

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

SUEZ Recycling and Recovery UK Ltd

Sevenside Energy Recovery Centre
Severn Road
Sevenside
Hallen
South Gloucestershire
BS10 7SP

Variation application number

EPR/ZP3937KL/V007

Permit number

EPR/ZP3937KL

Sevenside Energy Recovery Centre

Permit number EPR/ZP3937KL

Introductory note

This introductory note does not form a part of the notice

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

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

This variation is for an increase in the waste throughput from 400,000 tonnes per year to 500,000 tonnes per year. The maximum amount that will be incinerated is 467,082 tonnes per year. However the operator requested that the plant be permitted to receive 500,000 tonnes per year to allow for rejected material and moisture loss in the bunker from evaporation.

There are no other changes to the operation of the facility.

The schedules specify the changes made to the permit.

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

Status log of the permit		
Description	Date	Comments
Application received EPR/ZP3937KL/A001	Duly made 18/01/10	Application for an EFW plant processing 400,000 tonnes of commercial, industrial and municipal wastes.
Additional information received	06/04/10	Noise modelling, confirmation of flue arrangement within the stack, storage of raw materials and ash, hours of operation.
Permit determined EPR/ZP3937KL	13/07/10	Permit issued to SITA (UK) Limited.
Variation application EPR/ZP3937KL/V002	Duly made 25/09/12	Application to vary the permit to include an IBA recycling facility, revise the railhead layout, amend the site boundary and increase the bunker storage capacity.
Variation determined EPR/ZP3937KL	20/11/12	Varied permit issued.
Variation application EPR/ZP3937KL/V003	Duly made 18/06/13	Admin variation to amend wording of the biodegradable waste exclusion and add further clarity.
Variation determined EPR/ZP3937KL	02/08/13	Varied permit issued.
Variation application EPR/ZP3937KL/V004	Duly made 17/10/13	Application to vary the permit to authorise the use of a conveyor system to operate between the ash storage area and the raw ash reception/ maturation bays.
Additional information received	13/11/13	Details of conveyor operation and leachate management.

Status log of the permit		
Description	Date	Comments
Additional information received	14/11/13	Details of conveyor operation and maintenance programme.
Additional information received	18/11/13	Details for conveyor signage.
Additional information received	21/11/13	Details for ash management.
Variation determined EPR/ZP3437KL	03/12/13	Varied permit issued.
Variation application EPR/ZP3937KL/V005	Duly made 15/03/16	Application to vary the permit to add a new trade effluent discharge, a surface water discharge, remove storage time limit for waste in the bunker, revise IC2 and IC4 completion dates and amend bottom ash and APCR sampling requirements and update the permit to modern conditions.
Additional information received	04/04/16	Notification of change of operator name.
Additional information received	25/04/16	Amendments to emission point's location plan and confirmation of length of planned extended plant shut downs.
Additional information received	22/06/16	Amendments to site drainage, point source emissions to water and updated emission point's location plan.
Additional information received	28/06/16	Proposal for removal of waste storage limit and plan detailing odour risks, controls and measures.
Additional information received	23/08/16	Revised justification for removal of waste storage limit.
Additional information received	23/08/16	Confirmation of maximum waste tonnage in the bunker during shut down.
Variation determined EPR/ZP3937KL	09/09/16	Varied and consolidated permit issued in modern condition format.
Application EPR/ZP3937KL/V006 (variation and consolidation)	Duly made 19/02/18	Application for variation to change the emission limit value (ELV) for carbon monoxide from half-hour averages to ten-minute averages.
Additional information received	01/05/18	Response to Schedule 5 Notice dated 26/03/18 confirming compliance with the CO daily emission limit value, no increase in process contribution of CO and monitoring requirements.
Additional information received	31/07/18	Information on the efficiency of the turbine and the maximum amount of electrical power that can be generated from recovered flue gas using the turbine.
Variation determined EPR/ZP3937KL	17/08/18	Varied permit issued.
Variation Application EPR/ZP3937KL/V007	Duly made 17/12/19	Increase waste quantity to 500,000 tonnes for receipt and 467,082 for incineration
Variation issued EPR/ZP3937KL/V007 (PAS Billing Reference: PP3935QR)	17/03/20	

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 and consolidates

Permit number

EPR/ZP3937KL

Issued to

SUEZ Recycling and Recovery UK Ltd (“the operator”)

whose registered office is

**SUEZ House
Grenfell Road
Maidenhead
Berkshire
SL6 1ES**

company registration number 02291198

to operate a regulated facility at

**Sevenside Energy Recovery Centre
Severn Road
Sevenside
Hallen
South Gloucestershire
BS10 7SP**

to the extent set out in the schedules.

The notice shall take effect from 17/03/2020

Name	Date
Philip Lamb	17/03/2020

Authorised on behalf of the Environment Agency

Schedule 1

The following conditions were varied as a result of the application made by the operator:

- Table S1.1
- Table S2.2

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/ZP3937KL

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/ZP3937KL/V007 authorising,

SUEZ Recycling and Recovery UK Ltd (“the operator”),

whose registered office is

**SUEZ House
Grenfell Road
Maidenhead
Berkshire
SL6 1ES**

company registration number 02291198

to operate an installation at

**Sevenside Energy Recovery Centre
Severn Road
Sevenside
Hallen
South Gloucestershire
BS10 7SP**

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

Name	Date
Philip Lamb	17/03/2020

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

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and energy is used efficiently in the activities.
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.
- 1.2.2 The operator shall provide and maintain steam and/or hot water pass-outs such that opportunities for the further use of waste heat may be capitalised upon should they become practicable.
- 1.2.3 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 DECC UK CHP Development Map or similar; and
 - (d) new financial or fiscal incentives for CHP.

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

1.3 Efficient use of raw materials

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

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

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

2 Operations

2.1 Permitted activities

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

2.2 The site

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

2.3 Operating techniques

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

- (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.7 Waste shall not be charged, or shall cease to be charged, if:
- (a) the combustion chamber temperature is below, or falls below, 850°C; or
 - (b) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded; or
 - (c) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than under abnormal operating conditions; or
 - (d) monitoring results required to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than under abnormal operating conditions; or
 - (e) there is a stoppage, disturbance or failure of the activated carbon abatement system, other than under abnormal operating conditions.
- 2.3.8 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition 2.3.7 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.7 is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.
- 2.3.9 The operator shall record the beginning and end of each period of “abnormal operation”.
- 2.3.10 During a period of “abnormal operation”, the operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.
- 2.3.11 Where, during “abnormal operation”, on an incineration line, any of the following situations arise, waste shall cease to be charged on that line until normal operation can be restored:
- (a) continuous measurement shows that an emission exceeds any emission limit value in schedule 3 table S3.1 due to stoppages, disturbances or failures of the abatement plant, or continuous emission 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) due to disturbances or failures of the abatement systems;
 - (e) continuous emission monitors or alternative techniques to demonstrate compliance with the emission limit values for particulates, TOC and / or CO in schedule 3 table S3.1(a), as detailed in the application or as agreed in writing with the Environment Agency, are unavailable.
- 2.3.12 The operator shall interpret the end of the period of “abnormal operation” as the earliest of the following:
- (a) when the failed equipment is repaired and brought back into normal operation;
 - (b) when the operator initiates a shutdown of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;
 - (c) when a period of four hours has elapsed from the start of the “abnormal operation”;
 - (d) when, in any calendar year, an aggregated period of 60 hours “abnormal operation” has been reached.

2.3.13 Bottom ash and APC residues shall not be mixed.

2.4 Improvement programme

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

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

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2 except in "abnormal operation", when there shall be no point source emissions to air except from the sources and emission points listed in schedule 3 table S3.1(a).

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

3.1.3 Total annual emissions from the emission point(s) set out in schedule 3 table S3.1 of a substance listed in schedule 3 table S3.3 shall not exceed the relevant limit in table S3.3.

3.1.4 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S3.5. Additional samples shall be taken and tested and appropriate action taken, whenever:

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

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.2.4 The operator shall carry out monitoring of soil and groundwater in accordance with IED articles 14(1)(b), 14(1)(e) and 16(2) to the protocol agreed in writing with the Environment Agency under IC8.

3.3 Odour

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

3.3.2 The operator shall:

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

3.4 Noise and vibration

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

3.4.2 The operator shall:

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

3.5 Monitoring

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

- (a) point source emissions specified in tables S3.1, S3.1(a) and S3.2;
- (b) process monitoring specified in table S3.4;
- (c) residue quality in table S3.5.

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

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

- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.1(a) and S3.2 unless otherwise agreed in writing by the Environment Agency.
- 3.5.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1; the Continuous Emission Monitors shall be used such that;
- (a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:
 - Carbon monoxide 10%
 - Sulphur dioxide 20%
 - Oxides of nitrogen (NO & NO₂ expressed as NO₂) 20%
 - Particulate matter 30%
 - Total organic carbon (TOC) 30%
 - Hydrogen chloride 40%
 - (b) valid half-hourly average values or ten-minute average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.5.5 (a);
 - (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour 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 ten-minute period respectively. The number of half-hourly or 10-minute averages so validated shall not exceed 8 or 15 respectively per day;
 - (d) daily average values shall be determined as the average of all the valid half-hourly average values or 10-minute average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly average values or 15 10-minute average values in any day have been determined not to be valid;
 - (e) no more than ten daily average values per year shall be determined not to be valid.

3.6 Pests

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

3.7 Fire prevention

- 3.7.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.
- 3.7.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
- (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

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

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

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

4.2 Reporting

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

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production /treatment data set out in schedule 4 table S4.2; and
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- (d) the functioning and monitoring of the incineration plant in a format agreed with the Environment Agency. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED.

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

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

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

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

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

4.3 Notifications

4.3.1 In the event:

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

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

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

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

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

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

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);

- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities		
Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
S5.1 A1 (b)	The incineration of non-hazardous waste in a waste incineration plant with a capacity of 3 tonnes per hour or more.	From receipt of commercial, industrial and municipal waste by road and/or rail to storage of gas oil auxiliary fuel, to incineration of waste and removal of ash. The receipt, handling, storage, processing and treatment of incinerator bottom ash only from within the installation. Waste types and quantities as specified in table S2.2
Directly Associated Activities		
Electricity generation	The generation of up to 40 MWe electrical power, with approximately 32 MWe for export to the National Grid, using a steam turbine from energy recovered from the flue gases.	From receipt of steam to export for electricity to the National Grid and supply of power to the site.
Standby diesel generator	For providing emergency electrical power to the plant in the event of supply interruption.	From receipt of diesel fuel to production of electricity for controlled shutdown of incinerator in the event of power failure at the site.
Railhead	Operation of designated railhead for the receipt of waste for thermal treatment and the potential dispatch by rail of recycled bottom ash as a secondary aggregate.	From receipt of waste to the potential loading of processed IBA, limited within the site boundary.
Waste transfer	D15: storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where the waste is produced). D14: Repackaging prior to submission to any operations numbered D1 to D13. R13: Storage prior to recovery of accumulation of material intended for any operation numbered R1 to R12.	These activities are limited to periods of incineration plant shut down if waste deliveries cannot be diverted to an alternative site. To be agreed in writing with the Environment Agency before the activity is carried out. Waste types as specified in table S2.2 of the permit.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application received EPR/ZP3937KL	EPR application and supporting information, Sections 1.3, 2.1.4.2, 2.1.6.1, 2.1.6.3, 2.4.4 and 2.5.	Duly made 18/01/2010
Additional information received	Email in respect of noise modelling.	25/02/2010
	Email in respect of flue arrangement within stack.	25/02/2010
	Document S1095-0010-0086 date 23.03.10 in respect of storage of raw materials and operational hours	06/04/2010
Variation application EPR/ZP3937KL/V002	Part C2 response to questions 2b, 5a, 6. Supporting Information EPV8D & EPV8E.	Duly made 25/09/2012
	Supporting Information EPV8 V1.1 Section 2.5.2.	31/10/2012
Variation application EPR/ZP3937KL/V004	Part C2 and C3 of the application and supporting documentation.	Duly made 17/10/2013
Additional information received	Emails V004 Information Request Response Part A and Part B outlining details of conveyor structure and conveyor leachate management method.	13/11/2013
Additional information received	Email outlining details of maintenance regime for conveyor and conveyor leachate management method.	14/11/2013
Additional information received	Email outlining detail for conveyor signage.	18/11/2013
Additional information received	Email outlining details for ash management.	21/11/2013
Variation application EPR/ZP3937KL/V005	Part C2 and Part C3 of the application and supporting documentation.	Duly made 15/03/2016
Additional information received	Confirmation of length of planned extended plant shut downs.	25/04/2016
Additional information received	Revised drainage plan and emissions points location plan.	22/06/2016
Additional information received	Plan detailing odour risks, controls and measures.	28/06/2016
Additional information received	Revised justification for removal of waste storage limit and confirmation of maximum waste tonnage in the bunker during shutdown.	23/08/2016

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>The operator shall submit a post commissioning report to the Environment Agency which shall include:</p> <ul style="list-style-type: none"> • the end date for commissioning and the start of plant operations • a review of performance of the facility against the conditions of this permit • details of optimisation of emission abatement systems including reagent dosing rates 	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<ul style="list-style-type: none"> assessment of noise impact of the site in line with the proposal agreed as a result of pre-operational condition POC4 within table S1.4 of permit, EPR/ZP3937KL, dated 13/07/10, and proposed improvements to reduce noise levels to that assessed within the application, where necessary details of procedures developed during commissioning for achieving and demonstrating satisfactory process control 	
IC2	<p>The operator shall carry out checks to verify the residence time, minimum temperature and oxygen content of the exhaust gases in the furnace whilst operating under the anticipated most unfavourable operating conditions.</p> <p>The results shall be submitted in writing to the Environment Agency.</p>	Complete
IC3	<p>The operator shall carry out an assessment of the impact of emissions to air of chromium (VI) having regard to the 2009 report of the Expert Panel on Air Quality Standards – Guidelines for Metal and Metalloids in Ambient Air for the Protection of Human Health. The assessment shall predict the impact of chromium (VI) against the guidelines through the use of emissions monitoring data during the first year of operation and air dispersion modelling. A report on the assessment shall be made to the Environment Agency.</p>	01/10/18
IC4	<p>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 points A1 and A2, identifying the fractions within the PM₁₀, PM_{2.5} and PM_{1.0} ranges. The proposal shall include a timetable for approval by the Agency to carry out such tests and produce a report on the results.</p> <p>On receipt of written agreement by 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.</p>	Complete
IC5	<p>The operator shall review the potential for alternative reuse, recycle or disposal routes for the bottom ash and APC residue generated at the site. The review should consider how the environmental impact can be minimised. Where feasible alternatives are identified then the operator shall propose a timetabled plan to implement the identified alternatives. A written report shall be submitted to the Environment Agency. The improvements identified shall be put in place as agreed in writing by the Environment Agency.</p>	Complete
IC6	<p>The operator shall submit proof of attaining the full and appropriate level of technical competency necessary for the processing of incinerator bottom ash.</p>	Complete
IC7	<p>The operator shall develop a site-specific dust management plan. The plan shall be submitted in writing to the Environment Agency.</p>	Complete
IC8	<p>The operator shall submit the written protocol referenced in condition 3.2.4 for the monitoring of soil and groundwater for approval by the Environment Agency. The protocol shall demonstrate how the operator will meet the requirements of Articles 14(1)(b), 14(1)(e) and 16(2) of the IED.</p>	01/10/18

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	The procedure shall be implemented in accordance with the written approval from the Agency.	
IC9	<p>The operator shall submit written confirmation to the Environment Agency for approval detailing the date at which the CO continuous emission monitor will be switched from recording CO emissions as half-hourly averages to recording CO emissions as ten-minute averages.</p> <p>The operator shall implement the proposal agreed by the Environment Agency to the proposed timescale from the date of approval.</p>	Complete

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Fuel oil	< 0.1% sulphur content
Sodium hydroxide (aqueous solution)	< 0.1 mg/kg mercury

Table S2.2 Permitted waste types and quantities for incineration plant (blended to provide a feed of approximately 9.8 MJ/kg calorific value)	
Maximum quantity	<p>Receipt at the installation for purpose of incineration - 500,000 tonnes per year</p> <p>Incineration - 467,082 tonnes per year. 26.66 tonnes per hour per line</p> <p>No more than 7,300 tonnes of waste shall be stored at the site at any point in time.</p>
Exclusions	<p>Waste having any of the following characteristics shall not be accepted:</p> <p>Liquid or sludge wastes (apart from liquid wastes forming an unavoidable component of mixed loads of commercial, industrial or other wastes).</p> <p>Plastics, metals and paper/cardboard (apart from where recycling options are unfeasible due to contamination or other reason and would otherwise destined for landfill).</p> <p>Biodegradable wastes where it is practicable to recover both biomass and energy (apart from where anaerobic digestion treatment options are not available or appropriate).</p>
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, food preparation and processing
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08
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 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 01	wastes from wood processing and the production of panels and furniture

Table S2.2 Permitted waste types and quantities for incineration plant (blended to provide a feed of approximately 9.8 MJ/kg calorific value)	
Maximum quantity	<p>Receipt at the installation for purpose of incineration - 500,000 tonnes per year</p> <p>Incineration - 467,082 tonnes per year. 26.66 tonnes per hour per line</p> <p>No more than 7,300 tonnes of waste shall be stored at the site at any point in time.</p>
Exclusions	<p>Waste having any of the following characteristics shall not be accepted:</p> <p>Liquid or sludge wastes (apart from liquid wastes forming an unavoidable component of mixed loads of commercial, industrial or other wastes).</p> <p>Plastics, metals and paper/cardboard (apart from where recycling options are unfeasible due to contamination or other reason and would otherwise destined for landfill).</p> <p>Biodegradable wastes where it is practicable to recover both biomass and energy (apart from where anaerobic digestion treatment options are not available or appropriate).</p>
Waste code	Description
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
03 01 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
07	Wastes from organic chemical processes
07 02	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 02 13	waste plastic
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01	packaging (including separately collected municipal packaging waste)
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 05	composite packaging
15 01 06	mixed packaging
15 01 09	textile packaging
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
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)

Table S2.2 Permitted waste types and quantities for incineration plant (blended to provide a feed of approximately 9.8 MJ/kg calorific value)	
Maximum quantity	<p>Receipt at the installation for purpose of incineration - 500,000 tonnes per year</p> <p>Incineration - 467,082 tonnes per year. 26.66 tonnes per hour per line</p> <p>No more than 7,300 tonnes of waste shall be stored at the site at any point in time.</p>
Exclusions	<p>Waste having any of the following characteristics shall not be accepted:</p> <p>Liquid or sludge wastes (apart from liquid wastes forming an unavoidable component of mixed loads of commercial, industrial or other wastes).</p> <p>Plastics, metals and paper/cardboard (apart from where recycling options are unfeasible due to contamination or other reason and would otherwise destined for landfill).</p> <p>Biodegradable wastes where it is practicable to recover both biomass and energy (apart from where anaerobic digestion treatment options are not available or appropriate).</p>
Waste code	Description
16 01 09	plastics
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 02	wood, glass and plastic
17 02 01	wood
17 02 03	plastic
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 05	wastes from aerobic treatment of solid wastes
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 01	paper and cardboard
19 12 04	plastic and rubber
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 10	combustible waste (refuse derived fuel)

Table S2.2 Permitted waste types and quantities for incineration plant (blended to provide a feed of approximately 9.8 MJ/kg calorific value)

Maximum quantity	<p>Receipt at the installation for purpose of incineration - 500,000 tonnes per year</p> <p>Incineration - 467,082 tonnes per year. 26.66 tonnes per hour per line</p> <p>No more than 7,300 tonnes of waste shall be stored at the site at any point in time.</p>
Exclusions	<p>Waste having any of the following characteristics shall not be accepted:</p> <p>Liquid or sludge wastes (apart from liquid wastes forming an unavoidable component of mixed loads of commercial, industrial or other wastes).</p> <p>Plastics, metals and paper/cardboard (apart from where recycling options are unfeasible due to contamination or other reason and would otherwise destined for landfill).</p> <p>Biodegradable wastes where it is practicable to recover both biomass and energy (apart from where anaerobic digestion treatment options are not available or appropriate).</p>
Waste code	Description
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 03	other non-biodegradable wastes
20 03	other municipal wastes
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 06	waste from sewage cleaning
20 03 99	municipal wastes not otherwise specified

Table S2.3 Permitted waste types and quantities for IBA recovery	
Maximum quantity	100,000 tonnes annual throughput of IBA produced within the installation boundary. Storage of IBA within pre-treatment stockpiles shall not exceed 8,500 tonnes at any one time.
Waste code	Description
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 01	wastes from incineration or pyrolysis of waste
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period ^[6]	Monitoring frequency	Monitoring standard(s) or method(s) ^[3]
A1	Waste incinerator line 1 via APC plant	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	200 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			400 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			150 mg/m ³	Monthly mean of daily means	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Particulate matter	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			30 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Total organic carbon (TOC)	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			20 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Hydrogen chloride	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			60 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Sulphur dioxide	50 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			200 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Carbon monoxide	50 mg/m ³	Daily mean	Continuous measurement ^[2]	BS EN 14181 and BS EN 15267-3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period ^[6]	Monitoring frequency	Monitoring standard(s) or method(s) ^[3]
			100 mg/m ³ [Note 7]	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			150 mg/m ³ [Note 8]	95% of all ten minute averages in any 24 hour period	Continuous measurement ^[2]	BS EN 14181 and BS EN 15267-3
		Ammonia	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			10 mg/m ³	Mean over minimum 1 hour period	Quarterly in first year. Then Biannual	Procedural requirements of BS EN 14791
		Nitrous oxide	No limit set	Mean over minimum 1 hour period	Quarterly in first year. Then Biannual	BS EN ISO 21258
		Hydrogen fluoride	2 mg/m ³	Mean over minimum 1 hour period	Quarterly in first year. Then Biannual	BS ISO 15713
		Cadmium and thallium and their compounds (total) ^[4]	0.05 mg/m ³	Mean over period minimum 30 minutes, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 14385
		Mercury and its compounds ^[4]	0.05 mg/m ³	Mean over period minimum 30 minutes, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 13211
		Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V and their compounds (total) ^[4]	0.5 mg/m ³	Mean over period minimum 30 minutes, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 14385
		Dioxins/furans (I-TEQ)	0.1 ng/m ³	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual ^[5]	BS EN 1948 Parts 1, 2 and 3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period ^[6]	Monitoring frequency	Monitoring standard(s) or method(s) ^[3]
		Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948 Parts 1, 2 and 3
		Dioxins / furans (WHO-TEQ Fish)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948 Parts 1, 2 and 3
		Dioxins / furans (WHO-TEQ Birds)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948 Parts 1, 2 and 3
		Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948-4
		Dioxin-like PCBs (WHO-TEQ Fish)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948-4
		Dioxin-like PCBs (WHO-TEQ Birds)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948-4
		Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	Procedure shall use BS ISO 11338-1 and BS-ISO 11338-2.
A2	Waste incinerator line 2 via APC plant	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	200 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			400 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			150 mg/m ³	Monthly mean of daily means	Continuous measurement	BS EN 14181 and BS EN 15267-3

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period ^[6]	Monitoring frequency	Monitoring standard(s) or method(s) ^[3]
		Particulate matter	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			30 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Total organic carbon (TOC)	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			20 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Hydrogen chloride	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			60 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Sulphur dioxide	50 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			200 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Carbon monoxide	50 mg/m ³	Daily mean	Continuous measurement ^[2]	BS EN 14181 and BS EN 15267-3
			100 mg/m ³ [Note 7]	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			150 mg/m ³ [Note 8]	95% of all ten minute averages in any 24 hour period	Continuous measurement ^[2]	BS EN 14181 and BS EN 15267-3
		Ammonia	10 mg/m ³	Daily mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
			10 mg/m ³	Mean over minimum 1 hour period	Quarterly in first year. Then Biannual	Procedural requirements of BS EN 14791

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period ^[6]	Monitoring frequency	Monitoring standard(s) or method(s) ^[3]
		Nitrous oxide	No limit set	Mean over minimum 1 hour period	Quarterly in first year. Then Biannual	BS EN ISO 21258
		Hydrogen fluoride	2 mg/m ³	Mean over minimum 1 hour period	Quarterly in first year. Then Biannual	BS ISO 15713
		Cadmium and thallium and their compounds (total) ^[4]	0.05 mg/m ³	Mean over period minimum 30 minutes, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 14385
		Mercury and its compounds ^[4]	0.05 mg/m ³	Mean over period minimum 30 minutes, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 13211
		Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V and their compounds (total) ^[4]	0.5 mg/m ³	Mean over period minimum 30 minutes, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 14385
		Dioxins/furans (I-TEQ)	0.1 ng/m ³	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948 Parts 1, 2 and 3
		Dioxins / furans (WHO-TEQ Humans / Mammals)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948 Parts 1, 2 and 3
		Dioxins / furans (WHO-TEQ Fish)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948 Parts 1, 2 and 3
		Dioxins / furans (WHO-TEQ Birds)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948 Parts 1, 2 and 3
		Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948-4

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period ^[6]	Monitoring frequency	Monitoring standard(s) or method(s) ^[3]
		Dioxin-like PCBs (WHO-TEQ Fish)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948-4
		Dioxin-like PCBs (WHO-TEQ Birds)	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	BS EN 1948-4
		Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.	No limit set	Mean over period minimum 6 hours, maximum 8 hours	Quarterly in first year. Then Biannual	Procedure shall use BS ISO 11338-1 and BS-ISO 11338-2.
Pressure relief valves	All relief valves on incineration line 1 and associated APC plant, boiler and steam turbine	Combustion gases and high pressure steam.	---	---	---	---
	All relief valves on incineration line 2 and associated APC plant, boiler and steam turbine	Combustion gases and high pressure steam.	---	---	---	---
Vents from tanks	All vents from storage for APC plant raw materials and demineralisation plant raw materials	Vapours of ammonia, gas oil, hydrogen chloride solution, sodium hydroxide solution	---	---	---	---
Diesel generators	Back-up diesel generators to be used in the	Combustion gases (carbon monoxide, sulphur dioxide, oxides	---	---	---	---

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period ^[6]	Monitoring frequency	Monitoring standard(s) or method(s) ^[3]
	event of power failure	of nitrogen and particulates)				
<p>Note 1 – See Schedule 6 for reference conditions.</p> <p>Note 2 – Valid ten-minute 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 interval (10%).</p> <p>Note 3 – MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.</p> <p>Note 4 – Metals include gaseous, vapour and solid phases as well as their compounds (expressed as the metal or the sum of the metals as specified). Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V mean antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium respectively.</p> <p>Note 5 – At least one monitoring result shall be reported within three months of first burning waste.</p> <p>Note 6 – The reference period shall be a period of representative operation for periodic monitoring.</p> <p>Note 7 – Until date agreed by the Environment Agency in response to Improvement Condition 9.</p> <p>Note 8 – From date agreed by the Environment Agency in response to Improvement Condition 9.</p>						

Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period	Monitoring frequency	Monitoring standard or method
A1	Waste incinerator line 1 via APC plant	Particulate matter	150 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3 during abatement plant failure
		Total organic carbon	20 mg/m ³	½ hourly mean	Continuous measurement	
		Carbon monoxide	150 mg/m ³	ten-minute average	Continuous measurement ^[2]	
A2	Waste incinerator line 2 via APC plant	Particulate matter	150 mg/m ³	½ hourly mean	Continuous measurement	BS EN 14181 and BS EN 15267-3
		Total organic carbon	20 mg/m ³	½ hourly mean	Continuous measurement	

Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (including unit) ^[1]	Reference period	Monitoring frequency	Monitoring standard or method
		Carbon monoxide	150 mg/m ³	ten-minute average	Continuous measurement ^[2]	during abatement plant failure

Note 1 – See Schedule 6 for reference conditions.
 Note 2 – Valid ten-minute 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 interval (10%).

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 discharge from rainwater harvesting pond to Red Rhine as shown on site plan reference: Figure 4 - SERC Emission Points Location Plan	Rainwater harvesting pond	Suspended solids	30 mg/l	Periodic sample	Weekly	BS EN 872
		Oil	5 mg/l	Periodic sample	Weekly	IP426
		Oil	No visible oil	Periodic sample	Daily	Visual check
W2 discharge from rail siding drainage system to Red Rhine as shown on site plan reference: Figure 4 - SERC Emission Points Location Plan	Rail siding drainage	Suspended solids	30 mg/l	Periodic sample	Monthly	BS EN 872
		Oil	5 mg/l	Periodic sample	Monthly	IP426
		Oil	No visible oil	Periodic sample	Daily	Visual check
W3 discharge from firewater and rainwater storage tanks to Red Rhine as shown on site plan reference: Figure 4 - SERC Emission Points Location Plan	Overflow from firewater and rainwater storage tanks	---	---	---	---	---

Substance	Medium	Limit (including unit)
Oxides of nitrogen	Air	377 tonnes (as NO ₂) – (total of 12 previous consecutive monthly releases)

Table S3.4 Process monitoring requirements			
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method ^[1]
A1, A2	Furnace chamber temperature (incineration line 1)	Continuous	As agreed in writing with the Environment Agency
	Furnace chamber temperature (incineration line 2)		
A1, A2	Date and start/stop times for waste feed (incineration line 1)	Continuous	As agreed in writing with the Environment Agency
	Date and start/stop times for waste feed (incineration line 2)		
A1, A2	Exhaust gas temperature	Continuous	As agreed in writing with the Environment Agency
	Exhaust gas pressure	Continuous	As agreed in writing with the Environment Agency
	Exhaust gas water content	Continuous	BS EN 14181 and BS EN 15267-3
	Exhaust gas oxygen content	Continuous	BS EN 14181 and BS EN 15267-3
	Exhaust gas flow rate	Continuous	BS EN 14181 and BS EN 15267-3
Note 1 – MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.			

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	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash from incineration lines 1 and 2	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	No limit set	Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash from incineration lines 1 and 2	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No limit set	Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
APC Residues from incineration lines 1 and 2	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.	No limit set	Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

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 from incineration lines 1 and 2	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	No limit set	Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
*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	A1, A2	Every 3 months for continuous data; Every 6 months for periodic data.	From the first day that waste is burned in the installation
Emissions to water Parameters as required by condition 3.5.1	W1, W2	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
TOC Parameters as required by condition 3.5.1	Bottom Ash (from incineration line 1 and 2)	Monthly for the first year of operation and quarterly thereafter	From the first day that waste is burned in the installation
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	Bottom Ash (from incineration line 1 and 2)	Quarterly (but monthly for the first year of operation)	From the first day that waste is burned in the installation
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	Bottom Ash (from incineration line 1 and 2)	Before use of a new disposal or recycling route	
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	APC Residues (from incineration line 1 and 2)	Quarterly (but monthly for the first year of operation)	From the first day that waste is burned in the installation
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions Parameters as required by condition 3.5.1	APC Residues (from incineration line 1 and 2)	Before use of a new disposal or recycling route	

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

Table S4.2 Annual production/treatment	
Parameter	Units
Total municipal (domestic household) waste received on site	tonnes
Total commercial and industrial waste received on site	tonnes
Municipal (domestic household) waste incinerated	tonnes
Commercial and industrial waste incinerated	tonnes
Total waste incinerated	tonnes
Unsuitable waste sent off-site for treatment	tonnes
Rejected material sent for off-site disposal	tonnes
Incinerator bottom ash processed	tonnes
Ferrous metals recovered	tonnes
Non-ferrous metals recovered	tonnes
Aggregate recovered	tonnes
Amount disposed to landfill	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Oxides of nitrogen (NO ₂)	Monthly for first 24 months then frequency as agreed with the Environment Agency	tonnes (rolling 12 months)
Water usage	Annually	m ³
Water usage	Annually	litres/tonne waste incinerated
Electricity generated	Annually	MW
Electricity exported to the National Grid	Annually	MW
Energy exported as heat (if any)	Annually	MW
Energy usage	Annually	MW
Gas oil consumption	Annually	tonnes
Ammonium hydroxide (25%) solution used	Annually	kg/tonne waste incinerated
Lime usage	Annually	kg/tonne waste incinerated
Activated carbon used	Annually	kg/tonne waste incinerated
Total air pollution control residue generated	Annually	tonnes
Total air pollution control residue sent for disposal	Annually	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Total air pollution control residue sent for recovery	Annually	tonnes
Total bottom ash generated	Annually	tonnes
Total bottom ash recycled	Annually	tonnes
Total bottom ash sent to landfill	Annually	tonnes
Operation of pressure relief valves	Annually	Date, time and duration (minutes)
Number of periods of abnormal operation	Annually	number
Cumulative hours of abnormal operation per current calendar year	Annually	hours
CEMS calibration results in line with requirements of BS EN 14181 (contractor report)	Annually	N/A

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form air 1 – 9 or other form as agreed in writing by the Environment Agency (continuous monitoring)	17/08/2018
Water and Land	Form water 1 or other form as agreed in writing by the Environment Agency	17/08/2018
Waste disposal and recovery	Form R1 or other form as agreed in writing by the Environment Agency	17/08/2018
Water and raw material usage	Form WU/RM1 or other form as agreed in writing by the Environment Agency	17/08/2018
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	17/08/2018
Residue quality	Form residues 1 – 2 or other form as agreed in writing by the Environment Agency	17/08/2018
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	17/08/2018

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

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

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

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

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

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

“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.

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

“bottom ash” means ash transported by the grate

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation “bi-annual” means twice per year with at least five months between tests;

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

“daily average” for releases of substances to air means the average of valid half-hourly averages or 10 minute averages for CO over a calendar day during normal operation;

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

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

“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 to land” includes emissions to groundwater.

“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.

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

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

“ISO” means International Standards Organisation.

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

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

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

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

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

“Pests” means Birds, Vermin and Insects.

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

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

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

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

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

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

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

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

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

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

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

than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum. However, the minimum value should be used when assessing compliance with the emission limit value in table S3.1.

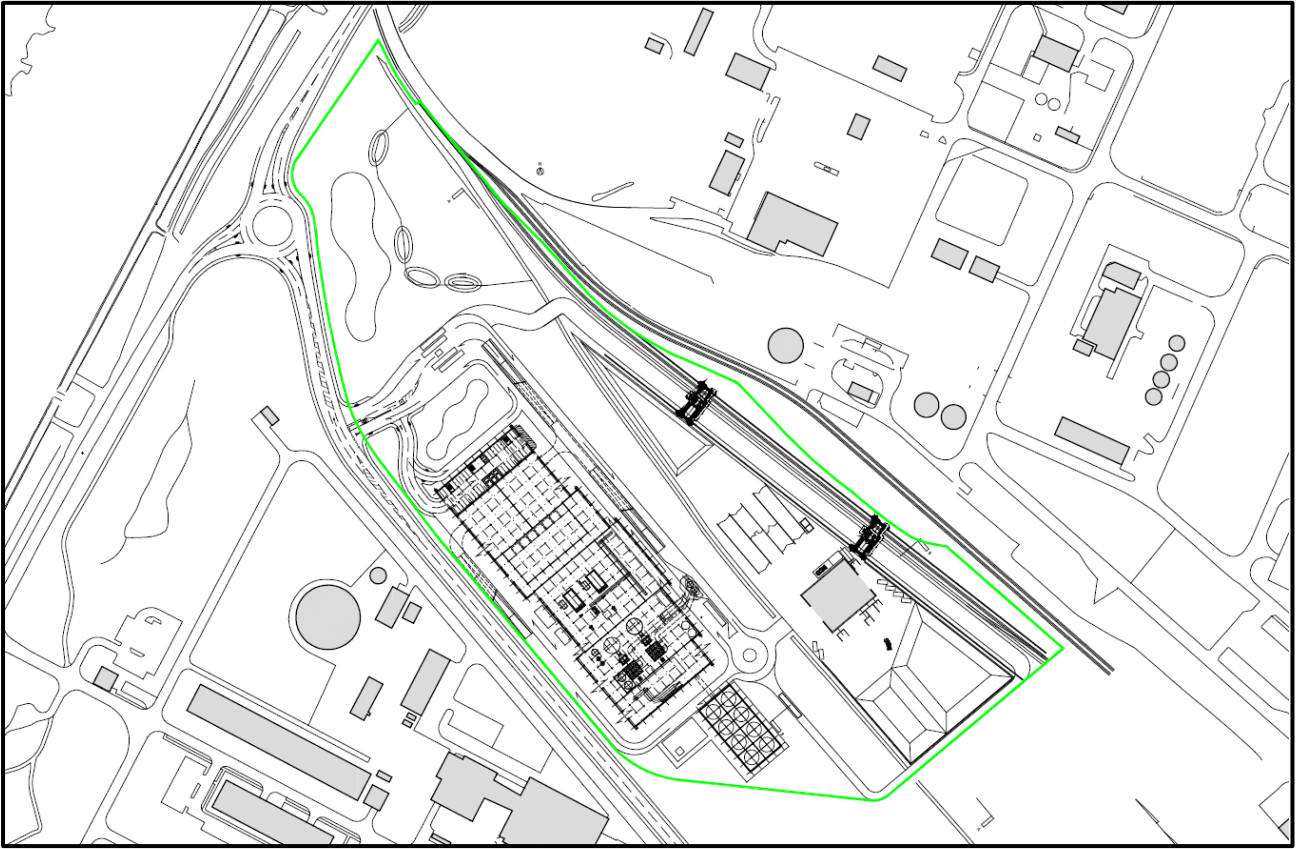
TEF schemes for dioxins and furans				
Congener	I-TEF	WHO-TEF		
	1990	2005	1997/8	
		Humans / Mammals	Fish	Birds
Dioxins				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01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

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

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

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



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END OF PERMIT