, the Operator shall submit to the Environment Agency, and obtain the Environment Agency's written approval to it, a protocol for the sampling and testing of incinerator bottom ash for the purposes of assessing its hazard status. Sampling and testing shall be carried out in accordance with the protocol as approved.
PO4	Prior to the commencement of commissioning, the Operator shall submit to the Environment Agency, and obtain the Environment Agency's written approval to it, a written commissioning plan, including timelines for completion, for approval by the Environment Agency. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.
PO5	Not used.
PO6	No later than one month after the final design of the furnace and combustion chamber, the operator shall submit a written report to the Environment Agency, and obtain the Environment Agency's written approval to it, of the details of the computational fluid dynamic (CFD) modelling. The report shall explain how the furnace has been designed to comply with the residence time and temperature requirements as defined by Chapter IV and Annex VI of the IED whilst operating under normal load and the most unfavourable operating conditions (including minimum turn down and overload conditions), and that the design includes sufficient monitoring ports to support subsequent validation of these requirements during commissioning.
PO7	Not used.
PO8	At least three months before (or other date agreed in writing with the Environment Agency) the commencement of commissioning, the Operator shall submit a written report to the Environment Agency, and obtain the Environment Agency's written approval to it, specifying arrangements for continuous and periodic monitoring of emissions to air to comply with Environment Agency guidance notes M1, M2 and M20. The report shall include the following: <ul style="list-style-type: none"> • Plant and equipment details, including accreditation to MCERTS • Methods and standards for sampling and analysis • Details of monitoring locations, access and working platforms
PO9	At least 3 months before the commencement of commissioning (or other date agreed in writing with the Environment Agency) the Operator shall submit, for approval by the Environment Agency, a methodology (having regard to Technical Report P4-100/TR Part 2 Validation of Combustion Conditions) to verify the residence time, minimum temperature and oxygen content of the gases in the furnace whilst operating under normal load, minimum turn down and overload conditions.

Schedule 2 – Waste types, raw materials and fuels

Raw materials and fuel description	Specification
Sodium bicarbonate	For use in the incineration process
Activated carbon	For use in the incineration process

Maximum quantity	8,000 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 01	sludges from washing and cleaning
02 01 02	animal-tissue waste
02 01 03	plant-tissue waste
02 01 99	wastes not otherwise specified
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 01	sludges from washing and cleaning
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 99	wastes not otherwise specified
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
02 03 99	wastes not otherwise specified
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 05 99	wastes not otherwise specified
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 06 99	wastes not otherwise specified
07	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 05	wastes from the MFSU of pharmaceuticals
07 05 13*	solid wastes containing hazardous substances

07 05 14	solid wastes other than those mentioned in 07 05 13
07 05 99	wastes not otherwise specified
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 05	composite packaging
15 01 06	mixed packaging
15 01 09	textile packaging
15 01 10*	packaging containing residues of or contaminated by hazardous substances
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 01	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 02	wastes from electrical and electronic equipment
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 03	off-specification batches and unused products
16 03 03*	inorganic wastes containing hazardous substances
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 05*	organic wastes containing hazardous substances
16 03 06	organic wastes other than those mentioned in 16 03 05
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 non-infectious blood bags and blood preserves
18 01 03*	infectious waste, not contaminated with chemicals or medicines
18 01 04	non-infectious offensive waste – human healthcare
18 01 06*	chemicals consisting of or containing hazardous substances
18 01 07	chemicals other than those mentioned in 18 01 06
18 01 08*	cytotoxic and cytostatic medicines
18 01 09	other waste medicines, excluding cytotoxic and cytostatic medicines – human healthcare

18 02	wastes from research, diagnosis, treatment or prevention of disease involving animals
18 02 01	sharps (except 18 02 02)
18 02 02*	infectious waste, not contaminated with chemicals or medicines
18 02 03	non-infectious anatomical waste, not chemically preserved non-infectious offensive waste non-infectious gypsum wastes (for example, plaster casts and moulds)
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	other waste medicines, excluding cytotoxic and cytostatic
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 09*	solid combustible wastes containing hazardous substances
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 02 99	wastes not otherwise specified
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard
20 01 10	clothes
20 01 31*	cytotoxic and cytostatic medicines – municipal, separately collected fractions not from healthcare or research-related sources
20 01 32	other waste medicines, excluding cytotoxic and cytostatic medicines – municipal, separately collected fractions not from healthcare or research-related sources
20 01 99	non-infectious offensive waste – municipal, separately collected fractions not from healthcare or research-related sources non-infectious sharps, not contaminated with chemicals or medicines – not from healthcare or research-related sources infectious waste, not contaminated with chemicals or medicines – municipal, separately collected fractions, not from healthcare or research-related sources (may contain sharps)
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste

Table S2.3 Permitted waste types and quantities for Activities AR4 and AR5, Repackaging and Waste Transfer	
Maximum quantity	A maximum of 50 tonnes at any one time for Hazardous Wastes A maximum of 120 tonnes at any one time for Non-Hazardous Wastes
Waste code	Description
07	Wastes from organic chemical processes
07 05	wastes from the MFSU of pharmaceuticals
07 05 13*	solid wastes containing hazardous substances
07 05 14	solid wastes other than those mentioned in 07 05 13
09	Wastes from the photographic industry (Note 1)
09 01	wastes from the photographic industry
09 01 02*	water-based offset plate developer solutions
09 01 03*	solvent-based developer solutions
09 01 04*	fixer solutions
09 01 05*	bleach solutions and bleach fixer solutions
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 04	metallic packaging
15 01 05	composite packaging
15 01 09	textile packaging
15 01 10*	packaging containing residues of or contaminated by hazardous substances
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances
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 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*	infectious waste, not contaminated with chemicals or medicines
18 01 04	non-infectious offensive waste – human healthcare
18 01 06*	chemicals consisting of or containing hazardous substances
18 01 07	chemicals other than those mentioned in 18 01 06

Table S2.3 Permitted waste types and quantities for Activities AR4 and AR5, Repackaging and Waste Transfer	
Maximum quantity	A maximum of 50 tonnes at any one time for Hazardous Wastes A maximum of 120 tonnes at any one time for Non-Hazardous Wastes
Waste code	Description
18 01 03* and 18 01 06* or 18 01 07	infectious waste, contaminated with chemicals
18 01 03* and 18 01 09	infectious waste, medically contaminated (not cytotoxic or cytostatic) – (may contain sharps) sharps from vaccinations delivered in hospitals or GP surgeries
18 01 08*	cytotoxic and cytostatic medicines
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*	infectious waste, not contaminated with chemicals or medicines
18 02 03	non-infectious anatomical waste, not chemically preserved non-infectious offensive waste non-infectious gypsum wastes (for example, plaster casts and moulds)
18 02 02* and 18 02 05*	infectious waste, contaminated with chemicals
18 02 05*	chemicals consisting of or containing hazardous 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 01	paper and cardboard
20 01 02	glass
20 01 10	clothes
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
Note 1. Limited to wastes arising from medical practices or associated with research activities.	

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 (as shown on plan in Schedule 7)	Particulate matter	Incineration exhaust gases via main stack	30 mg/m ³	½-hr average	Continuous	EN 14181
	Particulate matter		5 mg/m ³	daily average	Continuous	EN 14181
	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		8 mg/m ³	daily average	Continuous	EN 14181
	Hydrogen fluoride		1 mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	CEN TS 17340
	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

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 (as shown on plan in Schedule 7)	Sulphur dioxide	Incineration exhaust gases via main stack	200 mg/m ³	½-hr average	Continuous	EN 14181	
	Sulphur dioxide		40 mg/m ³	daily average	Continuous	EN 14181	
	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)		180 mg/m ³	daily average	Continuous	EN 14181	
	Cadmium & thallium and their compounds (total)		0.02 mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	BS EN 14385	
	Mercury and its compounds		0.02 mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Bi-annually	Not required if continuous monitoring has been specified by the Environment Agency (Note: see improvement condition IC14).	BS EN 13211
	Mercury and its compounds		0.02 mg/m ³	Limit does not apply if continuous monitoring has been specified by the Environment Agency	Daily average	Continuous	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 (as shown on plan in Schedule 7)		Incineration exhaust gases via main stack			Not required unless continuous monitoring has been specified in writing by the Environment Agency (Note: see improvement condition IC14).	
	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)		0.3 mg/m ³	Average of three consecutive measurements of at least 30 minutes each-	Bi-annually	BS EN 14385
	Exhaust gas temperature		No limit set	-	Continuous	Traceable to national standards
	Exhaust gas pressure		No limit set	-	Continuous	Traceable to national standards
	Exhaust gas flow		No limit set	-	Continuous	BS EN 16911-2
	Exhaust gas oxygen content		No limit set	-	Continuous	EN 14181
	Exhaust gas water vapour content		No limit set	-	Continuous	EN 14181
	Ammonia (NH ₃)		15 mg/m ³ limit does not apply where SNCR is not installed	daily average	Continuous monitoring is not required where SNCR is not installed	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
A1 (as shown on plan in Schedule 7)						

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)	Incineration exhaust gases via main stack	0.06 ng/m ³ and 0.08 ng/m ³ if long term limit is specified by the Environment Agency in line with sampling protocol	periodic over minimum 6 hours, maximum 8 hour period and value over sampling period of 2 to 4 weeks for long term sampling	Bi-annually and long term sampling if specified by the Environment Agency in line with sampling protocol (Note: see improvement condition IC15)	EN 1948 Parts 1, 2 and 3 and CEN TS 1948-5 if specified by the Environment Agency in line with sampling protocol
	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	EN 1948 Parts 1, 2 and 3
	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually	BS EN 1948 Parts 1, 2 and 3
	Polybrominated dibenzo-dioxins and furans		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Bi-annually Not required unless wastes containing brominated flame retardants are burned	Method based on procedural requirements of EN 1948
	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Incineration exhaust	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Annually	BS ISO 11338 Parts 1 and 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)
		gases via main stack				
A2 (as shown on plan in Schedule 7)	Temperature	Emergency relief vent	No limit set	-	Continuous	Traceable to national standards

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	Main incinerator stack	150 mg/m ³	½-hr average	Continuous	EN 14181
A1	Total Organic Carbon (TOC)		20 mg/m ³	½-hr average	Continuous	EN 14181
A1	Carbon monoxide		150 mg/m ³	95% of all 10-minute averages in any 24-hour period	Continuous	EN 14181

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
S1	Ash pit, bin washer, ash storage area and boiler blowdown	pH	6-9	Instantaneous	Continuous	BS6068-2.50
S1	Uncontaminated surface water run-off	No parameters set	No limit set	-	-	-

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	Boiler 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 S3.4 Residue quality					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method *	Other specifications
Bottom Ash	TOC or otherwise as agreed in writing with the Environment Agency	3% or otherwise as agreed in writing with the Environment Agency	Monthly in the first year of operation then 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.		Monthly in the first year of operation then 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.		Monthly in the first year of operation then quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

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

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

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.6.1.	A1	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Emissions to sewer Parameters as required by condition 3.6.1	S1	Annually	1 Jan
TOC or otherwise as agreed in writing with the Environment Agency Parameters as required by condition 3.6.1	Bottom Ash	Monthly for the first year of operation then 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	Monthly for the first year of operation then 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 (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 3.6.1	APC Residues	Before use of a new disposal or recycling route	

Table S4.2: Annual production/treatment	
Parameter	Units
Total Waste Incinerated	tonnes
Total Clinical Waste Incinerated	tonnes
Thermal energy produced e.g. steam for export	kWth

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Annual Report as required by condition 4.2.2	Annually	-
Electrical energy, imported and used at the installation	Annually	kWh / 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 / Urea consumption	Annually	kg / tonne of waste incinerated
Activated Carbon consumption	Annually	kg / tonne of waste incinerated
Sodium Bicarbonate 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	29/01/2024
Emissions to air	Forms air 1-8 or other forms as agreed in writing by the Environment Agency	29/01/2024
Sewer	Emissions to Sewer Reporting Form, or other form as agreed in writing by the Environment Agency	Version 1, 08/03/2021
Residue quality	Form residue 1 and 2 or other form as agreed in writing by the Environment Agency	29/01/2024

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	

OFFICIAL

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 2.3.15 and ends as defined in condition 2.3.16. 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.

“background concentration” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“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

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

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

“building” is a covered structure enclosed on all vertical sides that provides sheltered cover and contains emissions of, for example, noise, particulate matter, odour and litter.

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

“clinical” waste means waste from a healthcare activity (including veterinary healthcare) that:

- a) contains viable micro-organisms or their toxins which are known or reliably believed to cause disease in humans or other living organisms
- b) contains or is contaminated with a medicine that contains a biologically active pharmaceutical agent
- c) is a sharp, or a body fluid or other biological material (including human and animal tissue) containing or contaminated with a hazardous substance

and waste of a similar nature from a non-healthcare activity.

“container” is a receptacle for waste for example bags, bins, boxes, drums, IBCs and blister packs. Wastes may be packaged in more than one receptacle for example a bag in a box.

“cytotoxic and cytostatic medicines” are medicinal products that possess one or more of the hazardous properties acutely toxic, carcinogenic, mutagenic or toxic for reproduction.

‘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; or otherwise as agreed in writing with the Environment Agency after completion of IC21

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

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

“emissions to land” includes emissions to groundwater.

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

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

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

“healthcare waste” means waste produced during human or animal healthcare, or related research activities. It covers both clinical and offensive waste. Wastes produced by healthcare in the community, and similar types of waste produced by non-healthcare activities are included, for example:

- cosmetic body piercing and body art
- non-medicinal procedures in the hair and beauty sector
- substance abuse
- crime scene clean-up

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

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

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

“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

“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.

“offensive waste” is waste that:

- is not clinical waste
- contains body fluids, secretions or excretions
- falls within waste codes 18 01 04, 18 02 03 or 20 01 99.

“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.

“pollution” includes pollution of the environment, harm to human health and serious detriment to the amenities of the locality, resulting from the permitted activities.

“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.

“repackaging” is:

- taking a waste package for example a bag, drum or box out of one cart or bulk container for example, skip and placing it into another cart or bulk container for example, skip
- taking a waste package from a cart or bulk container for example, skip and placing it onto a pallet or vehicle
- taking a waste package from a pallet and placing it into a cart or bulk container for example, skip
- transferring, removing or separating waste from its primary packaging into another container

“sealed container” for the purposes of this permit, means a container which is fully enclosed, weather proof, does not allow any solid or liquid content to escape and is lockable.

“sealed drainage” in relation to an impermeable surface means a drainage system with impermeable components which does not leak and which will ensure that:

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

“sharps” means items that could cause cuts or puncture wounds. They include needles, hypodermic needles, scalpels and other blades, knives, infusion sets, saws, broken glass, and nails.

“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
- (d) where hazardous wastes are burned in plant covered by Schedule 13 of Environmental Permitting Regulations and the emissions of pollutants are reduced by gas treatment, standardisation of the gas with respect to oxygen content shall be carried out only if the oxygen concentration measured over the same period exceeds the relevant oxygen content defined in conditions (a) – (c) above. In other cases, the measured emissions shall be standardised only for moisture, pressure and temperature.

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

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

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / mammals	Fish	Birds
Non-ortho PCBs			
3,4,4',5-TCB (81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0003	0.0001	0.05
3,3',4,4',5 - PeCB (126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.03	0.00005	0.001
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.00003	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.00003	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00003	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.00003	<0.000005	0.00001

“year” means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, table 2.2, S2.3 for those tables, 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

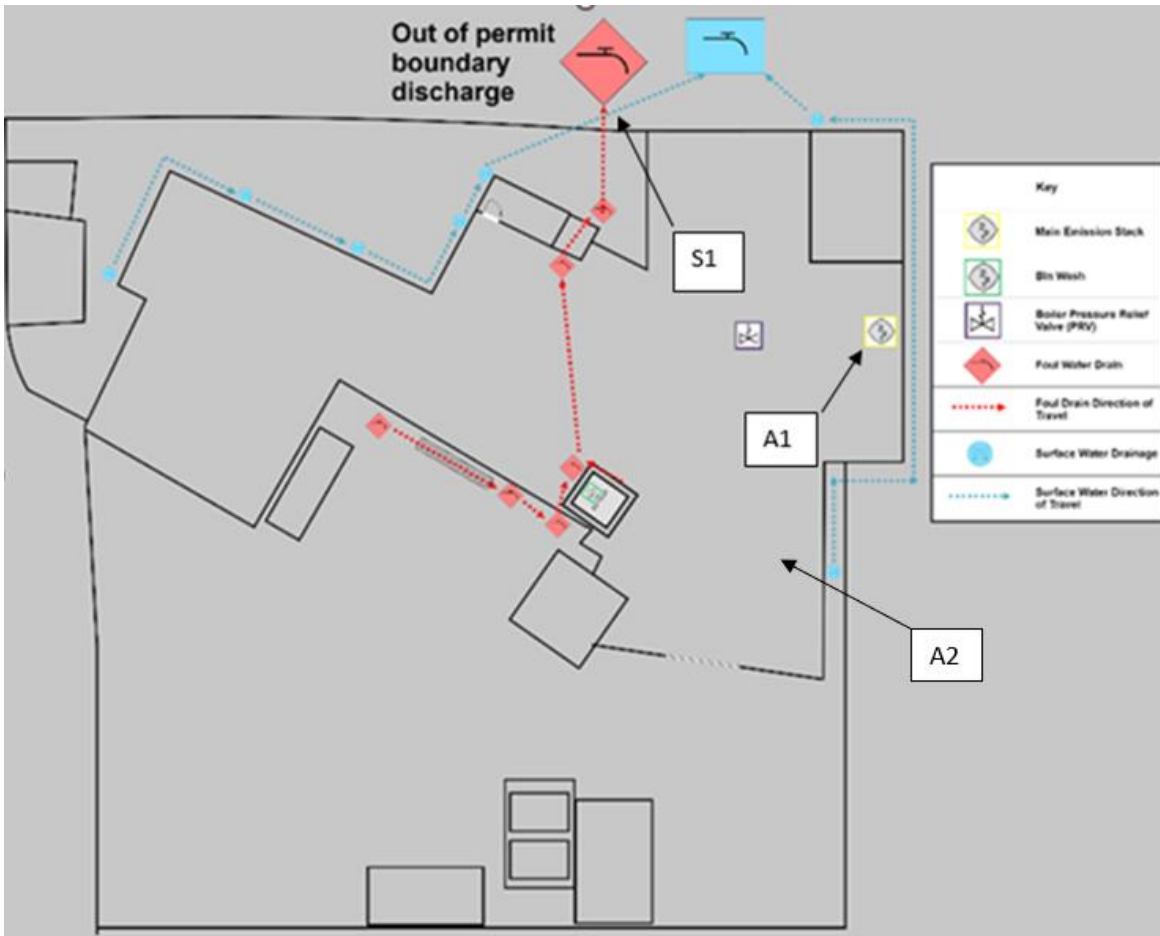
‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste

'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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