

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Clinitek (Malvern) LLP

Haylers End Healthcare Waste Incinerator

Hangmans Lane

Hanley Castle

Worcestershire

WR8 0AJ

Permit number

EPR/SP3507PN

Haylers End Healthcare Waste Incinerator

Permit number EPR/SP3507PN

Introductory note

This introductory note does not form a part of the permit

This permit controls the operation of a waste incineration plant. The relevant listed activity is Section 5.1 Part A(1)(a). The permit implements the requirements of the EU Directives on Industrial Emissions and Waste.

The main features of the permit are as follows:

The Installation

The permit controls the operation of a waste incineration plant. The relevant listed activity is Section 5.1 Part A(1)(a) for the incineration of hazardous waste in a waste incineration plant with a capacity exceeding 10 tonnes per day.

The main features of the facility are as follows:

The installation is designed for the thermal treatment of healthcare (clinical) waste, by incineration. Energy will be recovered from the installation in the form of electricity, for use within the facility and for the export of surplus to the national grid.

The Installation is located in rural area national grid reference SO 82390 44190 approximately 4 km to the southeast of the centre of Great Malvern.

The installation will process up to 8,000 tonnes of waste per year (1 tonne per hour) in a single incineration line. The waste will primarily comprise healthcare waste streams.

Clinical waste is delivered on site by vehicles either in loose bags, on pallets or within leak-proof lidded bins. Waste delivered in bags is transferred into sealed lidded bins. The waste is stored within one of four interconnected dedicated shipping containers prior to transfer to the main processing building. One of the containers is designed for the storage of waste that needs to be refrigerated. All waste will be accepted and inspected in accordance with the waste acceptance procedures.

Once the bins are emptied within the main processing building, they are transported to a purpose built bin washer where they are cleaned and disinfected both inside and out.

The incinerator is of a mass burn, stepped hearth design comprising two sections - the primary combustion chamber where the solid waste is thermally destroyed and the secondary combustion chamber where combustion products are thermally oxidised.

Within the primary combustion chamber, the waste progresses over two hydraulically driven stepped hearths. The hot gases produced from the primary combustion chamber are transferred to the secondary combustion chamber. Bottom ash is collected and quenched prior to transfer offsite for disposal.

The furnace design ensures that a temperature of at least 1,100°C for a period of at least two seconds is achieved in the secondary combustion chamber. To ensure that the temperature does not fall below the required minimum temperature, auxiliary burners firing gas oil or waste oil are automatically triggered by online process monitoring equipment. Auxiliary burners are also used to achieve and maintain the minimum furnace temperature during start up and shutdown periods.

Heat from the combustion process is used to generate steam in a waste heat recovery boiler which is integral to the combustion process. This is fed to a screw expander generator set which has a total capacity of approximately 7 MW (thermal input) and is capable of generating up to 262 kWe of electrical power, of which up to 70 kWe will be exported to the National Grid. Provision has been made in the design for the plant to be capable of supplying heat in the form of steam, once a viable heat user becomes available to take the heat as an output.

Combustion gases are cleaned before they are released to atmosphere. There are four components to the flue gas cleaning and abatement measures:

- optimisation of oxygen conditions within the furnace combined with the use of Selective Non-Catalytic Reduction (SNCR) through urea injection within the secondary combustion chamber, provides for the abatement of nitrogen oxides;
- sodium bicarbonate is injected to neutralise acid gas compounds;
- activated carbon is injected to absorb mercury, dioxins and furans; and
- ceramic filtration is used to remove particulates.

Cleaned flue gases exiting the abatement system of the incineration line are discharged through a 21 metre tall stack. Exhaust flue gases are continuously monitored for particulate matter, oxides of nitrogen, sulphur dioxide, carbon monoxide, total organic carbon and hydrogen chloride. Monitoring for heavy metals, dioxins and hydrogen fluoride is carried out periodically.

There are no emissions to foul sewer from this installation, liquid effluent emissions are directed to an underground holding tank and periodically removed offsite via a tanker for disposal. The liquid effluent comprises:

- boiler blow down effluent;
- effluent from the ash quench tanks;
- washwater from the process of cleaning the waste carts; and
- domestic sewage from staff welfare facilities, i.e. toilets / washrooms.

The incineration process results in solid residues of incinerator bottom ash (IBA) and air pollution control (APC) residues. Following quenching in the ash pit the IBA from the combustion process is transferred to skips for off-site disposal. APC residues are collected and temporarily stored on site in an intermediate bulk container (FIBC) bag for collection and subsequent disposal.

Up to 300,000 litres of waste oil are accepted on site and filtered to remove particulates and water. Filtered waste oil provides an alternative to the use of gas oil for maintaining combustion temperature during steady state incineration. It is piped into the four primary burners for use within the primary combustion chamber.

There are no European habitats sites within 10 km or Sites of Special Scientific Interest (SSSIs) within 2 km, of the installation. There are 4 Ancient Woodlands and 7 Local Wildlife sites within 2 km of the installation, and we are satisfied that the Installation will not cause significant pollution at these sites.

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

Status log of the permit		
Description	Date	Comments
Application EPR/SP3507PN/A001	Duly made 16/12/2019	Application for 8,000 tonnes per year clinical waste incinerator.
Additional information received	12/06/2020	Response to Schedule 5 Notice dated 15/05/2020
Additional information received	02/07/2020	Abnormal emissions technical note and updated PCB assessment. Response to Environment Agency email of 04/06/2020.
Additional information received	18/09/2020	Response to Schedule 5 Notice dated 24/07/2020
Additional information received	18/09/2020	Response to Environment Agency email dated 03/09/2020.
Additional information received	15/10/2020	Updated installation boundary and information on CEMS and waste storage.

Status log of the permit		
Description	Date	Comments
Permit determined	30/11/2020	Permit issued to Clinitek (Malvern) LLP

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/SP3507PN

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

Clinitek (Malvern) LLP ("the operator"),

whose registered office is

3rd Floor

South Building

200 Aldersgate Street

London

EC1A 4HD

company registration number OC425697

to operate an installation at

Haylers End Healthcare Waste Incinerator

Hangmans Lane

Hanley Castle

Worcestershire

WR8 0AJ

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

Name	Date
Claire Roberts	30/11/2020

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

- 1.2.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4) The operator shall:
- (a) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities.
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.
- 1.2.2 The operator shall provide and maintain steam and/or hot water pass-outs such that opportunities for the further use of waste heat may be capitalised upon should they become practicable.
- 1.2.3 The operator shall review the viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:
- (a) new plans for significant developments within 15 km of the installation;
 - (b) changes to the Local Plan;
 - (c) changes to the UK CHP Development Map or similar; and
 - (d) new financial or fiscal incentives for CHP.

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

1.3 Efficient use of raw materials

- 1.3.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4) The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

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

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

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4) 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 table S2.2; and
 - (b) it conforms to the description in the documentation supplied by the producer or holder.

- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.7 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.
- 2.3.8 The operator shall ensure that prior to accepting waste subject to condition 2.3.7 at the site, it has obtained sufficient information about the hazardous wastes to be burned to demonstrate compliance with the characteristics described in condition 2.3.7.
- 2.3.9 The operator shall take representative samples of all non-healthcare 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 2.3.8. 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.
- 2.3.10 Waste shall not be charged, or shall cease to be charged, if:
- (a) any waste if the combustion chamber temperature falls below 850°C.
 - (b) hazardous waste with halogenated organic content of more than 1% if the combustion chamber temperature falls below 1,100°C.
 - (c) cytotoxic or cytostatic waste if the combustion chamber temperature falls below 1,000°C
 - (d) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded; or
 - (e) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or
 - (f) monitoring results required 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.
- 2.3.11 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 2.3.10 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.10 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.
- 2.3.12 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.13 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.
- 2.3.14 Where, during “abnormal operation”, on an incineration line, any of the following situations arise, waste shall cease to be charged on that line until normal operation can be restored:

- (a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1, or continuous emission monitor(s) are out of service, as the case may be, for a total of 4 hours uninterrupted duration;
- (b) there is a technically unavoidable stoppage, disturbance or failure of the activated carbon abatement system for a total of 4 hours uninterrupted duration;
- (c) the cumulative duration of “ abnormal operation” periods over 1 calendar year has reached 60 hours;
- (d) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 (a).
- (e) continuous emission monitors or alternative techniques to demonstrate compliance with the emission limit value(s) for particulates, TOC and / or CO in schedule 3 table S3.1 (a), as agreed in writing with the Environment Agency, are unavailable.

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

- (a) when the failed equipment is repaired and brought back into normal operation;
- (b) when the operator initiates a shut down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;
- (c) when a period of four hours has elapsed from the start of the “abnormal operation”;
- (d) when, in any calendar year, an aggregated period of 60 hours “abnormal operation” has been reached on an incineration line.

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

2.3.17 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 S1.4A 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, S3.2 and S3.3.

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 S 3.5 Additional samples shall be taken and tested and appropriate action taken, whenever:

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

3.2 Emissions 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.

3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1, S3.1(a) and S3.1(b); 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 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).

where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour period, the half-hourly average shall in any case be considered valid if measurements are available for a minimum of 20 minutes during the half-hour. The number of half-hourly averages so validated shall not exceed 5 per day;

- (c) daily average values shall be calculated as follows:

- (i) the average of valid half hourly averages over a calendar day excluding half hourly averages during periods of abnormal operation. The daily average value shall be considered valid if no more than five half-hourly average values in any day have been determined not to be valid.

- (d) 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), S3.2 and S3.3;
 - (b) process monitoring specified in table S3.4;
 - (c) residue quality in table S3.5; and
 - (d) other monitoring as agreed through pre-operational condition PO1 or otherwise as agreed in writing with the Environment Agency.

- 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 have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.
- 3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, and S3.1 (a), unless otherwise agreed in writing by the Environment Agency.

3.7 Pests

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

3.8 Fire prevention

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

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;

- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

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

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4) 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.

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.	From receipt of waste to emission of exhaust gas and disposal of waste arising. Waste types and quantities as specified in Table S2.2 of this permit. Treatment by filtration of waste oils to produce auxiliary fuel for the incineration process
Directly Associated Activities			
AR2	Electricity Generation	Generation of electrical power using a screw expander generating set from energy recovered from the flue gases.	From receipt of steam to export of electricity for either on-site use or export to the grid.
AR3	Container washing	Washing of re-usable healthcare waste containers prior to despatch to customers	From receipt of empty waste carts following incinerator charging, to completion of washing cycle.
AR4	Back up electrical generator	For providing emergency electrical power to the plant in the event of supply interruption.	

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/SP3507PN/A001	<ul style="list-style-type: none"> Parts B2 and B3 of the Application Form Supporting information document (reference SOL1909CL01 – Application support document received 25th October 2019) 	16/12/2019
Additional Information EPR/SP3507PN/A001	Supporting information document (reference SOL1909CL01 received 25th October 2019)	25/10/2019
Response to Schedule 5 Notice dated 15/05/2020	Responses to questions 1, 3, 4, 5, 6, 9, 11, 12 and 13 including annexes 1, 3, 4, 5, 6, 8, 9, and 10.	12/06/2020
Response to Schedule 5 Notice dated 24/07/2020	Responses to questions 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 15, and 16 including annexes 2, 3, 4, and 5.	18/09/2020
Additional Information EPR/SP3507PN/A001	Email confirming installation boundary plus CEM and waste storage information.	15/10/2020

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	The Operator shall submit a written report to the Environment Agency on the implementation of its Environmental Management System (EMS) and the progress made in the certification of the system by an external body or if appropriate submit a schedule by which the EMS will be certified.	Within 12 months of the completion of commissioning.
IC2	The Operator shall submit a written proposal to the Environment Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point A1, identifying the fractions within the PM ₁₀ and PM _{2.5} ranges. On receipt of written approval from the Environment Agency to the proposal and the timetable, the Operator shall carry out the tests and submit to the Environment Agency a report on the results.	Within 6 months of the completion of commissioning.
IC3	The Operator shall submit a written report to the Environment Agency on the commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the facility against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions and confirm that the Environmental Management System (EMS) has been updated accordingly.	Within 4 months of the completion of commissioning.
IC4	The operator shall notify the Environment Agency of the proposed date(s) that validation testing is planned for.	Notification at least 3 weeks prior to validation testing
	During commissioning the operator shall carry out validation testing to validate the residence time, minimum temperature and oxygen content of the gases in the furnace whilst operating under normal load and most unfavourable operating conditions. The validation shall be to the methodology as approved through pre-operational condition PO7.	Validation tests completed before the end of commissioning
IC5	<p>The Operator shall submit a written report to the Environment Agency describing the performance and optimisation of:</p> <ul style="list-style-type: none"> • The Selective Non Catalytic Reduction (SNCR) system and combustion settings to minimise oxides of nitrogen (NO_x). The report shall include an assessment of the level of NO_x, N₂O and NH₃ emissions that can be achieved under optimum operating conditions. • The sodium bicarbonate injection system for minimisation of acid gas emissions • The carbon injection system for minimisation of dioxin and heavy metal emissions. 	Within 4 months of the completion of commissioning.
IC6	<p>The Operator shall carry out an assessment of the impact of emissions to air of the following component metals subject to emission limit values: As, and Cr (VI).</p> <p>A report on the assessment shall be made to the Environment Agency.</p>	15 months from the completion of commissioning.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	Emissions monitoring data obtained during the first year of operation shall be used to compare the actual emissions with those assumed in the impact assessment submitted with the Application. An assessment shall be made of the impact of each metal against the relevant ES. In the event that the assessment shows that an environmental standard can be exceeded, the report shall include proposals for further investigative work.	
IC7	The Operator shall submit a written summary report to the Environment Agency to confirm that the performance of Continuous Emission Monitors for parameters as specified in Table S3.1 and Table S3.1 (a) complies with the requirements of BS EN 14181, specifically the requirements of QAL1, QAL2 and QAL3. The report shall include the results of calibration and verification testing,	Initial calibration report to be submitted to the Agency within 3 months of completion of commissioning. Full summary evidence compliance report to be submitted within 18 months of completion of commissioning.
IC8	The operator shall carry out a programme of dioxin and dioxin like PCB monitoring over a period and frequency agreed with the Environment Agency. The operator shall submit a report to the Environment Agency with an analysis of whether dioxin emissions can be considered to be stable.	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency
IC9	The operator shall carry out a programme of mercury monitoring over a period and frequency agreed with the Environment Agency. The operator shall submit a report to the Environment Agency with an analysis of whether the waste feed to the plant can be proven to have a low and stable mercury content.	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency
IC10	The Operator shall submit a report to the Environment Agency for approval on start-up and shut-down conditions over the first 12 months of operation. The report shall identify any amendments to the start-up and shut-down definitions that were described in the application.	Within 15 months of completion of commissioning or as agreed in writing with the Environment Agency
IC 11	<p>The Operator shall undertake a noise assessment during normal operations in accordance with the procedures given in BS4142:2014 (Rating industrial noise affecting mixed residential and industrial areas) - in order to validate the assessment provided within the application. The assessment shall include, but not be limited to:</p> <ul style="list-style-type: none"> • A review of the noise sources from the facility. Where any noise source(s) are identified as exhibiting tonal contributions, they shall be quantified by means of frequency analysis. • A review of noise levels from static plant. • Considerations of on-site vehicle movements. <p>A report shall be provided to the Environment Agency detailing the findings of the assessment.</p> <p>In the event that the report shows that noise could have a significant impact, the report shall include proposals for the further attenuation and/or management of noise and shall include a timescale, to be agreed with the Environment Agency, for the implementation of the proposed measures.</p>	Within 3 months of completion of commissioning.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC12	The Operator shall submit a report to the Environment Agency for approval which reviews the appropriateness of maintaining the temperature in the combustion chamber at a minimum of 1,100 °C at all times. The report shall include a BAT assessment justifying the combustion temperature proposed which shall include (but not necessarily be limited to) consideration of the minimum temperature required for each waste type, energy efficiency, global warming potential and plant reliability.	Within 3 months of completion of commissioning.
IC 13	<p>The Operator shall carry out monitoring to demonstrate that the mechanism of cleaning and disinfection of surfaces and containers physically removes contamination, is capable of achieving disinfection across the broad spectrum of micro-organisms with the parameters used (time, concentration, temperature, quantity etc.) and either does not produce emissions of pathogenic bioaerosols or chemical agents OR that such emissions are contained. This is as required in appropriate measures 25, 28 and 32 of the Waste storage, segregation and handling appropriate measures section of our Healthcare waste: appropriate measures for permitted facilities guidance.</p> <p>A report shall be provided to the Environment Agency detailing the findings of the assessment.</p>	Within 6 months of completion of commissioning.
IC14	The Operator shall submit a written report to the Environment Agency for approval which demonstrates that impermeable surfacing and a sealed drainage system is in place for areas of land where waste is to be stored. This should include storage of quarantined wastes. The report must demonstrate compliance with our guidance SGN 5.06.	Within 3 months of completion of commissioning.
IC 15	<p>The Operator shall submit a written report to the Environment Agency for approval which details the findings of an assessment of the risk of release from storage vessels, particularly the subsurface storage of liquid effluent.</p> <p>The report should identify measures for minimising the risk of overfilling such as high-level alarms and automatic cut-offs, and should explain the measures in place to detect leaks such as a leak detection systems or regular integrity testing.</p> <p>A timescale for implementation of any improvements identified should be agreed with the Environment Agency.</p>	Within 3 months of completion of commissioning.

Table S1.4A Pre-operational measures	
Reference	Pre-operational measures
PO1	<p>Prior to the commencement of commissioning, the Operator shall send:</p> <ul style="list-style-type: none"> • A summary of the site Environment Management System (EMS);and • 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 a list of potential OTNOC situations that are considered to be abnormal operation under the definition in Schedule 6 of this permit, <p>to the Environment Agency and obtain the Environment Agency's written approval to the EMS summary and the full OTNOC management plan.</p>

Table S1.4A Pre-operational measures	
Reference	Pre-operational measures
	<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> <p>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.</p>
PO2	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.
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 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.
PO4	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.
PO5	Prior to the commencement of commissioning, the Operator shall submit a written report to the Agency, and obtain the Environment Agency's written approval to it, detailing the waste acceptance procedure to be used at the site. The waste acceptance procedure shall include the process and systems by which wastes unsuitable for incineration at the site will be controlled. The procedure shall be implemented in accordance with the written approval from the Agency.
PO6	<p>Prior to 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:</p> <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
PO7	Prior to 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.
PO8	<p>Prior to commissioning of the waste oil treatment process the Operator shall send;</p> <ul style="list-style-type: none"> • A specification for the waste oil to be use in the incineration process; • Justification that this specification of waste oil can be incinerated without increase in emissions;

Table S1.4A Pre-operational measures	
Reference	Pre-operational measures
	<ul style="list-style-type: none"> • Explanation as to how the incineration of waste oil will be controlled to ensure it is only fed to the auxiliary burners when the furnace is operating at the required temperature; • The waste acceptance procedures for waste oils including the process and systems by which wastes oil unsuitable for incineration at the site will be controlled; and • Details of the testing regime to ensure that the waste oils meet the required specification. <p>to the Environment Agency and obtain the Environment Agency's written approval for the use of this material.</p>

Schedule 2 – Waste types, raw materials and fuels

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

Table S2.2 Permitted waste types and quantities for incineration	
Maximum quantity	<p>Maximum quantities of all waste incinerated shall not exceed 8000 tonnes per annum or 1 tonne per hour, no other limits specified</p> <p>Maximum quantity of waste oil incinerated shall not exceed 300 tonnes per annum, other limits to be agreed in writing with the Environment Agency following completion of PO 8.</p>
Waste code	Description
08	WASTE FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES SEALANTS AND PRINTING INKS
08 03	Wastes from manufacture, formulation, supply and use of printing inks
08 03 19*	disperse oil
08 04	waste from manufacture, formulation, supply and use of adhesives and sealants
08 04 17*	rosin oil
12	WASTES FROM THE SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS
12 01	waste from shaping and physical and mechanical surface treatment of metals and plastics
12 01 06*	mineral based machining oils containing halogens (except emulsions and solutions)
12 01 07*	mineral based machining oils free of halogens (except emulsions and solutions)
12 01 10*	synthetic machining oils
12 01 19*	readily biodegradable machining oil
13	OIL WASTE AND WASTES OF LIQUID FUEL (except edible oils and those in chapters 05, 12 and 19).
13 01	waste hydraulic oils
13 01 10*	mineral based non-chlorinated hydraulic oils
13 01 11*	synthetic hydraulic oils
13 01 12*	readily biodegradable hydraulic oils
13 01 13*	other hydraulic oils
13 02	waste engine, gear and lubricating oils
13 02 05*	mineral based non-chlorinated engine, gear and lubricating oils
13 02 06*	synthetic engine, gear and lubricating oils
13 02 07*	readily biodegradable engine, gear and lubricating oils
13 02 08*	other engine, gear and lubricating oils
13 03	waste insulating and heat transmission oils

Table S2.2 Permitted waste types and quantities for incineration	
Maximum quantity	<p>Maximum quantities of all waste incinerated shall not exceed 8000 tonnes per annum or 1 tonne per hour, no other limits specified</p> <p>Maximum quantity of waste oil incinerated shall not exceed 300 tonnes per annum, other limits to be agreed in writing with the Environment Agency following completion of PO 8.</p>
Waste code	Description
13 03 07*	mineral based non-chlorinated insulating and heat transmission oils
13 03 08*	synthetic insulating and heat transmission oils
13 03 09*	readily biodegradable insulating and heat transmission oils
13 03 10*	other insulating and heat transmission oils
13 04	bilge oils
13 04 01*	bilge oils from inland navigation
13 04 02*	bilge oils from jetty sewers
13 04 03*	bilge oils from other navigation
13 05	oil/water separator contents
13 05 06*	oil from oil/water separators
13 07	wastes of liquid fuels
13 07 01*	fuel oil and diesel
18	WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans
18 01 01	sharps (except 18 01 03*)
18 01 02	body parts and organs including blood bags and blood preserves (except 18 01 03*)
18 01 03*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 01 06*	chemicals consisting of or containing hazardous substances (excluding X-ray photochemicals)
18 01 07	chemicals other than those mentioned in 18 01 06* (excluding X-ray photochemicals)
18 01 08*	cytotoxic and cytostatic medicines
18 01 09	medicines other than those mentioned in 18 01 08*
18 02	wastes from research – diagnosis – treatment or prevention of disease involving animals
18 02 01	sharps (except 18 02 02)
18 02 02*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection

Table S2.2 Permitted waste types and quantities for incineration	
Maximum quantity	<p>Maximum quantities of all waste incinerated shall not exceed 8000 tonnes per annum or 1 tonne per hour, no other limits specified</p> <p>Maximum quantity of waste oil incinerated shall not exceed 300 tonnes per annum, other limits to be agreed in writing with the Environment Agency following completion of PO 8.</p>
Waste code	Description
18 02 05*	chemicals consisting of or containing hazardous substances (excluding X-ray photochemicals)
18 02 06	chemicals other than those mentioned in 18 02 05 (excluding X-ray photochemicals)
18 02 07*	cytotoxic and cytostatic medicines
18 02 08	medicines other than those mentioned in 18 02 07
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 02	waste from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 07*	oil and concentrates from separation
19 08	Waste from waste water treatment plants not otherwise specified
19 08 09*	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 18 08 09*
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 31*	cytotoxic and cytostatic medicines
20 01 32	medicines other than those mentioned in 20 01 31

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 the Site Plan in Schedule 7	Particulate matter	Incineration exhaust gases	30 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Particulate matter	Incineration exhaust gases	5 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Total Organic Carbon (TOC)	Incineration exhaust gases	20 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Total Organic Carbon (TOC)	Incineration exhaust gases	10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Hydrogen chloride	Incineration exhaust gases	60 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Hydrogen chloride	Incineration exhaust gases	6 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Hydrogen fluoride	Incineration exhaust gases	1 mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual	BS ISO 15713
A1 – as shown on the Site Plan in	Carbon monoxide	Incineration exhaust gases	150 mg/m ³	95% of all 10-minute averages in any 24-hour period.	Continuous measurement	BS EN 14181

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
Schedule 7						
A1 – as shown on the Site Plan in Schedule 7	Carbon monoxide	Incineration exhaust gases	50 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Sulphur dioxide	Incineration exhaust gases	200 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Sulphur dioxide	Incineration exhaust gases	30 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Incineration exhaust gases	400 mg/m ³	½-hr average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	Incineration exhaust gases	120 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Cadmium & thallium and their compounds (total)	Incineration exhaust gases	0.02 mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual	BS EN 14385
A1 – as shown on the Site Plan in Schedule 7	Mercury and its compounds	Incineration exhaust gases	0.02 mg/m ³ Limit does not apply if continuous monitoring has been specified by the Environment Agency after	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year and accelerated monitoring at frequency agreed through IC 9. Then Bi-annual. Not required if continuous monitoring has been specified by the Environment	BS EN 13211

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
			completion of IC9		Agency after completion of IC9	
A1 – as shown on the Site Plan in Schedule 7	Mercury and its compounds	Incineration exhaust gases	0.02 mg/m ³	Continuous	Not required unless continuous monitoring has been specified by the Environment Agency after completion of IC9.	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	Incineration exhaust gases	0.3 mg/m ³	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annual	BS EN 14385
A1 – as shown on the Site Plan in Schedule 7	Ammonia (NH ₃)	Incineration exhaust gases	10 mg/m ³	daily average	Continuous measurement	BS EN 14181
A1 – as shown on the Site Plan in Schedule 7	Nitrous oxide (N ₂ O)	Incineration exhaust gases	No limit set	Average of three consecutive measurements of at least 30 minutes each	Annually	BS EN 21258
A1 – as shown on the Site Plan in Schedule 7	Dioxins / furans (I-TEQ)	Incineration exhaust gases	0.04 ng/m ³ or 0.06 ng/m ³ if long term limit is specified by the Environment Agency after completion of IC8	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC8, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC8	BS EN 1948 Parts 1, 2 and 3 Or long term sampling method if specified by the Environment Agency after completion of IC8

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 the Site Plan in Schedule 7	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)	Incineration exhaust gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC8, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC8. No monitoring is required if emissions have been shown to be below 0.01 ng/m ³ as agreed with the Environment Agency.	BS EN 1948 Parts 1, 2 and 4 Or long term sampling method if specified by the Environment Agency after completion of IC8
A1 – as shown on the Site Plan in Schedule 7	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)	Incineration exhaust gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annual	BS EN 1948 Parts 1, 2 and 3
A1 – as shown on the Site Plan in Schedule 7	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	Incineration exhaust gases	No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year then annually	BS ISO 11338 Parts 1 and 2.
A2 as shown on the Site	-	Emissions from	No limit set	-	-	-

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard(s) or method(s)
Plan in Schedule 7		emergency generator				

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

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
SW1 – as shown in the Site Plan in Schedule 7	Clean uncontaminated Surface Water	No parameters set	No limit set	-	-	-

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 – as shown in the Site Plan in Schedule 7	Boiler Blow down, wastewater from container washing, ash quenching effluent domestic sewage and firefighting water (as required). Directed to underground holding tank.	No parameters set	No limit set	-	-	-

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
As agreed with the Environment Agency	Wind Speed and Direction	Continuous	Anemometer	
Location close to the Combustion Chamber inner wall or as identified and justified in Application.	Temperature (° C)	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 – as shown on the Site Plan in Schedule 7	Exhaust gas temperature	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 – as shown on the Site Plan in Schedule 7	Exhaust gas pressure	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 – as shown on the Site Plan in Schedule 7	Exhaust gas flow	Continuous	Traceable to national standards	As agreed in writing with the Agency.
A1 – as shown on the Site Plan in Schedule 7	Exhaust gas oxygen content	Continuous	BS EN 15267-3 BS EN 14181	
A1 – as shown on the Site Plan in Schedule 7	Exhaust gas water vapour content	Continuous	BS EN 15267-3 BS EN 14181	Unless gas is dried before analysis of emissions.
Incineration plant	Boiler efficiency as defined in the BAT conclusions	Within 6 months of first operation and then within 6 months of	Performance test at full load	No lower than 60%

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
		any modification that significantly affect energy efficiency		

Table S3.5 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	<3%	Monthly in the first year of operation. Then Quarterly	BS EN 14899 and either BS EN 13137 or BS EN 15936	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'
Bottom Ash	Protein		Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		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 S3.5 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'	
Boiler 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'	
Boiler 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'	
Bottom ash, APC residues, boiler ash	Persistent organic pollutants (POPs) if required by BAT 8 of the BAT Conclusions		Within 6 months of first operation and then after any change that could affect the POP content of the output streams.		

* 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 3.5.1. Reporting of the daily average parameters in table S3.1(b) is only required if a period of OTNOC has occurred during that day	A1	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
TOC Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	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 3.5.1	APC Residues	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	APC Residues	Before use of a new disposal or recycling route	
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium,	Boiler Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1			
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	Boiler Ash	Before use of a new disposal or recycling route	
Functioning and monitoring of the incineration plant as required by condition 4.2.2		Annually	1 Jan

Table S4.2: Annual production/treatment	
Parameter	Units
Total waste Incinerated	tonnes
Total quantity Incinerator Bottom Ash (IBA) exported	tonnes
Total quantity Air Pollution Control (APC) residues exported	tonnes
Electrical energy produced	kWh
Thermal energy produced	kWh
Electrical energy exported	kWh
Electrical energy used on installation	kWh
Waste heat utilised by the installation	kWh

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

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
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	30/11/2020
Air	Forms air 1-9 or other forms as agreed in writing by the Environment Agency	30/11/2020
Sewer	Form sewer 1 or other form as agreed in writing by the Environment Agency	30/11/2020
Water and raw material usage	Form WU/RM1 or other form as agreed in writing by the Environment Agency	30/11/2020
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	30/11/2020
Waste disposal/recovery	Form R1 or other form as agreed in writing by the Environment Agency	30/11/2020
Residue quality	Forms residue 1 and 2 or other form as agreed in writing by the Environment Agency	30/11/2020
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	30/11/2020

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

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

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

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

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

Part B – to be submitted as soon as practicable

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

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“*abnormal operation*” means any technically unavoidable stoppages, disturbances, or failures of the plant or the measurement devices, during which the emissions into the air and the discharges of waste water may exceed the prescribed emission limit values for the pollutant(s) affected.

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

“APC residues” means air pollution control residues.

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

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

“BAT conclusions” means Best Available Techniques (BAT) Conclusions for Waste Incineration published by the European Commission (Commission Implementing Decision (EU) 2019/2010).

“bi-annual” means twice per year with at least five months between tests.

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

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

“Commissioning” means testing of the new incineration plant that involves any operation of the furnace under this permit or as agreed with the Environment Agency.

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

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

“emissions to land” includes emissions to groundwater.

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

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

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

‘*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)

“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.

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

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

“Pests” means Birds, Vermin and Insects.

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

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

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

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

“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) Where the installation is an incineration plant in relation to gases from incineration plants, 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.
- (b) 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 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

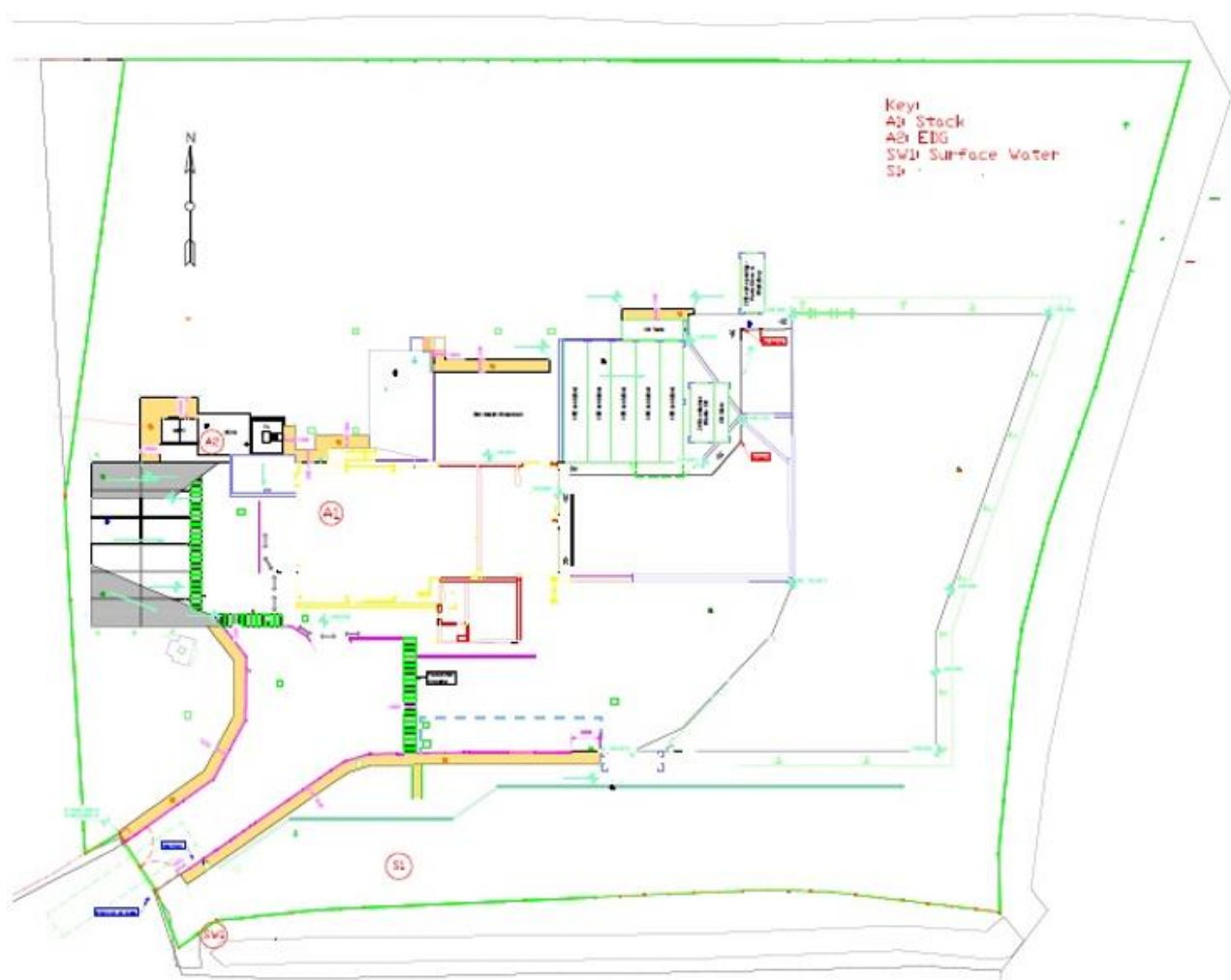
TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF		
	2005	1997/8	
	Humans / mammals	Fish	Birds
Mono-ortho PCBs			
2,3,3',4,4'-PeCB (105)	0.00003	<0.000005	0.0001
2,3,4,4',5-PeCB (114)	0.00003	<0.000005	0.0001
2,3',4,4',5-PeCB (118)	0.00003	<0.000005	0.00001
2',3,4,4',5-PeCB (123)	0.00003	<0.000005	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, for that table, they have the meaning given below:

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

Schedule 7 – Site plan



END OF PERMIT