

# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2016**

---

Encyclis Limited

Rookery Pit Energy Recovery Facility  
Rookery South  
Stewartby  
Bedfordshire  
MK43 9LY

## **Variation application number**

EPR/WP3234DY/V005

## **Permit number**

EPR/WP3234DY

# Rookery Pit Energy Recovery Facility

## Permit number EPR/WP3234DY

### Introductory note

#### **This introductory note does not form a part of the permit**

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

This variation has been issued following the request of the operator to update the permitted plant capacity to 657,000 tonnes/year (from 585,000 tonnes/year) based on continuous operation of the facility i.e. 8,760 hours per annum. The proposed increase is based on the account of the original permit's air quality assessment and is not expected to result in any changes in environmental impact associated with the operations of the facility.

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

#### **Brief description of the process**

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

The main features of the permit are as follows:

|                                |                                    |
|--------------------------------|------------------------------------|
| Furnace technology             | Moving Grate                       |
| Number of lines                | 3                                  |
| Waste                          | Municipal /commercial & industrial |
| Stack height                   | 105m                               |
| Permitted plant capacity       | 657,000 tonnes per year            |
| Electrical generation capacity | 65 MWe                             |

The site is located at Rookery Pit, Stewartby, Bedfordshire at National Grid Reference TL01270 41091. The nearest residential receptor is South Pilling Farm at a distance of 250 meters from the installation. To the immediate west is the Marston Vale Millennium Country Park. Approximately 0.5 km to the north-west is Stewartby Lake. The town of Stewartby is approximately 1 km to the north and Marston Mortaine is approximately 1 km to the west. There are no Sites of Special Scientific Interest within 2 km of the installation and there are no European habitat sites within 10 km of the installation.

The installation receives waste in refuse collection vehicles and bulk transfer vehicles. The waste is delivered to the tipping hall where it is tipped into the waste bunker. Gantry crane grabs are used to homogenise the waste tipped into the bunker and remove any unsuitable or non-combustible items. The grabs transfer waste to one of the three feed hoppers which feed the three moving grate furnaces where the waste is burned.

Combustion for each line is controlled by feeding primary air through the grate, secondary air is injected above the waste. The furnaces are designed to ensure that the combustion gases are maintained, after the last injection of combustion air, to at least 850 °C for a minimum of two seconds. Combustion air is sourced from the waste reception hall, which keeps the building under negative air pressure (aiding odour control within the waste reception areas).

Emissions to air are via a 105 m high stack (3 flues contained within the single stack) and are minimised by cleaning the waste combustion gases as follows:

- Oxides of nitrogen (NO<sub>x</sub>) abated using Selective Non-Catalytic Reduction (SNCR)
- Acid Gases abated using a lime abatement system
- Dioxins mercury and volatiles abated using activated carbon injection
- Particulate matter and metals abated by bag filters

Hot gases from the incineration of waste pass through a series of heat exchangers and superheaters and finally through an economiser. The economiser is used to preheat feedwater before it is supplied to the boiler. The design of the boilers, following a computerised fluid dynamics assessment, ensures that the flue gas temperature is quickly reduced to minimise the risk of dioxin reformation. The steam generated in the boilers feeds a steam turbine which generates electricity. Water for steam generation is sourced from the mains and treated in a demineralisation plant prior to use in the boilers. Steam is condensed in an air cooled condenser and recycled to the boiler. Process waste water is re-used for quenching bottom ash.

Bottom ash is stored in an enclosed area and transferred off-site for processing.

Air pollution control (APC) residues are stored in silos prior to removal from site in sealed tankers.

There are no discharges to sewer. Only uncontaminated site surface water is discharged; via an interceptor and then into an onsite attenuation pond. The attenuation pond subsequently discharges into the Low Level Restoration Scheme (LLRS) for the Rookery South development site. The LLRS serves the whole Rookery Development area.

The Installation facility generates electricity at a rate of 65 MWe with 60 MWe supplied to the grid. The facility has the capability to alternatively provide up to 40 MWth of heat as steam when the viability of Combined Heat and Power (CHP) is established.

The operator has an environmental management system and intends to have it certified to ISO 14001.

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<br>EPR/WP3234DY/A001                               | Duly made<br>15/02/2017      |                                                                                                                                   |
| Schedule 5 notice request for information dated                | 13/04/2017                   | Response received on 19/05/2017                                                                                                   |
| Schedule 5 notice request for information dated                | 16/06/2017                   | Response received 06/07/2017                                                                                                      |
| Request for additional information                             | 21/07/2017                   | Response received 26/07/2017                                                                                                      |
| Additional information received                                | 11/08/2017 and<br>07/09/2017 |                                                                                                                                   |
| Consultation on draft decision                                 | 11/09/2017                   |                                                                                                                                   |
| Additional information received                                | 22/12/2017                   | Clarification on issues raised during the consultation on the draft decision.                                                     |
| Permit issued<br>EPR/WP3234DY                                  | 26/01/2018                   |                                                                                                                                   |
| Regulation 61 notice issued                                    | 05/04/2022                   | Regulation 61 Notice requiring information for Statutory review of permit. BAT Conclusions published 03 December 2019.            |
| Regulation 61 notice response                                  | 30/06/2022                   |                                                                                                                                   |
| Variation issued<br>EPR/WP3234DY/V002                          | 22/11/2022                   |                                                                                                                                   |
| Notified of change of Company Name and Registered office       | Duly made<br>21/06/2023      | Name changed to Encyclis Limited and Registered office changed to Floor 4, Lynton House, 7-12 Tavistock Square, London, WC1H 9LT. |
| Variation issued<br>EPR/WP3234DY/V003                          | 03/07/2023                   | Name changed to Encyclis Limited and Registered office changed to Floor 4, Lynton House, 7-12 Tavistock Square, London, WC1H 9LT. |
| Application<br>EPR/WP3234DY/V005 (variation and consolidation) | Duly made<br>08/12/2023      | Application to increase annual throughput                                                                                         |
| Variation determined and consolidation issued<br>EPR/WP3234DY  | <b>08/03/2024</b>            | Varied and consolidated permit issued in modern format                                                                            |

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2016

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

### Permit number

**EPR/WP3234DY**

### Issued to

**Encyclis Limited** ("the operator")

whose registered office is

**Floor 4  
Lynton House  
7-12 Tavistock Square  
London  
WC1H 9LT**

company registration number **05845046**

to operate a regulated facility at

**Rookery Pit Energy Recovery Facility  
Rookery South  
Stewartby  
Bedfordshire  
MK43 9LY**

to the extent set out in the schedules.

The notice shall take effect from **08/03/2024**

| Name              | Date              |
|-------------------|-------------------|
| <b>Rob McHale</b> | <b>08/03/2024</b> |

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 S1.2 as referenced by condition 2.3.1 is updated to include additional operating technique.
- Table S1.3 as referenced by condition 2.4.1 is amended to update deadlines for outstanding ICs
- Table S2.2 as referenced by condition 2.3.4 is amended to reflect the increased capacity.
- Table S3.1 as referenced by condition 3.1.1 is updated to:
  - remove limits of emissions until 02/12/2023
  - update limits of emissions from 03/12/2023.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2016

### Permit number

**EPR/WP3234DY**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/WP3234DY/V005 authorising,

**Encyclis Limited** ("the operator")

whose registered office is

**Floor 4**

**Lynton House**

**7-12 Tavistock Square**

**London**

**WC1H 9LT**

company registration number **05845046**

to operate an installation at

**Rookery Pit Energy Recovery Facility**

**Rookery South**

**Stewartby**

**Bedfordshire**

**MK43 9LY**

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

| Name              | Date              |
|-------------------|-------------------|
| <b>Rob McHale</b> | <b>08/03/2024</b> |

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

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

### 1.2 Energy efficiency

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

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

### 1.3 Efficient use of raw materials

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

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

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

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

## **2 Operations**

### **2.1 Permitted activities**

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

### **2.2 The site**

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

### **2.3 Operating techniques**

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

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

- (a) when the failed equipment is repaired and brought back into normal operation;
- (b) when the operator initiates a shut down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;
- (c) The failed equipment has not been repaired and brought back into normal operation and a single period of abnormal operation reaches a duration of 4 hours after the start of abnormal operation on an incineration line
- (d) Abnormal operation occurs on an incineration line and the cumulative duration of abnormal operation periods over 1 calendar year has reached 60 hours on that incineration line;

2.3.14 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition 2.3.9 is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition 2.3.9 is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.

2.3.15 Bottom ash and APC residues shall not be mixed.

## **2.4 Improvement programme**

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

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

# **3 Emissions and monitoring**

## **3.1 Emissions to water, air or land**

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2

3.1.2 The limits given in schedule 3, subject to condition 3.2.1, shall not be exceeded.

3.1.3 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S 3.4 Additional samples shall be taken and tested and appropriate action taken, whenever:

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

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

3.2.1 The limits for emissions to air apply as follows:

- (a) The limits in table S3.1 shall not be exceeded except during periods of abnormal operation.
- (b) The limits in table S3.1 (a) shall not be exceeded during abnormal operation.

- 3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1 and S3.1(a); the Continuous Emission Monitors shall be used such that;
- (a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:
 

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

### **3.3 Emissions of substances not controlled by emission limits**

- 3.3.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

- 3.3.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.
- 3.3.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil unless such monitoring is based on a systematic appraisal of the risk of contamination.

### **3.4 Odour**

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

### **3.5 Noise and vibration**

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

### **3.6 Monitoring**

- 3.6.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1, S3.1(a) and S3.2;
  - (b) process monitoring specified in table S3.3;
  - (c) residue quality in table S3.4
- 3.6.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

- 3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and unless otherwise agreed in writing by the Environment Agency have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges. Newly installed Data handling and acquisition systems (DAHS), or DAHS replacing existing DAHS, shall have MCERTS certification.
- 3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.1(a) and S3.2 unless otherwise agreed in writing by the Environment Agency.

## **3.7 Pests**

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

## **3.8 Fire prevention**

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

# **4 Information**

## **4.1 Records**

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

- (ii) matters which affect the condition of the land and groundwater.

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

## 4.2 Reporting

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

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year using the annual report form specified in schedule 4, table S4.4 or otherwise in a format agreed with the Environment Agency. The report(s) shall include as a minimum:

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

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

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

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

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

4.2.6 The operator shall submit an annual solvent management plan in order to demonstrate compliance with the requirements of the Industrial Emissions Directive, by 31 January each year in respect of the previous year.

## 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), (b) or (c), 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

| <b>Table S1.1 activities</b>          |                                                     |                                                                                                                     |                                                                                                                                                                       |
|---------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Activity reference                    | Activity listed in Schedule 1 of the EP Regulations | Description of specified activity                                                                                   | Limits of specified activity                                                                                                                                          |
| AR1                                   | S5.1 A1 (b)                                         | The incineration of non-hazardous waste in a waste incineration plant with a capacity of 3 tonnes per hour or more. | From receipt of waste to emission of exhaust gas and removal from site of waste arising.<br><br>Waste types and quantities as specified in Table S2.2 of this permit. |
| <b>Directly Associated Activities</b> |                                                     |                                                                                                                     |                                                                                                                                                                       |
| AR2                                   | Electricity Generation                              | Generation of 65MWe electrical power using a steam turbine from energy recovered from the flue gases.               |                                                                                                                                                                       |
| AR3                                   | Back up electrical generator                        | For providing 2MW emergency electrical power to the plant in the event of supply interruption.                      | Emergency use to a maximum of 500 hours operation per year.<br><br>Maximum of 50 hours testing per year.                                                              |
| AR4                                   | Surface water management                            | Management of uncontaminated surface water drainage                                                                 | From collection of surface water drainage including reuse within site activities through to discharge from the installation                                           |

| <b>Table S1.2 Operating techniques</b>       |                                                                                                                                                                                                                                         |                                                                         |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Description                                  | Parts                                                                                                                                                                                                                                   | Date Received                                                           |
| Application                                  | <ul style="list-style-type: none"> <li>The response to question 3 of application form B3</li> <li>Supporting information document – sections 1.4, 2.2.2, 2.2.3, 2.3, 2.4.2, 2.4.3, 2.4.4, 2.4.5, 2.5, 2.6.4, 2.6.5, 2.8, 2.9</li> </ul> | 15/02/2017                                                              |
| Response to Schedule 5 Notice dated 13/04/17 | <ul style="list-style-type: none"> <li>Response to questions 5, 7, 9, 29, 31, 32 and 33.</li> <li>Noise mitigation measures set out in the Acoustic Design Report Revision A</li> </ul>                                                 | 19/05/2017                                                              |
| Response to Schedule 5 Notice dated 16/06/17 | <ul style="list-style-type: none"> <li>Response to questions 3, 5, 11, 12, 17, 18 and 23</li> </ul>                                                                                                                                     | 06/07/2017                                                              |
| Response to Schedule 5 Notice dated 16/06/17 | Dust management plan                                                                                                                                                                                                                    | 06/07/2017 and as updated in response to pre-operational condition PO10 |
| Additional information                       | Fire Prevention Plan                                                                                                                                                                                                                    | 26/07/2017 and as updated in response to pre-operational condition PO9  |
| Additional information                       | Response to questions 3, 4 and 6                                                                                                                                                                                                        | 26/07/2017                                                              |
| Additional information                       | Response to question 3                                                                                                                                                                                                                  | 22/12/2017                                                              |

|                                                         |                                                                                                                                                                                                                                               |            |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Response to regulation 61 notice                        | Operating techniques as set out in the response to the regulation 61 notice.                                                                                                                                                                  | 30/06/2022 |
| Additional information to regulation 61 notice response | Confirmation of emergency generator capacity and removal of ash treatment.                                                                                                                                                                    | 18/08/2022 |
| Application Variation EPR/WP3234DY/V005                 | <p>Application forms Part A Revised, C2, C3 and F1 Revised and referenced supporting information (ref: S4010-0320-001JRS)</p> <ul style="list-style-type: none"> <li>• Metal recovery no longer proposed at the site – Section 3.4</li> </ul> | 20/10/2023 |

| 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. The report shall also include details of a review of the OTNOC management plan and any updates to the plan following the review.                                                                                                                                                                                         | 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 points A1, A2 and A3, identifying the fractions within the PM10, and PM2.5 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.                                                                                                                        | Completed                                           |
| 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.                       | Completed                                           |
| IC4                                           | 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. The results shall be submitted in writing to the Environment Agency and include a comparison with the CFD modelling submitted with PO5.                                                                                                                                                                                                                                                   | Completed                                           |
| 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"> <li>• The Selective Non Catalytic Reduction (SNCR) system and combustion settings to minimise oxides of nitrogen (NOx). The report shall include an assessment of the level of NOx, N2O and NH3 emissions that can be achieved under optimum operating conditions.</li> <li>• The lime injection system for minimisation of acid gas emissions</li> <li>• The carbon injection system for minimisation of dioxin and heavy metal emissions.</li> </ul> | Completed                                           |

| Table S1.3 Improvement programme requirements |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                         |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Reference                                     | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Date                                                                                                    |
| IC6                                           | <p>The Operator shall carry out an assessment of the impact of emissions to air (in order to validate the assessment provided in the application) of the following component metals subject to emission limit values:</p> <ul style="list-style-type: none"> <li>As and Cr</li> </ul> <p>A report on the assessment shall be made to the Environment Agency.</p> <p>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 environment standard (ES). The report shall include proposals for further investigative work if required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13 months from the completion of commissioning                                                          |
| IC7                                           | <p>The Operator shall submit a written summary report to the Environment Agency to confirm the results of calibration and verification testing for the performance of Continuous Emission Monitors for parameters as specified in Table S3.1 and Table S3.1(a). Testing shall confirm compliance with the requirements of BS EN 14181, specifically the requirements of QAL1, QAL2 and QAL3.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Full summary evidence compliance report to be submitted within 12 months of completion of commissioning |
| IC8                                           | <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 verify the assessment provided within the application. The assessment shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>A review of the noise sources from the facility. Where any noise sources are identified as exhibiting tonal contributions, they shall be quantified by means of frequency analysis.</li> <li>A review of noise mitigation measures</li> </ul> <p>A report shall be provided to the Environment Agency detailing the findings of the assessment and a review of whether any improvements are required together with proposals for their implementation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Completed                                                                                               |
| IC9                                           | <p>The operator shall perform a study to determine the extent to which the operation of the current systems in place at the plant to minimise NO<sub>x</sub> emissions can be further optimised such that emissions are reduced as far as possible, below 180 mg/Nm<sup>3</sup> as a daily average, without significantly increasing emissions of other pollutants or having a significant negative effect on plant operation, reliability or bottom ash quality. The study shall be based on the results of trials carried out at the installation and shall have regard to the recommendations for test conditions set out in Section 5.4.3 of report titled 'Establishing factors that influence NO<sub>x</sub> reduction at waste incineration plant to levels below the upper end of the BAT-AELs' (dated 14/01/2022), or other methodology agreed in writing with the Environment Agency. A written report of the study shall be submitted to the Environment Agency which shall include but not necessarily be limited to the following:</p> <ul style="list-style-type: none"> <li>A brief description of the currently installed measures at the installation to minimise NO<sub>x</sub> emissions, including details of how the reagent dosing system responds to emissions monitoring data and historic data which illustrates the current achievable level of daily NO<sub>x</sub> emissions.</li> <li>The results of trials conducted to further reduce daily average NO<sub>x</sub> emissions using currently installed measures, including: <ul style="list-style-type: none"> <li>a description of the parameters that were varied during the trial e.g. ammonia or urea feed rates, physical form of urea injected, air flows, and the range over which they were varied</li> </ul> </li> </ul> | Completed                                                                                               |

| Table S1.3 Improvement programme requirements |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Reference                                     | Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Date                                     |
|                                               | <ul style="list-style-type: none"> <li>the levels of NO<sub>x</sub> achieved and associated levels of ammonia and nitrous oxide emissions and reagent consumption</li> <li>observed effects and predicted long-term impacts on plant operation, reliability and maintenance regime</li> <li>any changes to the composition of the bottom ash and boiler ash and the implications of those changes for the ability to process and use the ash, as well as for the pollution potential of the ash both during processing and its subsequent use as a secondary aggregate</li> <li>any other relevant cross-media effects</li> </ul> <p>The report shall also include a description of the extent to which current systems in place at the plant to minimise NO<sub>x</sub> emissions can be optimised on a permanent basis, including justification and an implementation plan where relevant.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |
| IC10                                          | The operator shall submit a report to the Environment Agency on whether waste feed to the plant can be proven to have a low and stable mercury content. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic mercury emissions monitoring data and have regard to the Environment Agency Mercury Monitoring Protocol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Completed                                |
| IC11                                          | The operator shall submit a report to the Environment Agency on whether dioxin emissions to air are stable. The report shall have regard to BAT 4 of the BAT conclusions, be based on historic dioxin emissions monitoring data and have regard to the Environment Agency Dioxins Monitoring Protocol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Completed                                |
| IC12                                          | <p>The operator shall calculate the gross electrical efficiency using the method set out in the general considerations section of the BAT conclusions and submit details of the calculation to the Environment Agency. The calculation shall use the R1 efficiency status, boiler efficiency determination guidance (or other methodology as agreed in writing with the Environment Agency) to calculate boiler efficiency which can then be used to calculate Q<sub>th</sub>.</p> <p>Where the calculated gross electrical efficiency is below the range specified in BAT 20 of the BAT conclusions, the operator shall carry out an assessment of the opportunities to increase the energy efficiency of the installation.</p> <p>The assessment shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> <li>Improvements that could be made to the furnace (including control systems) in order to increase the amount of thermal energy produced per unit of thermal energy in the waste.</li> <li>Where relevant, improvements that could be made to the steam system and related components to allow a greater quantity of electricity to be generated per unit of thermal energy in the steam.</li> <li>Improvements in the heat and electrical efficiency of the plant's ancillary systems that could be made in order to reduce the heat and electrical loads of the plant.</li> <li>Where relevant, an implementation plan for the improvements identified, including the anticipated increase in the gross and/or net electrical efficiency of the plant which would be achieved.</li> </ul> <p>A written copy of the assessment shall be submitted to the Environment Agency.</p> | 12 months from issue of variation notice |

## Schedule 2 – Waste types, raw materials and fuels

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

| Table S2.2 Permitted waste types and quantities of waste processed in the incineration plant |                                                                                                                           |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Maximum quantity                                                                             | 657,000 tonnes per year (total for 3 lines)                                                                               |
| Waste code                                                                                   | Description                                                                                                               |
| <b>02</b>                                                                                    | <b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b> |
| <b>02 01</b>                                                                                 | <b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>                                  |
| 02 01 03                                                                                     | plant-tissue waste                                                                                                        |
| <b>02 06</b>                                                                                 | <b>wastes from the baking and confectionery industry</b>                                                                  |
| 02 06 01                                                                                     | materials unsuitable for consumption or processing                                                                        |
| <b>03</b>                                                                                    | <b>Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard</b>                  |
| <b>03 01</b>                                                                                 | <b>wastes from wood processing and the production of panels and furniture</b>                                             |
| 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                       |
| <b>03 03</b>                                                                                 | <b>wastes from pulp, paper and cardboard production and processing</b>                                                    |
| 03 03 01                                                                                     | waste bark and wood                                                                                                       |
| 03 03 07                                                                                     | mechanically separated rejects from pulping of waste paper and cardboard                                                  |
| <b>04</b>                                                                                    | <b>Wastes from the leather, fur and textile industries</b>                                                                |
| <b>04 02</b>                                                                                 | <b>wastes from the textile industry</b>                                                                                   |
| 04 02 10                                                                                     | organic matter from natural products (for example grease, wax)                                                            |
| 04 02 21                                                                                     | wastes from unprocessed textile fibres                                                                                    |
| 04 02 22                                                                                     | wastes from processed textile fibres                                                                                      |

|              |                                                                                                                                                                                       |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>15</b>    | <b>Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>                                                                   |
| <b>15 01</b> | <b>packaging (including separately collected municipal packaging waste)</b>                                                                                                           |
| 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 07     | glass packaging                                                                                                                                                                       |
| 15 01 09     | textile packaging                                                                                                                                                                     |
| <b>16</b>    | <b>Wastes not otherwise specified in the list</b>                                                                                                                                     |
| <b>16 03</b> | <b>off-specification batches and unused products</b>                                                                                                                                  |
| 16 03 04     | inorganic wastes other than those mentioned in 16 03 03                                                                                                                               |
| 16 03 06     | organic wastes other than those mentioned in 16 03 05                                                                                                                                 |
| <b>17</b>    | <b>Construction and demolition wastes (including excavated soil from contaminated sites)</b>                                                                                          |
| <b>17 02</b> | <b>wood, glass and plastic</b>                                                                                                                                                        |
| 17 02 01     | wood                                                                                                                                                                                  |
| 17 02 03     | plastic                                                                                                                                                                               |
| <b>18</b>    | <b>Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)</b>                                  |
| <b>18 01</b> | <b>wastes from natal care, diagnosis, treatment or prevention of disease in humans</b>                                                                                                |
| 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) |
| <b>18 02</b> | <b>wastes from research, diagnosis, treatment or prevention of disease involving animals</b>                                                                                          |
| 18 02 03     | wastes whose collection and disposal is not subject to special requirements in order to prevent infection                                                                             |

|              |                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>19</b>    | <b>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</b> |
| <b>19 02</b> | <b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>                                                              |
| 19 02 03     | premixed wastes composed only of non-hazardous wastes                                                                                                                          |
| <b>19 05</b> | <b>wastes from aerobic treatment of solid wastes</b>                                                                                                                           |
| 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                                                                                                                                                      |
| <b>19 06</b> | <b>wastes from anaerobic treatment of waste</b>                                                                                                                                |
| 19 06 04     | digestate from anaerobic treatment of municipal waste                                                                                                                          |
| 19 06 06     | digestate from anaerobic treatment of animal and vegetable waste                                                                                                               |
| <b>19 12</b> | <b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>                                          |
| 19 12 01     | paper and cardboard                                                                                                                                                            |
| 19 12 04     | plastic and rubber                                                                                                                                                             |
| 19 12 07     | wood other than that mentioned in 19 12 06                                                                                                                                     |
| 19 12 08     | textiles                                                                                                                                                                       |
| 19 12 10     | combustible waste (refuse derived fuel)                                                                                                                                        |
| 19 12 12     | other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11                                                      |
| <b>20</b>    | <b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>                                 |
| <b>20 01</b> | <b>separately collected fractions (except 15 01)</b>                                                                                                                           |
| 20 01 01     | paper and cardboard                                                                                                                                                            |
| 20 01 08     | biodegradable kitchen and canteen waste                                                                                                                                        |
| 20 01 10     | clothes                                                                                                                                                                        |
| 20 01 11     | textiles                                                                                                                                                                       |
| 20 01 38     | wood other than that mentioned in 20 01 37                                                                                                                                     |

|              |                                                          |
|--------------|----------------------------------------------------------|
| 20 01 39     | plastics                                                 |
| <b>20 02</b> | <b>garden and park wastes (including cemetery waste)</b> |
| 20 02 01     | biodegradable waste                                      |
| <b>20 03</b> | <b>other municipal wastes</b>                            |
| 20 03 01     | mixed municipal waste                                    |
| 20 03 02     | waste from markets                                       |
| 20 03 03     | street-cleaning residues                                 |
| 20 03 04     | septic tank sludge                                       |
| 20 03 07     | Bulky waste                                              |

## 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, A2, A3<br>(Three flues as part of one stack - shown as A1 on plan in Schedule 7)    | Particulate matter         | Incineration exhaust gases | 30 mg/m <sup>3</sup>   | ½-hr average                                                          | Continuous                                             | EN 14181                            |
|                                                                                         | Particulate matter         |                            | 5 mg/m <sup>3</sup>    | daily average                                                         | Continuous                                             | EN 14181                            |
|                                                                                         | Total Organic Carbon (TOC) |                            | 20 mg/m <sup>3</sup>   | ½-hr average                                                          | Continuous                                             | EN 14181                            |
|                                                                                         | Total Organic Carbon (TOC) |                            | 10 mg/m <sup>3</sup>   | daily average                                                         | Continuous                                             | EN 14181                            |
|                                                                                         | Hydrogen chloride          |                            | 60 mg/m <sup>3</sup>   | ½-hr average                                                          | Continuous                                             | EN 14181                            |
|                                                                                         | Hydrogen chloride          |                            | 8 mg/m <sup>3</sup>    | daily average                                                         | Continuous                                             | EN 14181                            |
|                                                                                         | Hydrogen fluoride          |                            | 1 mg/m <sup>3</sup>    | Average of three consecutive measurements of at least 30 minutes each | Quarterly in first year of operation. Then Bi-annually | CEN TS 17340                        |
|                                                                                         | Carbon monoxide            |                            | 150 mg/m <sup>3</sup>  | 95% of all 10-minute averages in any 24-hour period                   | Continuous                                             | EN 14181                            |
|                                                                                         | Carbon monoxide            |                            | 50 mg/m <sup>3</sup>   | daily average                                                         | Continuous                                             | EN 14181                            |

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements. |                                                                           |                            |                                                                                                                          |                                                                       |                                                                                                                                                                                                        |                                     |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Emission point ref. & location                                                          | Parameter                                                                 | Source                     | Limit (including unit)                                                                                                   | Reference period                                                      | Monitoring frequency                                                                                                                                                                                   | Monitoring standard(s) or method(s) |
| A1, A2, A3<br>(Three flues as part of one stack - shown as A1 on plan in Schedule 7)    | Sulphur dioxide                                                           | Incineration exhaust gases | 200 mg/m <sup>3</sup>                                                                                                    | ½-hr average                                                          | Continuous                                                                                                                                                                                             | EN 14181                            |
|                                                                                         | Sulphur dioxide                                                           |                            | 40 mg/m <sup>3</sup>                                                                                                     | daily average                                                         | Continuous                                                                                                                                                                                             | EN 14181                            |
|                                                                                         | Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> ) |                            | 400 mg/m <sup>3</sup>                                                                                                    | ½-hr average                                                          | Continuous                                                                                                                                                                                             | EN 14181                            |
|                                                                                         | Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> ) |                            | 180 mg/m <sup>3</sup>                                                                                                    | daily average                                                         | Continuous                                                                                                                                                                                             | EN 14181                            |
|                                                                                         | Cadmium & thallium and their compounds (total)                            |                            | 0.02 mg/m <sup>3</sup>                                                                                                   | Average of three consecutive measurements of at least 30 minutes each | Quarterly in first year. Then Bi-annually                                                                                                                                                              | EN 14385                            |
|                                                                                         | Mercury and its compounds                                                 |                            | 0.02 mg/m <sup>3</sup><br><br>Limit does not apply if continuous monitoring has been specified by the Environment Agency | Average of three consecutive measurements of at least 30 minutes each | Bi-annually<br><br>Not required if continuous monitoring has been specified by the Environment Agency                                                                                                  | EN 13211                            |
|                                                                                         | Mercury and its compounds                                                 |                            | 0.02 mg/m <sup>3</sup>                                                                                                   | Daily average                                                         | Continuous<br>Not required unless continuous monitoring has been specified by the Environment Agency after completion of IC11 or if specified by the Environment Agency in line with sampling protocol | EN 14181                            |

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements. |                                                                  |                            |                        |                                                                       |                                           |                                     |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------|------------------------|-----------------------------------------------------------------------|-------------------------------------------|-------------------------------------|
| Emission point ref. & location                                                          | Parameter                                                        | Source                     | Limit (including unit) | Reference period                                                      | Monitoring frequency                      | Monitoring standard(s) or method(s) |
| A1, A2, A3<br>(Three flues as part of one stack - shown as A1 on 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 <sup>3</sup>  | Average of three consecutive measurements of at least 30 minutes each | Quarterly in first year. Then Bi-annually | EN 14385                            |
|                                                                                         | Exhaust gas temperature                                          |                            | No limit set           | -                                                                     | Continuous                                | Traceable to national standards     |
|                                                                                         | Exhaust gas pressure                                             |                            | No limit set           | -                                                                     | Continuous                                | Traceable to national standards     |
|                                                                                         | Exhaust gas flow                                                 |                            | No limit set           | -                                                                     | Continuous                                | BS EN 16911-2                       |
|                                                                                         | Exhaust gas oxygen content                                       |                            | No limit set           | -                                                                     | Continuous                                | EN 14181                            |
|                                                                                         | Exhaust gas water vapour content                                 |                            | No limit set           | -                                                                     | Continuous                                | EN 14181                            |
|                                                                                         | Ammonia (NH <sub>3</sub> )                                       |                            | 15 mg/m <sup>3</sup>   | daily average                                                         | Continuous                                | EN 14181                            |
|                                                                                         | Nitrous oxide (N <sub>2</sub> O)                                 |                            | No limit set           | ½-hr average and daily average                                        | Continuous                                | EN 14181                            |
|                                                                                         | Carbon dioxide                                                   |                            | No limit set           | Continuous                                                            | Continuous                                | EN 14181                            |
|                                                                                         | Dioxins / furans (I-TEQ)                                         |                            | 0.06 ng/m <sup>3</sup> | periodic over minimum 6 hours, maximum 8 hour period                  | Bi-annually;<br>and                       | EN 1948 Parts 1, 2 and 3            |
|                                                                                         |                                                                  |                            | and                    |                                                                       |                                           | and                                 |

| 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, A2, A3<br>(Three flues as part of one stack - shown as A1 on plan in Schedule 7)    |                                                                      | Incineration exhaust gases | 0.08 ng/m <sup>3</sup><br>if long term limit is specified by the Environment Agency in line with sampling protocol | and<br><br>value over sampling period of 2 to 4 weeks for long term sampling                                                         | long term monitoring if specified by the Environment Agency in line with sampling protocol f                                                                                                                                                                    | CEN TS 1948-5 if specified by the Environment Agency after completion of IC10 or specified by the Environment Agency in line with sampling protocol |
|                                                                                         | Dioxins and Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds) |                            | No limit set                                                                                                       | periodic over minimum 6 hours, maximum 8 hour period<br><br>and<br>value over sampling period of 2 to 4 weeks for long term sampling | Bi-annually;<br><br>and<br><br>long term sampling if specified by the Environment Agency in line with sampling protocol<br><br>No monitoring is required if emissions have been shown to be below 0.01 ng/m <sup>3</sup> as agreed with the Environment Agency. | EN 1948 Parts 1, 2 and 4<br><br>and<br><br>CEN TS 1948-5 if specified by the Environment Agency in line with sampling protocol                      |
|                                                                                         | Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)             |                            | No limit set                                                                                                       | periodic over minimum 6 hours, maximum 8 hour period                                                                                 | Bi-annually                                                                                                                                                                                                                                                     | EN 1948 Parts 1, 2 and 3                                                                                                                            |

| 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, A2, A3<br>(Three flues as part of one stack - shown as A1 on plan in Schedule 7)    | Polybrominated dibenzo-dioxins and furans                                                | Incineration exhaust gases   | No limit set           | periodic over minimum 6 hours, maximum 8 hour period                                                                                                    | Bi-annually                                                                                       | Method based on procedural requirements of EN 1948                                                                                                      |
|                                                                                         | Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6. |                              | No limit set           | periodic over minimum 6 hours, maximum 8 hour period                                                                                                    | Annually                                                                                          | BS ISO 11338 Parts 1 and 2.                                                                                                                             |
| A4 (Shown as point 10 on plan in schedule 7)                                            | Carbon monoxide                                                                          | Back-up electrical generator | No limit set           | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators'<br>Published 16 February 2021<br>(formerly known as TGN M5) | Every 1500 hours of operation or once every five years (whichever comes first)<br>from 01/01/2030 | In line with web guide 'Monitoring stack emissions: low risk MCPs and specified generators'<br>Published 16 February 2021<br>(formerly known as TGN M5) |

| Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements |                            |                             |                        |                                                     |                      |                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|------------------------|-----------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Emission point ref. & location                                                                                                            | Parameter                  | Source                      | Limit (including unit) | Reference period                                    | Monitoring frequency | Monitoring standard or method                                                                                                              |
| A1, A2, A3<br>(Three flues as part of one stack – shown as A1 on plan in schedule 7)                                                      | Particulate matter         | Incineration exhausts gases | 150 mg/m <sup>3</sup>  | ½-hr average                                        | Continuous           | EN 14181<br>or<br>alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor |
|                                                                                                                                           | Total Organic Carbon (TOC) |                             | 20 mg/m <sup>3</sup>   | ½-hr average                                        | Continuous           | EN 14181<br>or<br>alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor |
|                                                                                                                                           | Carbon monoxide            |                             | 150 mg/m <sup>3</sup>  | 95% of all 10-minute averages in any 24-hour period | Continuous           | EN 14181<br>or<br>alternative surrogate as agreed in writing with the environment agency during failure of the continuous emission monitor |

| <b>Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements</b> |                                                      |                  |                           |                         |                             |                                      |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------|---------------------------|-------------------------|-----------------------------|--------------------------------------|
| <b>Emission point ref. &amp; location</b>                                                                                   | <b>Source</b>                                        | <b>Parameter</b> | <b>Limit (incl. unit)</b> | <b>Reference Period</b> | <b>Monitoring frequency</b> | <b>Monitoring standard or method</b> |
| W1 (emission from surface water attenuation pond as shown on drawing number 2118-001 X2 in the Application)                 | Uncontaminated surface water run-off via interceptor | No limits set    | -                         | -                       | -                           | -                                    |

| <b>Table S3.3 Process monitoring requirements</b>                                                  |                             |                                                                                  |                                                                                                |                                       |
|----------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------|
| <b>Emission point reference or source or description of point of measurement</b>                   | <b>Parameter</b>            | <b>Monitoring frequency</b>                                                      | <b>Monitoring standard or method</b>                                                           | <b>Other specifications</b>           |
| As identified in the Application                                                                   | Wind Speed and Direction    | Continuous                                                                       | Anemometer                                                                                     |                                       |
| Location close to the Combustion Chamber inner wall or as identified and justified in Application. | Temperature (° C)           | Continuous                                                                       | Traceable to national standards                                                                | As agreed in writing with the Agency. |
| Incineration plant                                                                                 | Gross electrical efficiency | Within 6 months of any modification that significantly affects energy efficiency | Performance test at full load or other method as agreed in writing with the Environment Agency |                                       |

| Table S3.4 Residue quality                                                |                                                                                                                                                                                     |                                                                         |                                                           |                                                                                                               |                                                                                  |
|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Emission point reference or source or description of point of measurement | Parameter                                                                                                                                                                           | Limit                                                                   | Monitoring frequency                                      | Monitoring standard or method *                                                                               | Other specifications                                                             |
| Bottom Ash                                                                | TOC<br><br>or otherwise as agreed in writing with the Environment Agency                                                                                                            | 3%<br><br>or otherwise as agreed in writing with the Environment Agency | Monthly in the first year of operation.<br>Then Quarterly | EN 14899 and either EN 13137 or EN 15936<br><br>or otherwise as agreed in writing with the Environment Agency | Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis' |
| Bottom Ash                                                                | Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs. |                                                                         | Monthly in the first year of operation.<br>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.<br>Then Quarterly | Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'                              |                                                                                  |

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

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

## Schedule 4 – Reporting

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

| <b>Table S4.1 Reporting of monitoring data</b>                                                                                                                                                                                  |                                               |                                                         |                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------|-------------------------------|
| <b>Parameter</b>                                                                                                                                                                                                                | <b>Emission or monitoring point/reference</b> | <b>Reporting period</b>                                 | <b>Period begins</b>          |
| Emissions to air<br>Parameters as required by condition 3.6.1.                                                                                                                                                                  | A1, A2, A3                                    | Quarterly                                               | 1 Jan, 1 Apr, 1 Jul and 1 Oct |
| TOC <i>or otherwise as agreed in writing with the Environment Agency</i><br>Parameters as required by condition 3.6.1                                                                                                           | Bottom Ash                                    | Quarterly                                               | 1 Jan, 1 Apr, 1 Jul and 1 Oct |
| Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs<br>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<br>Parameters as required by condition 3.6.1             | Bottom Ash                                    | Before use of a new disposal or recycling route         |                               |
| Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs<br>Parameters as required by condition 3.6.1 | APC Residues                                  | Quarterly (but monthly for the first year of operation) | 1 Jan, 1 Apr, 1 Jul and 1 Oct |
| Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions<br>Parameters as required by condition 3.6.1             | APC Residues                                  | Before use of a new disposal or recycling route         |                               |

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

| <b>Table S4.3 Performance parameters</b>                          |                                |                                                                               |
|-------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------|
| <b>Parameter</b>                                                  | <b>Frequency of assessment</b> | <b>Units</b>                                                                  |
| Annual Report as required by condition 4.2.2                      | Annually                       | -                                                                             |
| Electrical energy exported, imported and used at the installation | Annually                       | kWh / tonne of waste incinerated                                              |
| Fuel oil consumption                                              | Annually                       | kg / tonne of waste incinerated                                               |
| Bottom Ash residue                                                | Annually                       | Route, tonnes and tonnes / tonne of waste incinerated                         |
| APC residue                                                       | Annually                       | Route, tonnes and tonnes / tonne of waste incinerated                         |
| Ammonia consumption                                               | Annually                       | kg / tonne of waste incinerated                                               |
| Activated Carbon consumption                                      | Annually                       | kg / tonne of waste incinerated                                               |
| Lime consumption                                                  | Annually                       | kg / tonne of waste incinerated                                               |
| Water consumption                                                 | Annually                       | kg / tonne of waste incinerated                                               |
| Periods of abnormal operation                                     | Annually                       | No of occasions and cumulative hours for current calendar year for each line. |

| <b>Table S4.4 Reporting forms</b>         |                                                                                   |                     |
|-------------------------------------------|-----------------------------------------------------------------------------------|---------------------|
| <b>Media/parameter</b>                    | <b>Reporting format</b>                                                           | <b>Date of form</b> |
| Annual report required by condition 4.2.2 | Annual performance report template                                                | -                   |
| Air                                       | Forms air 1-9 or other forms as agreed in writing by the Environment Agency       | 22/11/2022          |
| Residue quality                           | Form residue 1 and 2 or other form as agreed in writing by the Environment Agency | 22/11/2022          |

## 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 |  |

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

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

|                                                                                 |                            |
|---------------------------------------------------------------------------------|----------------------------|
| <b>Time periods for notification following detection of a breach of a limit</b> |                            |
| <b>Parameter</b>                                                                | <b>Notification period</b> |
|                                                                                 |                            |
|                                                                                 |                            |
|                                                                                 |                            |

|                                                                                                |  |
|------------------------------------------------------------------------------------------------|--|
| <b>(c) Notification requirements for the breach of permit conditions not related to limits</b> |  |
| <b>To be notified within 24 hours of detection</b>                                             |  |
| 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.                         |  |

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

## Part B – to be submitted as soon as practicable

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

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

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

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

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

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

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

“APC residues” means air pollution control residues

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

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

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

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

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

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

“CEM” Continuous emission monitor

“CEN” means Comité Européen de Normalisation

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

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

Daily average emissions value means ‘the average of at least 43 valid half hourly averages or for CO the average of at least 43 valid half hourly averages or 129 valid 10 min averages’

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

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

“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

“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, 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, until waste has been fed to the plant in a sufficient quantity to initiate steady-state conditions as described in the application or as agreed in writing with the Environment Agency.

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

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

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

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

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

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

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

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

| <b>TEF schemes for dioxins and furans</b> |              |                         |               |              |
|-------------------------------------------|--------------|-------------------------|---------------|--------------|
| <b>Congener</b>                           | <b>I-TEF</b> | <b>WHO-TEF</b>          |               |              |
|                                           | <b>1990</b>  | <b>2005</b>             | <b>1997/8</b> |              |
|                                           |              | <b>Humans / Mammals</b> | <b>Fish</b>   | <b>Birds</b> |
| <b>Dioxins</b>                            |              |                         |               |              |
| 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                  | -             | -            |
| <b>Furans</b>                             |              |                         |               |              |
| 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       |

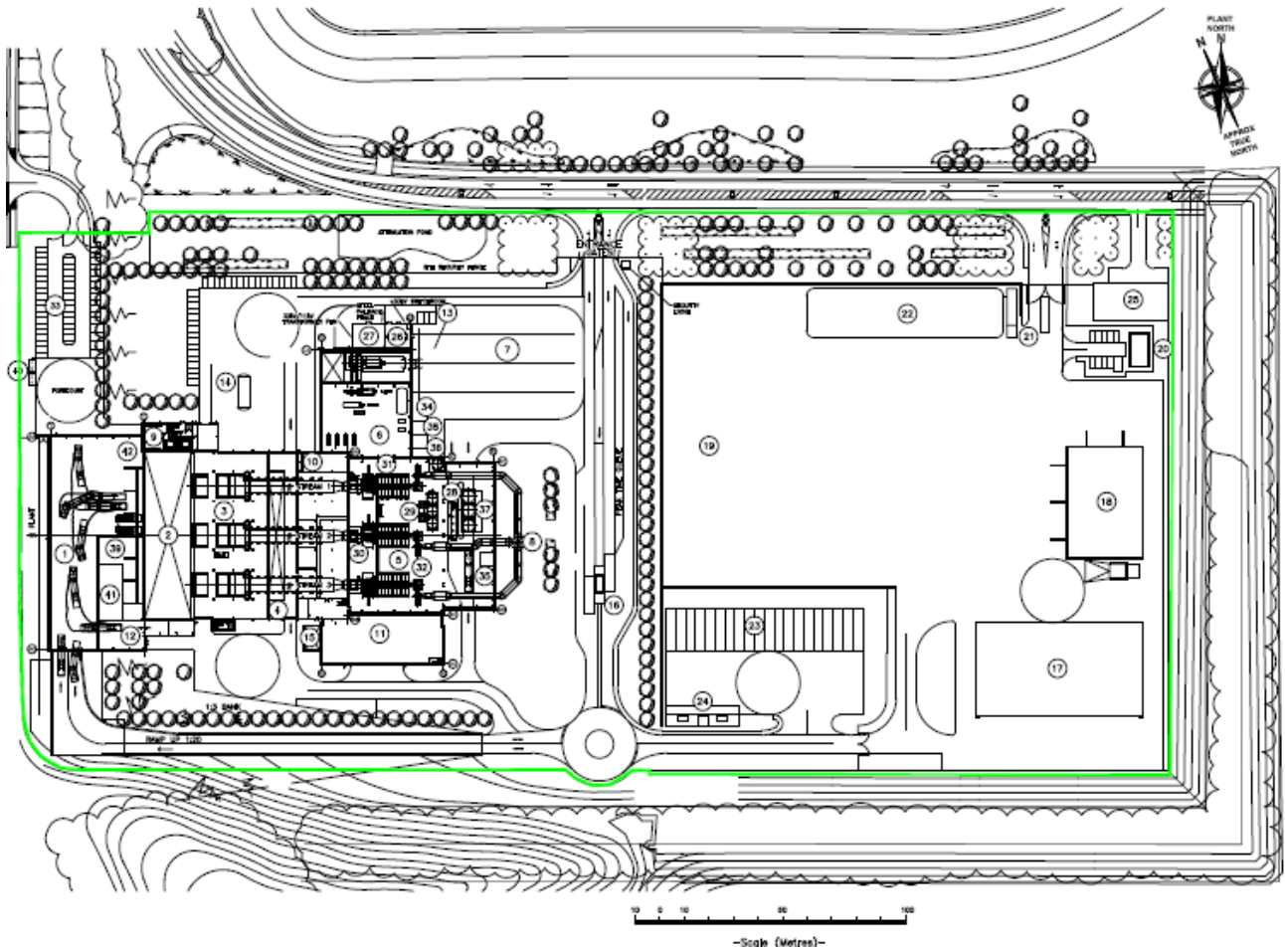
| <b>TEF schemes for dioxin-like PCBs</b> |                         |               |              |
|-----------------------------------------|-------------------------|---------------|--------------|
| <b>Congener</b>                         | <b>WHO-TEF</b>          |               |              |
|                                         | <b>2005</b>             | <b>1997/8</b> |              |
|                                         | <b>Humans / mammals</b> | <b>Fish</b>   | <b>Birds</b> |
| <b>Non-ortho PCBs</b>                   |                         |               |              |
| 3,4,4',5-TCB (81)                       | 0.0001                  | 0.0005        | 0.1          |

| TEF schemes for dioxin-like PCBs |                  |           |         |
|----------------------------------|------------------|-----------|---------|
| Congener                         | WHO-TEF          |           |         |
|                                  | 2005             | 1997/8    |         |
|                                  | Humans / mammals | Fish      | Birds   |
| 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   |
| <b>Mono-ortho PCBs</b>           |                  |           |         |
| 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.

# Schedule 7 – Site plan





END OF PERMIT