Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Use the following format for site permits and delete the section below

Operator Name

Site Name
Site Address 1
Site Address 2
Site Address 3
Postcode

Use the following format for mobile plant permits and delete the section above

Operator Name

Operator Address 1
Operator Address 2
Operator Address 3
Postcode

Permit number

EPR/AB1234CD

Site Name
Permit number EPR/AB1234CD

Introductory note

This introductory note does not form a part of the permit

This permit controls the operation of a waste [co-]incineration plant. The relevant listed activity is <insert activity reference>. 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/Fluidised Bed
Number of lines	1, 2, 3, 4 etc.
Waste	Municipal /commercial & industrial / hazardous/ clinical
Stack height	….m
Permitted plant capacity	…… tonnes per year
Waste throughput will vary depending on the calorific value (CV) of the waste. The applicant will usually specify the design capacity of the plant in tonnes per hour based on an average CV. Applicants should also specify the maximum capacity/throughput that is required in the permit 'permitted plant capacity' in tonnes per year. *They should justify this figure on the basis of the plant firing diagram and should also demonstrate how the dispersion modelling represents the worst case-scenario with respect to maximum plant throughput (both short-term and long-term operation).*	
Energy generated Gross electrical efficiency *[drafting note see BAT C for calculation]*	…… MWe ……%
Heat exported	…….MWth *[drafting note : if CHP]*

Drafting note The above summary table must be included then insert a short summary at this point. This should comprise a brief non-technical description of the facility/facilities. The summary should include:

- Types of waste for treatment / disposal
- Level of pre-treatment

- Technology used, e.g. type of incineration, pyrolysis, gasification, etc
- Number of lines, capacity, stack height, energy output
- Abatement plant
- Heat Recovery including whether good quality CHP
- Monitoring
- Location
- Summary of any local environmental impacts

Where the permit covers more than one installation, references to the installation should be made plural, where relevant, in the introductory note and the conditions.

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

Drafting note: Include a description in the status log of any activities removed from the permit. This is to allow the future calculation of the correct surrender application charge. This charge will be based on all the activities included in the permit over its lifetime.

Status log of the permit		
Description	**Date**	**Comments**
Application EPR/AB1234CD/A001	Duly made DD/MM/YY	Application for permit for an incineration plant.
Additional information received	DD/MM/YY	Confirmation of site boundary.
Permit determined	DD/MM/YY	Permit issued to ABCCDE Power Limited.

Where an installation is covered by more than one permit, complete the following table so that anyone using the public registers is guided to the associated permits. Where it does not apply, delete the table.

Other Part A installation permits relating to this installation		
Operator	**Permit number**	**Date of issue**
Alternative energy	EPR/EF1234HI	DD/MM/YY
Clean waste	EPR/JK1234MN	DD/MM/YY

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/AB1234CD

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

Operator Name ("the operator"),

of/whose registered office is/whose principal office is

for a company/limited liability partnership use "whose registered office is" unless there is some reason to specify their principal office, for a partnership use "whose principal office is", in other cases use "of".

Operator Address 1
Operator Address 2
Operator Address 3
Postcode

company registration number [xxxxxxxxx] delete if not applicable

to operate [an installation/part of an installation/waste operations/waste mobile plant/a mining waste operation/radioactive substances activities/a water discharge activity/a groundwater activity] at

Drafting note: all regulated facilities being permitted must be listed but a regulated facility being carried on as part of another regulated facility does not need to be listed. Where more than one regulated facility of a type is permitted, use the plural as appropriate. Where more than one regulated facility type is permitted, insert "and" between them.

Site Name
Site Address 1
Site Address 2
Site Address 3
Postcode

site address does not apply to mobile plant

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

Under regulation 27(2) of the Regulations, standard rules **[number(s)]** are conditions of this permit.

applies only if the permit authorises the operation of a standard facility (or facilities)

Name	Date
[name of authorised person]	**[DD/MM/YYYY]**

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 The operator shall review the written management system at least every 3 years or otherwise as requested by the Environment Agency.

1.1.4 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.5 The operator shall comply with the requirements of an approved competence scheme [or other approval issued by the Environment Agency].

Drafting note: the above condition is only required for a relevant waste operation within the meaning of the EP Regulations. The second part of the condition should only be used where the activities are not covered by a scheme.

1.2 Energy efficiency

1.2.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4 etc.) 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.

Drafting Note: above condition is not required where energy recovery is carried out using gas engines or if good quality CHP is already included as part of the installation.

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

Drafting Note: above condition is not required if good quality CHP is already included as part of the installation

1.3 Efficient use of raw materials

1.3.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4 etc.) 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.

1.5 Climate change

1.5.1 The operator shall review and if appropriate update, at least every 4 years, the [climate change adaptation risk assessment] submitted with the permit application, and shall update the written management system as appropriate.

Drafting note: for use where the climate change screening score in the application is more than 5, or where we believe the activities and/or site infrastructure face unmanaged climate risks.

1.6 Multiple operator installations

1.6.1 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4 etc.) Where the operator notifies the Environment Agency under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operator(s) of the installation of the same information.

Drafting note: section 1.5 is only to be used if this is a multi-operator installation. For example when an IBA processing plant is part of the installation and considered to be a DAA, as it is operated by a different operator.

2 Operations

2.1 Permitted activities

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

2.1.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4 etc.) Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

Drafting note: use condition 2.1.2 for chapter 5 installations. Pre-amble text required if the permitted activities included waste operations and wastes are being managed to different standards.

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

Drafting note: the above condition should be used if the regulated facility is permitted to accept hazardous waste i.e. through condition 2.3.4.

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.

OR

2.2.2 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, which is within the area edged in red on the site plan that represents the extent of the installation covered by this permit and that/those of (the) other operator(s) of the installation.

Drafting note: use the second condition to show parts of the facility being operated by other operators and delete text as appropriate.

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.

Drafting note: where site-specific conditions controlling operational techniques are necessary they should be included at this point in the permit.

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.

Drafting note: use this condition to set any limitations on the specifications of raw materials or fuels to be used.

2.3.4 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 table(s) S2.2 [, S2.3 etc]; and

(b) it conforms to the description in the documentation supplied by the producer or holder; and

Drafting note: Separate tables can be used if it is necessary to specify different waste types for different activities. Where they are necessary, activity-specific waste acceptance conditions can be inserted here.

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 The operator shall burn only those hazardous wastes where the throughputs, calorific values and pollutant compositions are within the ranges specified in table S2.[x] of schedule 2, unless otherwise agreed in writing with the Environment Agency.

Drafting Note: only where Hazardous Waste, as defined in the IED chapter IV, is burned on the installation

2.3.10 The operator shall ensure that prior to accepting waste subject to condition [2.3.9] at the site, it has obtained sufficient information about the hazardous wastes to be burned to demonstrate compliance with the characteristics described in condition [2.3.9].

Drafting Note: only where hazardous waste produced elsewhere is brought into the site for burning, as distinct from such waste that is generated on-site by the operator and then burned.

2.3.11 The operator shall take representative samples of all hazardous waste deliveries to the site unless otherwise agreed in writing with the Environment Agency and test a representative selection of these samples to verify conformity with the information obtained as required by condition [2.3.10]. These samples shall be retained for inspection by the Environment Agency for a period of [at least 1 month] [a longer *(specify alternative)* period] after the material is incinerated and results of any analysis made of such samples will be retained for at least 2 years after the material is incinerated.

[Drafting Note: Only where imported Hazardous Waste is burned on the installation (may be omitted where the hazardous waste is generated by the operator.)] ***Seek advice for clinical waste***

2.3.12 Waste shall not be charged if:

(a) the [combustion chamber][other specified temperature monitor] temperature is below 850 °C,

(b) it is hazardous waste with a hazardous halogenated organic content of more than 1% (expressed as chlorine) and the [combustion chamber][other specified temperature monitor] temperature is below 1,100 °C.

(c) it is cytotoxic or cytostatic waste and the [combustion chamber][other specified temperature monitor] is below 1,000°C

(d) any continuous emission limit value in schedule 3 table S3.1(a) is exceeded; or

(e) any continuous emission limit value in schedule 3 table S3.1 is exceeded, other than during abnormal operation; or

(f) continuous emission monitors to demonstrate compliance with any continuous emission limit value in schedule 3 table S3.1 are unavailable other than during abnormal operation; or

(g) there is a stoppage, disturbance or failure of the activated carbon abatement system, other than during abnormal operation.

(h) continuous emission monitors to demonstrate compliance with the emission limit values for particulates, TOC or CO in schedule 3 are unavailable unless alternative techniques, [as detailed in the application or] as agreed in writing with the Environment Agency, are used to demonstrate compliance with those emission limit values.

Drafting Note: Where the operator makes no acceptable proposal for alternative techniques, in the application, for particulate, TOC and/or CO, the text in brackets in condition (e) should be omitted.

2.3.13 The operator shall record the beginning and end of each period of "abnormal operation".

2.3.14 During a period of "abnormal operation", the operator shall restore normal operation of the failed equipment or replace the failed equipment as soon as possible.

2.3.15 The operator shall interpret the start of the period of "abnormal operation" as the earliest of the following:

(a) a technically unavoidable stoppage, disturbance, or failure of continuous emission monitors.

(b) a technically unavoidable stoppage, disturbance, or failure of the activated carbon abatement system

(c) drafting note: Use this condition for incinerators and co-incinerators where ½ hourly emission limits have been set in table S3.1 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.

(d) drafting note: Use this condition for co-incinerators where ½ hourly emission limits have not been set in table S3.1 Any other technically unavoidable stoppage, disturbance, or failure of the plant which could lead to an exceedance of an emission limit value in table S3.1.

2.3.16 The operator shall interpret the end of the period of "abnormal operation" as the earliest of the following:

(a) when the failed equipment is repaired and brought back into normal operation;

(b) when the operator initiates a shut down of the waste combustion activity, as described in the application or as agreed in writing with the Environment Agency;

(c) The failed equipment has not been repaired and brought back into normal operation and a single period of abnormal operation reaches a duration of 4 hours after the start of abnormal operation on an incineration line

(d) Abnormal operation occurs on an incineration line and the cumulative duration of abnormal operation periods over 1 calendar year has reached 60 hours on that incineration line;

2.3.17 The operator shall have at least one auxiliary burner in each line which shall be operated at start up, shut down and as required during operation to ensure that the operating temperature specified in condition [2.3.10] is maintained as long as incompletely burned waste is present in the combustion chamber. Unless the temperature specified in condition [2.3.10] is maintained in the combustion chamber, such burner(s) shall be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas.

Drafting Note: Condition should not be used where gas engines are being used for energy recovery, but should be used in all other cases.

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

Drafting Note: where infectious clinical waste is incinerated, this condition shall be included.

2.3.19 Bottom ash and APC residues shall not be mixed.

2.4 Improvement programme

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

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

Drafting note: conditions 2.4.1 and 2.4.2 generally should not be used for new regulated facilities, unless they are for one off reporting conditions such as the submission of post commissioning reports.

2.5 Pre-operational conditions

2.5.1 The activities shall not be brought into operation until [DD/MM/YYYY] [and until] [the measures specified in schedule 1 table S1.4A have been completed].

2.5.2 The operations specified in schedule 1 table S1.4B shall not commence until [DD/MM/YYYY] [and until] [the measures specified in that table have been completed].

Drafting note: condition 2.5.1 relates to a date before which the activities must not commence, or alternatively or additionally, to measures required prior to the initial commencement of the activities. Delayed start dates are associated with charging. Note that no subsistence charge applies until the specified date and that this should only be done on request from the operator and with a valid reason. If you are imposing a delayed start date and pre-operational measures, the date must be on or before Environment Agency involvement in any pre-operational activities. Condition 2.5.2 relates to a date before which specified operations authorised by the permit must not start, or alternatively or additionally, is only required if the phased nature of the development requires pre-operational conditions prior to the commencement of future operations. The guidance set out above also applies to delayed start dates.

Drafting Note: any restrictions in the commencement of an operation or installation should normally be made using the above condition(s) and pre-op tables S1.4a or S14b, rather than in specific permit conditions, as this makes the restriction clear both to the operator and site officer. This also avoids the risk of the restriction being missed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

Drafting note: If there are point source emissions use the wording of the 2 conditions below

Emissions not covered by an emission limit or background concentration, which would be either a whole emission point or a substance from a point source, will be covered under 3.2.

You may want to prevent localised emissions to air, water or land for site-specific reasons if you don't want them to be treated as emissions of substances not controlled by emission limits. You can do this by using the conditions below to set zero limits for emission points or substances from localised sources (see schedule 3

of the generic installation and waste facility schedules). This should only be done in exceptional circumstances and advice from specialist staff should be sought in such cases.

If there are no point source emissions then miss out the conditions and renumber.

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

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

Drafting Note: Where sector specific conditions are required to address uncertainty in the exceedance of limits they should be included at this point in the permit.

3.1.3 For the following activities referenced in schedule 1, table S1.1 (A1 to A4 etc.) Where a substance is specified in schedule 3 table S3.2 or S3.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.

Drafting Note: This is intended to cover substances for which there is concern but there is not an established EQS or predicted no-effect concentration. Advice from specialist staff must be sought where it is intended to use this condition. Do not use this condition where evaporative cooling towers are used.

3.1.4 Total annual emissions from the emission point(s) set out in tables schedule 3 S3.1, S3.2 and S3.3 of a substance listed in schedule 3 table S3.4 shall not exceed the relevant limit in table S3.4.

Drafting Note: It is unlikely that this will be needed. If planning to set an annual limit, seek expert advice.

3.1.5 Wastes produced at the site shall, as a minimum, be sampled and analysed in accordance with schedule 3 table S 3.10 Additional samples shall be taken and tested and appropriate action taken, whenever:

(a) disposal or recovery routes change; or

(b) it is suspected that the nature or composition of the waste has changed such that the route currently selected may no longer be appropriate.

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

3.2.1 The limits for emissions to air apply as follows:

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

(b) The limits in table S3.1 (a) shall not be exceeded.

3.2.2 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1 and S3.1(a); the Continuous Emission Monitors shall be used such that;

(a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages of the emission limit values:

- Carbon monoxide 10%
- Sulphur dioxide 20%
- Oxides of nitrogen (NO & NO_2 expressed as NO_2) 20%
- Particulate matter 30%
- Total organic carbon (TOC) 30%
- Hydrogen chloride 40%
- Ammonia 40%

(b) valid half-hourly average values or 10-minute averages shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.2.2 (a).

(c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour or 10 minute period, the half-hourly average or 10-minute average shall in any case be considered valid if measurements are available for a minimum of 20 minutes or 7 minutes during the half-hour or 10-minute period respectively. The number of half-hourly or 10-minute averages so validated shall not exceed 5 or 15 respectively per day;

(d) daily average values shall be calculated as follows:

(i) for the daily average values in table S3.1, the average of valid half hourly averages or 10 minute averages over [a calendar day] [consecutive discrete periods of 24 hours as described in the application / agreed with the Environment Agency] 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.

Drafting note: the above condition should be used unless a management plan has been incorporated under condition 2.3.

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. *Drafting Note: This condition is to be used for all installations subject to the industrial Emissions Directive (IED)*

Where the risk is greater than 'bare minimum / acceptable standard' then an increased frequency of appropriate monitoring should be set (i.e. less than 5 years for groundwater and 10 years for soil).

For variation's – check with current site officer / GWCL local officer - where more frequent regimes has previously been set, these should be maintained / repeated, rather than setting 5 years for groundwater and 10 years for soil by default – which could relax the previous requirement. Consult with GWCL over suitable frequencies.

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 emission from [point x] shall not exceed [Y] odour units.

Drafting note: condition 3.3.2 should only be used in exceptional circumstances. Advice from specialist staff must be sought in such cases.

3.4.3 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to 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.

Drafting note: the above condition should be used unless a management plan has been incorporated under condition 2.3.

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.

For intensive farm Part A installations, a noise management plan is required if the site is within 400m of a sensitive receptor.

OR

3.5.2 The [rating] level of noise emitted from the site [during normal operations/annual shut down and maintenance] shall not exceed [X] dB, expressed as an LAeq, T, between [hhmm] and [hhmm] Monday to Friday and [Y] dB at any other time, as measured or assessed on the [specified boundary/boundaries/location] of the site at [location(s) x, yx, z] on plan reference Y attached to this permit. The locations shall be chosen and the measurements and assessment made according to BS4142:1997.

Drafting note: The condition setting noise levels should only be used in exceptional circumstances and advice from specialist staff should be sought in such cases. If the noise levels condition is used then appropriate monitoring and reporting requirements must be included.

3.5.3 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period

specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

Drafting note: the above condition should be used unless a management plan has been incorporated under condition 2.3.

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) (Drafting note: where the IED Chapter IV applies and abnormal operating conditions are set), S3.2 and S3.3;

(b) surface water or groundwater specified in table S3.5;

(c) noise specified in table S3.6;

(d) ambient air monitoring specified in table S3.7;

(e) process monitoring specified in table S3.8;

(f) land specified in table S3.9

(g) residue quality in table S3.10

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.

Drafting note: The above conditions should only be used where we require self-monitoring and for non-landfill activities. The table titles and numbers may change for different types of regulated facility. The conditions may need to be re-numbered.

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

Drafting note: If agreeing to some other standard whilst the operator develops MCERTS accreditation then an improvement condition shall be included which either sets clear deadlines for MCERTS accreditation to be achieved or proposes a timetable for achieving the standard.

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), S3.2 [,S3.3 etc] 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.

Drafting note: the above condition should be used where pests are a key issue, (for example for Intensive Farming, haz non-haz landfill, Biowaste activities), unless a pests management plan has been incorporated under condition 2.3.

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.

Drafting Note: Use this condition for all activities that include storage of combustible waste, regardless of whether a fire prevention plan has been approved or not.

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3.8.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;

(b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

Drafting Note: Use this condition for all activities that include storage of combustible waste unless a fire prevention plan has been incorporated into table S1.2 under the operating techniques condition. If a fire prevention plan has been approved, reference it in table S1.2, include the operating techniques condition and also include condition 3.7.1 above.

Drafting Note: For variations of sites storing combustible wastes, subject to the guidance above, you must add both conditions. This is required even if the variation itself doesn't increase the fire risk.

4 Information

4.1 Records

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

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

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

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

4.2 Reporting

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

4.2.2 For the following activities referenced in schedule 1, table S1.1 (AR1 to AR4 etc.) 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.

Drafting note: use 4.2.6 for installations that require a solvent management plan to be submitted annually to comply with the Solvent Emissions Directive. Only to be used for installations not subject to Industrial Emissions Directive under transitional arrangements.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

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

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

Condition 4.3.3 is optional for storm and, in an emergency, water discharge activities and for these activities would only be used in exceptional circumstances where we require monitoring in the permit at the time of issue. The condition should be used for all other types of activities.

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

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

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

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

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

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

Drafting note: the third part of condition 4.3.4 should be used unless it is clear that the regulated facility would never be operated by a group of individuals.

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.

Drafting note: where the regulated activities include a mining waste operation, the above condition should start with the text “For the following activities referenced in schedule 1, table S1.1 (A1 to A4 etc)” to ensure that the condition does not apply to the mining waste operation, which will have its own change notification condition.

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

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

(a) a decision by the Secretary of State not to re-certify the agreement;

(b) a decision by either the operator or the Secretary of State to terminate the agreement; and

(c) any subsequent decision by the Secretary of State to re-certify such an agreement.

Drafting note: Unlikely to be required.

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” [or “without delay” use when including the multi operator installations conditions], in which case it may be provided by telephone

Schedule 1 – Operations

Drafting note: The red text in the tables is to provide examples and not requirements. Appropriate site specific information must be used in all tables.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
AR1	S5.1 A1 (a)	The incineration of hazardous waste in a waste incineration plant With a capacity of 10 tonnes per day or more.	From receipt of waste to emission of exhaust gas and disposal of waste arising. Waste types and quantities as specified in Table S2.2 of this permit.
AR2	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 disposal of waste arising. Waste types and quantities as specified in Table S2.2 of this permit.
AR3	S5.1 A1 (c)		*As above*
	Directly Associated Activit(y)(ies)		
AR4	Electricity Generation *If gas engines are used to burn syngas and generate electricity then this will be part of the listed activity and so this DAA will not be required.*	Generation of xxMWe electrical power using a steam turbine from energy recovered from the flue gases.	
AR5	Back up electrical generator *Check if MCPD applies. If it does appropriate limits and monitoring will be required in table S3.1*	For providing emergency electrical power to the plant in the event of supply interruption.	
Activity reference	**Description of activities for waste operations**		**Limits of activities**
AR6	Materials Recycling Facility *Where this was not included within the installation definition in IED.*	*Insert description along with D / R codes*	From receipt of waste to despatch or recovered materials and disposal of waste arising. Waste types and quantities as specified in Table S2.3 of this permit.
AR7	Hazardous Waste Transfer Station *Where this was not included within the installation definition in IED.*	*Insert description along with D / R codes*	From receipt of waste to despatch or recovered materials and disposal of waste arising. Waste types and quantities as specified in Table S2.3 of this permit.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
AR8	Small Waste Incineration Plant (SWIP) *Could be a DAA on some installations.*		

Drafting note: All activities described in Schedule 1 of the EP Regulations (including Part B or A2 activities) should be included in the 1st section, even if they have a DAA relationship to the primary activities; only unlisted activities should be included in the "Directly Associated Activity" section. Unlisted DAAs which are obviously intrinsic to the listed activity (e.g. raw material storage, handling and pre-treatment or product storage and container filling) can be used to define the limits of the specified activity rather than being individually reproduced in the "Directly Associated Activity" section. The "Limits" column can also be used to exclude from the installation associated activities which do not meet the criteria for being "directly associated activities"; refer to RGN2 "Understanding the meaning of regulated facility".

All waste operations should be described using the appropriate "D" and "R" codes from Annexes I and II to Directive 2008/98/EC of the European Parliament and the Council on waste.

Drafting note: Where the installation includes a s5.1 Activity which is subject to Chapter IV of IED (and is therefore an Incineration or Co Incineration Plant), the definition of the Activity listed in Schedule 1 of the EP Regs includes waste reception, storage, on-site pre-treatment facilities, waste and fuel and air supply systems, boiler, facilities for the treatment of exhaust gases and on-site facilities for treatment or storage of residues and waste water. These activities are therefore not to be listed as separate Schedule 1 activities or directly associated activities. However, seek further advice if a front end MRFprocess is indicated to be able to operate independently of the thermal treatment process or its input capacity is significantly in excess of the thermal treatment process capacity.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	*See drafting note below*	Duly Made Date
Response to Schedule 5 Notice dated DD/MM/YY	*See drafting note below*	DD/MM/YY
Additional information	*See drafting note below*	DD/MM/YY
Environment Agency Standard Rules	*Include reference to standard rules set where appropriate.*	

[Drafting Note: Where IED Chapter IV applies to an installation, the sections of the application referred to must cover as a minimum the sections in which the following items are described or defined:

- *the incineration capacity*
- *for hazardous waste description of each waste type (mass flow, CV & composition)*
- *the waste feed cessation system*
- *start-up and shut-down*
- *temperature monitoring in the combustion chamber*
- *energy recovery from the installation*
- *temperature, oxygen, water vapour and pressure at Air Release sampling points*
- *where infectious clinical waste is burned on the installation, the arrangements for feeding such waste to the [incinerator][combustion plant][cement kiln][lime kiln] without mixing with other classes of waste*
- *for incinerators, alternative arrangements for CO, TOC and dust monitoring to make use of the relevant IED abnormal operation condition during CEM failure*

- *Continuous measurement of flow, pH and temperature at the discharge points to sewer]*

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	The following list of improvement conditions can be selected from depending on the specific circumstances of each application. *The timescales can be amended to be site specific after discussion with applicant and area compliance officer at draft permit review stage* *A full list of recommended improvement conditions is available in the decision document template – these should be selected and amended as appropriate and the reasons for them justified within the decision document.*	
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. *Drafting note : Only include if the applicant has stated that they will be seeking to certify their EMS*	Within 12 months of the completion of commissioning.
IC2	The Operator shall submit a written proposal to the Environment Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point [A1], identifying the fractions within the PM_{10}, and $PM_{2.5}$ ranges. On receipt of written approval from the Environment Agency to the proposal and the timetable, the Operator shall carry out the tests and submit to the Environment Agency a report on the results.	Within 6 months of the completion of commissioning.
IC3	The Operator shall submit a written report to the Environment Agency on the commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the facility against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions and confirm that the Environmental Management System (EMS) has been updated accordingly.	Within 4 months of the completion of commissioning.
IC4	The operator shall notify the Environment Agency of the proposed date(s) that validation testing is planned for.	Notification at least 3 weeks prior to validation testing
	During commissioning the operator shall carry out validation testing to validate the residence time, minimum temperature and oxygen content of the gases in the furnace whilst operating under normal load and most unfavourable operating conditions. The validation shall be to the methodology as approved through pre-operational condition PO7.	Validation tests completed before the end of commissioning
	The operator shall submit a written report to the Environment Agency on the validation of residence time, oxygen and temperature whilst operating under normal load, minimum turn down and overload conditions.	Report submitted within 2 months of the completion of commissioning.

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	The report shall identify the process controls used to ensure residence time and temperature requirements are complied with during operation of the incineration plant	
IC6	The Operator shall submit a written report to the Environment Agency describing the performance and optimisation of: • The [lime/sodium bicarbonate] injection system for minimisation of acid gas emissions • The carbon injection system for minimisation of dioxin and heavy metal emissions. • The Selective Non Catalytic Reduction (SNCR) system and combustion settings to minimise oxides of nitrogen (NOx). The report shall include an initial assessment of the level of NOx, N_2O and NH_3 emissions that can be achieved under optimum operating conditions.	Within 4 months of the completion of commissioning.
	Drafting note: Include this part of the IC unless an ELV of 100 mg/m^3 for daily average NOx has already been set in Table 3.1. The operator shall carry out a further assessment of the performance of the SNCR system and submit a written report to the Environment Agency on the feasibility of complying with an emission limit value (ELV) for NOx of 100 mg/Nm^3 as a daily average, including a description of any relevant cross-media effects identified. If an ELV for NOx of 100 mg/Nm^3 as a daily average is determined not to be feasible, the report shall propose an alternative ELV which would provide an equivalent level of NOx reduction on a long-term basis such as an annual mass emission limit or percentile-based ELV.	Within 12 months of the completion of commissioning
IC7	The Operator shall carry out an assessment of the impact of emissions to air of *[all]* the *[following]* component metals subject to emission limit values: Cd, Tl, Hg, Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V *(only include those metals which do not screen out at step 1 in section 5.2.3 of the DD).* A report on the assessment shall be made to the Environment Agency. Emissions monitoring data obtained during the first year of operation shall be used to compare the actual emissions with those assumed in the impact assessment submitted with the Application. An assessment shall be made of the impact of each metal against the relevant ES. In the event that the assessment shows that an environmental standard can be exceeded, the report shall include proposals for further investigative work.	15 months from the completion of commissioning
IC8	The Operator shall submit a written summary report to the Environment Agency to confirm that the performance of Continuous Emission Monitors for parameters as specified in Table S3.1 and Table S3.1(a) complies with the requirements of EN 14181, specifically the requirements of QAL1, QAL2 and QAL3. The report shall include the results of calibration and verification testing,	Initial calibration report to be submitted to the Agency within 3 months of completion of commissioning.

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
		Full summary evidence compliance report to be submitted within 18 months of completion of commissioning.
IC9	The operator shall submit to the Environment Agency for approval a plan for implementing the [cogeneration/CHP/district heating] scheme identified in the cost benefit analysis (dated dd/mm/yy). The plan shall include as a minimum: • A timescale for implementation • A description of any dependencies or further approvals required • A description of any changes that will need to be made to the plant • Whether there will be any operational changes which could affect the environmental impact of the installation [such as a reduction in stack temperature] *Drafting Note: include any relevant factors according to the technical description of how heat will be supplied from the installation; where the proposal is to extract steam from the turbine, this is unlikely to have any environmental impact but this bullet should still be included for completeness.* • Consideration of whether a permit variation will be required If required to do so by the Environment Agency they shall implement the plan in accordance with the Environment Agency's written approval. *Drafting Note: this condition is for use when the applicant had carried out a cost benefit analysis for CHP and has proposed to implement the CHP scheme. Site specific wording will be required. Please seek expert advice before using this condition.*	ddd/mm/yy *Drafting note [Consider whether this condition need to be an improvement condition or a pre-operational condition – Seek advice]*
IC10	During commissioning, the operator shall carry out tests to demonstrate whether the furnace combustion air will ensure that negative pressure is achieved throughout the reception hall. The tests shall demonstrate whether air is pulled through the reception hall and bunker area and into the furnace with dead spots minimised. *Drafting note: Inset the following text if alternative extraction is to be used during shut-down periods:* [The operator shall also carry out tests of methods used to maintain negative pressure during shut-down periods to ensure that adequate extraction will be achieved]. The operator shall submit a report to the Environment Agency, for approval, summarising the findings along with any proposed improvements if required	Within 3 months of completion of commissioning.
IC11	The operator shall carry out a programme of dioxin and dioxin like PCB monitoring over a period and frequency agreed with the Environment Agency. The operator shall submit a report to the Environment Agency with an analysis of whether dioxin emissions can be considered to be stable.	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency
IC12	The operator shall carry out a programme of mercury monitoring over a period and frequency agreed with the Environment Agency. The operator shall submit a report to the Environment Agency with an analysis of whether the waste feed to the plant can be proven to have a low and stable mercury content.	Within 3 months of completion of commissioning or as agreed in writing with the Environment Agency

Drafting note: Table S1.3 should only be used when improvement condition(s) are being set. If the table is not used it should be deleted completely.

! Important Follow the 'Improvement conditions' section of OI 233_08 before drafting improvement condition(s), which gives advice on:

- when to set improvement condition(s)
- the wording to use
- agreement with Area on:
  - the condition wording; and
  - whether submissions under the condition will be chargeable, (1st October 2018 onwards)
- notifying the operator of the above.

The condition(s) need to be clear, proportionate and consistent with requirements set on other sites. Explain the decision and reasoning for use of the condition(s) in the Decision Document.

Table S1.4A Pre-operational measures	
Reference	**Pre-operational measures**
	The following list of pre-operational conditions can be selected from depending on the specific circumstances of each application. *The timescales can be amended to be site specific after discussion with applicant and area compliance officer at draft permit review stage* *A full list of recommended pre-operational conditions is available in the decision document template – these should be selected and amended as appropriate and the reasons for them justified within the decision document.*
PO1	Prior to the commencement of commissioning, the Operator shall send a summary of the site Environment Management System (EMS) to the Environment Agency and obtain the Environment Agency's written approval to the EMS summary. The summary shall include a copy of the full other than normal operating conditions (OTNOC) management plan which shall be prepared in accordance with BAT 18 of the BAT conclusions and include: • a list of potential OTNOC situations that are considered to be abnormal operation under the definition in Schedule 6 of this permit. • a definition of start-up and shut-down conditions having regard to any Environment Agency guidance on start-up and shut-down. • any updates on the design of critical equipment to minimise OTNOC since the permit application The Operator shall make available for inspection all documents and procedures which form part of the EMS. The EMS shall be developed in line with the requirements set out in Environment Agency web guide on developing a management system for environmental permits (found on www.gov.uk) and BAT 1 of the incineration BAT conclusions. The EMS shall include the approved OTNOC management plan. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.
PO2	Prior to the commencement of commissioning, the Operator shall send a report to the Environment Agency, and obtain the Environment Agency's written approval to it, which will contain a comprehensive review of the options available for utilising the heat generated, including operating as CHP or supplying district heating, by the waste incineration process in order to ensure that it is recovered as far as practicable. The review shall detail any identified proposals for improving the recovery and utilisation of heat and shall provide a timetable for their implementation. *<Not Needed if Applicant is implementing a CHP scheme.>*

Table S1.4A Pre-operational measures	
Reference	**Pre-operational measures**
PO3	Prior to the commencement of commissioning, the Operator shall submit to the Environment Agency, and obtain the Environment Agency's written approval to it, a protocol for the sampling and testing of incinerator bottom ash for the purposes of assessing its hazard status. Sampling and testing shall be carried out in accordance with the protocol as approved.
PO4	Prior to the commencement of commissioning, the Operator shall submit to the Environment Agency, and obtain the Environment Agency's written approval to it, a written commissioning plan, including timelines for completion, for approval by the Environment Agency. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.
PO5	Prior to the commencement of commissioning, the Operator shall submit a written report to the Agency, and obtain the Environment Agency's written approval to it, detailing the waste acceptance procedure to be used at the site. The waste acceptance procedure shall include the process and systems by which wastes unsuitable for incineration at the site will be controlled. The procedure shall be implemented in accordance with the written approval from the Agency. [drafting note: use this pre-app unless details were provided in the application]
PO6	No later than one month after the final design of the furnace *(drafting note: we can be flexible on the timescale please seek advice if required)* and combustion chamber, the operator shall submit a written report to the Environment Agency, and obtain the Environment Agency's written approval to it, of the details of the computational fluid dynamic (CFD) modelling. The report shall explain how the furnace has been designed to comply with the residence time and temperature requirements as defined by Chapter IV and Annex VI of the IED whilst operating under normal load and the most unfavourable operating conditions (including minimum turn down and overload conditions), and that the design includes sufficient monitoring ports to support subsequent validation of these requirements during commissioning.
PO7	Prior to the commencement of commissioning, the Operator shall submit a report, and obtain the Environment Agency's written approval to it, on the baseline conditions of soil and groundwater at the installation. The report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for in Article 22(3) of the IED. The report shall contain information, supplementary to that already provided in application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.
PO8	At least three months before (or other date agreed in writing with the Environment Agency) the commencement of commissioning, the Operator shall submit a written report to the Environment Agency, and obtain the Environment Agency's written approval to it, specifying arrangements for continuous and periodic monitoring of emissions to air to comply with Environment Agency guidance notes M1, M2 and M20. The report shall include the following: • Plant and equipment details, including accreditation to MCERTS • Methods and standards for sampling and analysis • Details of monitoring locations, access and working platforms
PO9	At least 3 months before the commencement of commissioning (or other date agreed in writing with the Environment Agency) the Operator shall submit, for approval by the Environment Agency, a methodology (having regard to Technical Report P4-100/TR Part 2 Validation of Combustion Conditions) to verify the residence time, minimum temperature and oxygen content of the gases in the furnace whilst operating under normal load, minimum turn down and overload conditions.

Drafting note: Tables S1.4a and 1.4b should only be used when pre-operational condition(s) are being set. If the tables are not used they should be deleted completely.

! Important Follow the 'Pre-operational conditions' section of OI 233_08 before drafting pre-operational condition(s), which gives advice on:

- when to set pre-operational condition(s)
- the wording to use
- agreement with Area on:
  - the condition wording; and
  - whether submissions under the condition will be chargeable, (1st October 2018 onwards)
- notifying the operator of the above.

The condition(s) need to be clear, proportionate and consistent with requirements set on other sites. Explain the decision and reasoning for use of the condition(s) in the Decision Document.

Table S1.4B Pre-operational measures for future development		
Reference	**Operation**	**Pre-operational measures**
1	Tank Farm B	The operator shall submit a report demonstrating that all bulk liquid storage tanks, pipelines and secondary containment in Tank Farm B have been leak-tested at least 4 weeks before the start of operations.

Schedule 2 – Waste types, raw materials and fuels

Drafting note Table S2.1. Iif no conditions are to be set delete all blue text, insert " –" in the first blank row and delete all subsequent rows. Note fuels could include some former wastes where the 'end of waste' test has been satisfied. These should be recorded in table S2.1 rather than table S2.2.

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

Table 2.2 Drafting Note: For waste types use the List of Wastes (England) Regulations 2005 or List of Wastes (Wales) Regulations 2005. Use only the 6 digit codes (including the asterisk as appropriate for hazardous waste). Where it is necessary to restrict the waste types for a specific activity, a reference to the relevant table of wastes should be included in the last column of table S1.1 "Limits of specified activity".

Table S2.2 Permitted waste types and quantities for [Drafting Note: specify activity e.g. incineration / pyrolysis / gasification] plant	
Maximum quantity	**[x] tonnes per year** **Drafting Note: Specify the permitted plant capacity. See introductory note for explanation** **Specify any other restrictions on quantities as required. For hazardous waste this should include any limits on throughputs, calorific values and pollutant compositions.**
Waste code	**Description**
	These should be described in the application – each entry in the application will need to be assessed for its suitability and set out here.

Table S2.3 Permitted waste types and quantities for [Drafting Note: specify activity e.g. MRF, waste transfer station] plant	
Maximum quantity	Drafting Note: specify any necessary restriction on quantities
Waste code	**Description**
	These should be described in the application – each entry in the application will need to be assessed for its suitability and set out here.

Schedule 3 – Emissions and monitoring

Drafting note: all point source emissions have to be identified in tables S3.1, S3.2 and S3.3. Emission limits must be set where necessary. Those point sources for which an emission limit is not set are treated as emissions of substances not controlled by emission limits. This category of point sources can be identified collectively rather than by individual references. For emission points reference & location, use the site plan in schedule 7, or plan submitted by the Operator or grid reference.

Drafting note: there is nothing to stop you grouping emission points within the table e.g. incineration plant, boiler etc.

Drafting note: the applicable monitoring standards are listed in TGN M2. Please ensure that the most up-to-date standard is cited in the tables below.

Use the 1st version of table S3.1 for incineration plants and delete 2nd and 3rd versions

For co-incinerators with ½ hourly average emission limits use the 2nd (starts on page 39) version and delete 1st and 3rd versions

For co-incinerators without ½ hourly average emission limits use the 3rd version (starts on page 47) and delete 1st and 2nd versions

1st Version

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1	Particulate matter		30 mg/m^3	½-hr average	Continuous	EN 14181
A1	Particulate matter		*For plants with bag filter. Seek advice for plants without bag filters* 5 mg/m^3	daily average	Continuous	EN 14181
A1	Total Organic Carbon (TOC)		20 mg/m^3	½-hr average	Continuous	EN 14181
A1	Total Organic Carbon		10 mg/m^3	daily average	Continuous	EN 14181

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
	(TOC)					
A1	Hydrogen chloride		60 mg/m^3	½-hr average	Continuous	EN 14181
A1	Hydrogen chloride		6 mg/m^3 *Lower limit may be applicable for wet scrubber – seek advice*	daily average	Continuous	EN 14181
A1	Hydrogen fluoride		4 mg/m^3	½-hr average	Continuous *(This may be replaced by periodic monitoring if HCl emissions are sufficiently stable- Seek advice on this)*	EN 14181
A1	Hydrogen fluoride		1 mg/m^3	daily average	Continuous *(See Drafting Note above)*	EN 14181
A1	Hydrogen fluoride		1 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually *(Drafting Note: Include if HF CEMs monitoring is not required)*	CEN TS 17340 [BS ISO 15713 can be used until 01/03/22]
A1	Carbon monoxide		a) 100 mg/m^3 or b) 150 mg/m^3 *Drafting note: select either option a) or b) in this cell and the same option in the cell to the right.*	a) ½-hr average or b) 95% of all 10-minute averages in [any 24-hour period] [a calendar day] *drafting note: IED nominally requires any 24 hour period but we*	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)**
				will accept over a calendar day also		
A1	Carbon monoxide		50 mg/m^3	daily average	Continuous	EN 14181
A1	Sulphur dioxide		200 mg/m^3	½-hr average	Continuous *(Drafting Note: Omit If the Operator has shown that SO_2 emissions cannot exceed the ELVs)*	EN 14181
A1	Sulphur dioxide		30 mg/m^3 *Lower limit may be applicable for wet scrubber – seek advice*	daily average	Continuous *(See Drafting Note above)*	EN 14181
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		400 mg/m^3	½-hr average	Continuous	EN 14181
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		120 mg/m^3 *Lower limit could be applicable if using SCR abatement– seek advice*	daily average	Continuous	EN 14181
A1	Cadmium & thallium and their compounds (total)		0.02 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually	EN 14385
Drafting note: for mercury, select either the row based on periodic limit of 0.02 mg/m3 or the row with the long term limit of 0.01 mg/m3 based on what the applicant has proposed in the application. The continuous monitoring row must be included in all cases. For hazardous waste plants and clinical waste plants we may require continuous monitoring to be mandatory and wording is next 3 rows will need amending – seek expert advice in this situation.						

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	Mercury and its compounds		0.02 mg/m^3 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	Quarterly in first year and accelerated monitoring at frequency agreed through IC 12. Then Bi-annually. Not required if continuous monitoring has been specified by the Environment Agency	EN 13211
A1	Mercury and its compounds		0.01 mg/m^3 Limit does not apply if continuous monitoring has been specified by the Environment Agency	Value over sampling period of 2 to 4 weeks	Monthly and accelerated monitoring at frequency agreed through IC 12. Then Bi-annually. Not required if continuous monitoring has been specified by the Environment Agency	CEN TS 17286
A1	Mercury and its compounds		0.02 mg/m^3	Continuous	Not required unless continuous monitoring has been specified by the Environment Agency after completion of IC12 or if specified by the Environment Agency in line with sampling protocol	EN 14181
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)		0.3 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually	EN 14385

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	Exhaust gas temperature		No limit set	-	Continuous	Traceable to national standards
A1	Exhaust gas pressure		No limit set	-	Continuous	Traceable to national standards
A1	Exhaust gas flow		No limit set	-	Continuous	BS EN 16911-2
A1	Exhaust gas oxygen content		No limit set	-	Continuous	EN 14181
A1	Exhaust gas water vapour content *(unless gas is dried before analysis of emissions)*		No limit set	-	Continuous	EN 14181
A1	Ammonia (NH_3)		10 mg/m^3 *Lower limit could be applicable if using SCR abatement– seek advice*	daily average	Continuous	EN 14181
A1	Nitrous oxide (N_2O) *for fluidised bed or if SNCR is used with urea*		No limit set	Average of three consecutive measurements of at least 30 minutes each *Or* ½-hr average and / or daily average (*where CEM is proposed in application).*	Annually *Or* Continuous *(where CEM is proposed in application).*	EN 14181 *(where CEM is proposed in application)* *Or* EN ISO 21258 .
A1	Carbon dioxide		No limit set	Continuous	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	Dioxins / furans (I-TEQ)		0.04 ng/m^3 or 0.06 ng/m^3 if long term limit is specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	EN 1948 Parts 1, 2 and 3 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol
Drafting note : either set the limit above for dioxins or the one below for dioxins and dioxin like PCBs – if setting the limit below we might also need to set the dioxin IED annex VI limit, seek advice before doing this. The 2nd row below for dioxin like PCB monitoring should be included in all cases						
A1	Dioxins and Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		0.06 ng/m^3 or 0.08 ng/m^3 if long term limit is specified by the Environment Agency after completion of IC11	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment	EN 1948 Parts 1, 2 and 4 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or

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)**
			or specified by the Environment Agency in line with sampling protocol		Agency in line with sampling protocol	specified by the Environment Agency in line with sampling protocol
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol No monitoring is required if emissions have been shown to be below 0.01 ng/m^3 as agreed with the Environment Agency.	EN 1948 Parts 1, 2 and 4 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol
A1	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then 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	Polybrominated dibenzo-dioxins and furans		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annually *Drafting note: Monitoring is only required if wastes containing brominated flame retardants or for plants using continuous bromine injection as in BAT C 31 d*	Method based on procedural requirements of EN 1948
A1	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year then annually	BS ISO 11338 Parts 1 and 2.
A2	Carbon monoxide	Back-up electrical generator	No limit set		First measurement within 4 months of first operation and then every 3 years *Drafting note: Amend this row as required in line with MCPD requirements*	

2nd Version

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1	Particulate matter		45 mg/m^3	½-hr average	Continuous	EN 14181
A1	Particulate matter		*For plants with bag filter. Seek advice for plants without bag filters* 7.5 mg/m^3	daily average	Continuous	EN 14181
A1	Total Organic Carbon (TOC)		30 mg/m^3	½-hr average	Continuous	EN 14181
A1	Total Organic Carbon (TOC)		15 mg/m^3	daily average	Continuous	EN 14181
A1	Hydrogen chloride		90 mg/m^3	½-hr average	Continuous *(Drafting Note: Omit If the Operator has shown that HCl emissions cannot exceed the ELVs)*	EN 14181
A1	Hydrogen chloride		9 mg/m^3 *Lower limit may be applicable for wet*	daily average	Continuous *(See Drafting Note above)*	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)**
			scrubber – seek advice			
A1	Hydrogen fluoride		6 mg/m^3	½-hr average	Continuous *(This may be replaced by periodic monitoring if HCl emissions are sufficiently stable- Seek advice on this)*	EN 14181
A1	Hydrogen fluoride		1.5 mg/m^3	daily average	Continuous *(See Drafting Note above)*	EN 14181
A1	Hydrogen fluoride		1.5 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually *(Drafting Note: Include if HF CEMs monitoring is not required)*	CEN TS 17340 [BS ISO 15713 can be used until 01/03/22]
A1	Carbon monoxide		a) 150 mg/m^3 or b) 225 mg/m^3 *Drafting note: select either option a) or b) in this cell and the same option in the cell to the right.*	a) ½-hr average or b) 95% of all 10-minute averages in [any 24-hour period] [a calendar day] *drafting note: IED nominally requires any 24 hour period but we will accept over a calendar day also*	Continuous	EN 14181
A1	Carbon monoxide		75 mg/m^3	daily average	Continuous	EN 14181
A1	Sulphur dioxide		300 mg/m^3	½-hr average	Continuous *(Drafting Note: Omit If the Operator has shown that SO_2 emissions cannot exceed the ELVs)*	EN 14181

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1	Sulphur dioxide		45 mg/m^3 *Lower limit may be applicable for wet scrubber – seek advice*	daily average	Continuous *(See Drafting Note above)*	EN 14181
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		600 mg/m^3	½-hr average	Continuous	EN 14181
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		180 mg/m^3 *Lower limit could be applicable if using SCR abatement– seek advice*	daily average	Continuous	EN 14181
A1	Cadmium & thallium and their compounds (total)		0.03 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually	EN 14385
Drafting note: for mercury, select either the row based on periodic limit of 0.02 mg/m3 or the row with the long term limit of 0.01 mg/m3 based on what the applicant has proposed in the application. The continuous monitoring row must be included in all cases. For hazardous waste plants and clinical waste plants we may require continuous monitoring to be mandatory and wording is next 3 rows will need amending – seek expert advice in this situation.						
A1	Mercury and its compounds		0.03 mg/m^3 Limit does not apply if continuous monitoring has	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year and accelerated monitoring at frequency agreed through IC 12. Then Bi-annually.	EN 13211

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
			been specified by the Environment Agency		Not required if continuous monitoring has been specified by the Environment Agency	
A1	Mercury and its compounds		0.015 mg/m^3 Limit does not apply if continuous monitoring has been specified by the Environment Agency	Value over sampling period of 2 to 4 weeks	Monthly and accelerated monitoring at frequency agreed through IC 12. Then Bi-annually. Not required if continuous monitoring has been specified by the Environment Agency	CEN TS 17286
A1	Mercury and its compounds		0.03 mg/m^3	Continuous	Not required unless continuous monitoring has been specified by the Environment Agency after completion of IC12 or if specified by the Environment Agency in line with sampling protocol	EN 14181
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)		0.45 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually	EN 14385
A1	Exhaust gas temperature		No limit set	-	Continuous	Traceable to national standards
A1	Exhaust gas pressure		No limit set	-	Continuous	Traceable to national standards
A1	Exhaust gas flow		No limit set	-	Continuous	BS EN 16911-2

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1	Exhaust gas oxygen content		No limit set	-	Continuous	EN 14181
A1	Exhaust gas water vapour content *(unless gas is dried before analysis of emissions)*		No limit set	-	Continuous	EN 14181
A1	Ammonia (NH_3)		15 mg/m^3 *Lower limit could be applicable if using SCR abatement– seek advice*	daily average	Continuous	EN 14181
A1	Nitrous oxide (N_2O) *for fluidised bed or if SNCR is used with urea*		No limit set	Average of three consecutive measurements of at least 30 minutes each *Or* ½-hr average and / or daily average (*where CEM is proposed in application).*	Annually *Or* Continuous *(where CEM is proposed in application).*	EN 14181 *(where CEM is proposed in application)* *Or* EN ISO 21258
A1	Carbon dioxide		No limit set	Continuous	Continuous	EN 14181
A1	Dioxins / furans (I-TEQ)		0.06 ng/m^3 or	periodic over minimum 6 hours, maximum 8 hour period	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then 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)**
				or value over sampling period of 2 to 4 weeks for long term sampling	or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol
Drafting note : either set the limit above for dioxins or the one below for dioxins and dioxin like PCBs – if setting the limit below we might also need to set the dioxin IED annex VI limit, seek advice before doing this. The 2nd row below for dioxin like PCB monitoring should be included in all cases						
A1	Dioxins and Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		0.09 ng/m^3 or 0.12 ng/m^3 if long term limit is specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	EN 1948 Parts 1, 2 and 4 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol. No monitoring is required if emissions have been shown to be below 0.01 ng/m^3 as agreed with the Environment Agency.	EN 1948 Parts 1, 2 and 4 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol
A1	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annually	EN 1948 Parts 1, 2 and 3
A1	Polybrominated dibenzo-dioxins and furans		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annually *Drafting note: Monitoring is only required if wastes containing brominated flame retardants or for*	Method based on procedural requirements of EN 1948

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)**
					plants using continuous bromine injection as in BAT C 31 d	
A1	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year then annually	BS ISO 11338 Parts 1 and 2.
A2	Carbon monoxide	Back-up electrical generator	No limit set		First measurement within 4 months of first operation and then every 3 years *Drafting note: Amend this row as required in line with MCPD requirements*	

3rd Version

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1	Particulate matter		*For plants with bag filter. Seek advice for plants without bag filters* 7.5 mg/m^3	daily average	Continuous	EN 14181
A1	Total Organic Carbon (TOC)		15 mg/m^3	daily average	Continuous	EN 14181

Table S3.1 Point source emissions to air – emission limits and monitoring requirements.						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard(s) or method(s)**
A1	Hydrogen chloride		9 mg/m^3 *Lower limit may be applicable for wet scrubber – seek advice*	daily average	Continuous *(See Drafting Note above)*	EN 14181
A1	Hydrogen fluoride		1.5 mg/m^3	daily average	Continuous *(See Drafting Note above)*	EN 14181
A1	Hydrogen fluoride		1.5 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually *(Drafting Note: Include if HF CEMs monitoring is not required)*	CEN TS 17340 [BS ISO 15713 can be used until 01/03/22]
A1	Carbon monoxide		75 mg/m^3	daily average	Continuous	EN 14181
A1	Sulphur dioxide		45 mg/m^3 *Lower limit may be applicable for wet scrubber – seek advice*	daily average	Continuous *(See Drafting Note above)*	EN 14181
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)		180 mg/m^3 *Lower limit could be applicable if using SCR abatement– seek advice*	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	Cadmium & thallium and their compounds (total)		0.03 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually	EN 14385
Drafting note: for mercury, select either the row based on periodic limit of 0.02 mg/m3 or the row with the long term limit of 0.01 mg/m3 based on what the applicant has proposed in the application. The continuous monitoring row must be included in all cases. For hazardous waste plants and clinical waste plants we may require continuous monitoring to be mandatory and wording is next 3 rows will need amending – seek expert advice in this situation.						
A1	Mercury and its compounds		0.03 mg/m^3 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	Quarterly in first year and accelerated monitoring at frequency agreed through IC 12. Then Bi-annually. Not required if continuous monitoring has been specified by the Environment Agency	EN 13211
A1	Mercury and its compounds		0.015 mg/m^3 Limit does not apply if continuous monitoring has been specified by the Environment Agency	Value over sampling period of 2 to 4 weeks	Monthly and accelerated monitoring at frequency agreed through IC 12. Then Bi-annually. Not required if continuous monitoring has been specified by the Environment Agency	CEN TS 17286

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	Mercury and its compounds		0.03 mg/m^3	Continuous	Not required unless continuous monitoring has been specified by the Environment Agency after completion of IC12 or if specified by the Environment Agency in line with sampling protocol	EN 14181
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)		0.45 mg/m^3	Average of three consecutive measurements of at least 30 minutes each	Quarterly in first year. Then Bi-annually	EN 14385
A1	Exhaust gas temperature		No limit set	-	Continuous	Traceable to national standards
A1	Exhaust gas pressure		No limit set	-	Continuous	Traceable to national standards
A1	Exhaust gas flow		No limit set	-	Continuous	BS EN 16911-2
A1	Exhaust gas oxygen content		No limit set	-	Continuous	EN 14181
A1	Exhaust gas water vapour content *(unless gas is dried before analysis of emissions)*		No limit set	-	Continuous	EN 14181
A1	Ammonia (NH_3)		15 mg/m^3 *Lower limit could be applicable if using SCR abatement– seek advice*	daily average	Continuous	EN 14181
A1	Nitrous oxide (N_2O) *for fluidised bed or if SNCR is used with urea*		No limit set	Average of three consecutive measurements of at	Annually	EN 14181 *(where CEM is proposed in application)*

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)**
				least 30 minutes each *Or* ½-hr average and / or daily average (*where CEM is proposed in application).*	*Or* Continuous *(where CEM is proposed in application).*	*Or* EN ISO 21258
A1	Carbon dioxide		No limit set	Continuous	Continuous	EN 14181
A1	Dioxins / furans (I-TEQ)		0.06 ng/m^3 or 0.09 ng/m^3 if long term limit is specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	EN 1948 Parts 1, 2 and 3 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol

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)**
Drafting note : either set the limit above for dioxins or the one below for dioxins and dioxin like PCBs – if setting the limit below we might also need to set the dioxin IED annex VI limit, seek advice before doing this. The 2nd row below for dioxin like PCB monitoring should be included in all cases						
A1	Dioxins and Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		0.09 ng/m^3 or 0.12 ng/m^3 if long term limit is specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	EN 1948 Parts 1, 2 and 4 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol
A1	Dioxin-like PCBs (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period or value over sampling period of 2 to 4 weeks for long term sampling	Monthly for first 6 months and accelerated monitoring as agreed through IC11, quarterly for following 6 months and then bi-annually; or long term monitoring if specified by the Environment Agency after completion of IC11 or specified by the Environment Agency in line with sampling protocol	EN 1948 Parts 1, 2 and 4 or CEN TS 1948-5 if specified by the Environment Agency after completion of IC11 or specified by the

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)**
					No monitoring is required if emissions have been shown to be below 0.01 ng/m^3 as agreed with the Environment Agency.	Environment Agency in line with sampling protocol
A1	Dioxins / furans (WHO-TEQ Humans / Mammals, Fish, Birds)		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annually	EN 1948 Parts 1, 2 and 3
A1	Polybrominated dibenzo-dioxins and furans		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year. Then Bi-annually *Drafting note: Monitoring is only required if wastes containing brominated flame retardants or for plants using continuous bromine injection as in BAT C 31 d*	Method based on procedural requirements of EN 1948
A1	Specific individual poly-cyclic aromatic hydrocarbons (PAHs), as specified in Schedule 6.		No limit set	periodic over minimum 6 hours, maximum 8 hour period	Quarterly in first year then annually	BS ISO 11338 Parts 1 and 2.
A2	Carbon monoxide	Back-up electrical generator	No limit set		First measurement within 4 months of first operation and then every 3 years *Drafting note: Amend this row as required in line with MCPD requirements*	

Table S3.1(a) Point source emissions to air during abnormal operation of incineration plant – emission limits and monitoring requirements						
Emission point ref. & location	**Parameter**	**Source**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1	Particulate matter		[150 mg/m^3] [225 mg/m^3] *for co-incineration plants*	½-hr average	Continuous	EN 14181 during abatement plant failure or alternative surrogate as [specified in the application or as] agreed in writing with the environment agency during failure of the continuous emission monitor *Drafting note: remove text in square brackets if alternative not agreed through the application. In most cases it will be removed*
A1	Total Organic Carbon (TOC)		[20 mg/m^3] 30 mg/m^3 *for co-incineration plants*	½-hr average	Continuous	EN 14181 during abatement plant failure or alternative surrogate as [specified in the application or as] agreed in writing with the environment agency during failure of the continuous emission monitor *Drafting note: remove text in square brackets if alternative not agreed through the application. In most cases it will be removed*
A1	Carbon monoxide		[100 mg/m^3] [150 mg/m^3]*for co-incineration plants* *or where 10 min average is set in table S3.1*	½-hr average	Continuous	EN 14181 during abatement plant failure or alternative surrogate as [specified in the application or as] agreed in writing with the environment agency during failure of the continuous emission monitor

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**
			[150 mg/m^3] [225 mg/m^3] *for co-incineration plants*	95% of all 10-minute averages in [any 24-hour period] [a calendar day]		*Drafting note: remove text in square brackets if alternative not agreed through the application. In most cases it will be removed*

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
W1	Effluent Treatment plant	*Refer to BAT C BAT 34 and Article 46(3) Annex VI part 5 of IED for conditions for discharge to water if there is waste water arising from the cleaning of exhaust gases.* *Seek advice on this section*				
W1	Boiler blowdown	pH	6-9	Instantaneous	Continuous	BS6068-2.50
W1	Surface water	No parameters set	No limit set			

Drafting Note: Delete table if there are no emissions to water and renumber subsequent tables accordingly – cross reference all table numbers with the conditions in main body of the permit to ensure they all properly align.

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
S1	Effluent treatment plant	*Refer to BAT C BAT 34 and Article 46(3) Annex VI part 5 of IED for conditions for discharge to water if there is waste water arising from the cleaning of exhaust gases.*				

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. Unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
		Seek advice on this section				
W1	Boiler blowdown	pH	6-9	Instantaneous	Continuous	BS6068-2.50

Drafting Note: Delete table if there are no emissions to sewer and renumber subsequent tables accordingly – cross reference all table numbers with the conditions in main body of the permit to ensure they all properly align.

Table S3.4 Annual limits		
Substance	**Medium**	**Limit (including unit)**
		It is unlikely that annual limits will be appropriate for (co) incineration plants, if you think this is needed – seek advice.

Drafting Note: Delete table if there are no annual limits and renumber subsequent tables accordingly – cross reference all table numbers with the conditions in main body of the permit to ensure they all properly align.

Table S3.5 Surface water or groundwater monitoring requirements				
Location or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
SW1				

Drafting Note: This condition is intended to monitor the impact of an emission on the receiving water, it is not for monitoring the discharge of surface water run off which should be covered in either tables S3.2 or S3.3. Delete table if not needed and renumber subsequent tables accordingly – cross reference all table numbers with the conditions in main body of the permit to ensure they all properly align.

Table S3.6 Noise monitoring requirements				
Location or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
N1				

Drafting Note: This condition is only required where the second alternative at condition 3.4.1 is used. Delete table if not needed and renumber subsequent tables accordingly – cross reference all table numbers with the conditions in main body of the permit to ensure they all properly align.

Table S3.7 Ambient air monitoring requirements				
Location or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
AA1				

Drafting Note: This condition is only required where off site ambient air monitoring is specified in condition 3.5.1. This should not normally be needed and must be fully justified if required within the decision document. Advice should be sought if planning to use this table. Delete table if not needed and renumber subsequent tables accordingly – cross reference all table numbers with the conditions in main body of the permit to ensure they all properly align.

Table S3.8 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
As identified in the Application	Wind Speed and Direction	Continuous	Anemometer	
Location close to the Combustion Chamber inner wall or as identified and justified in Application.	Temperature (° C)	Continuous	Traceable to national standards	As agreed in writing with the Agency.
Incineration plant	Gross electrical efficiency *(for plants producing electricity using a condensing turbine – this is the usual case for MWIs)*	[Within 6 months of first operation and then] *Drafting note: remove text in brackets for existing plants* within 6 months of any modification that significantly affects energy efficiency	Performance test at full load	25-35% *Drafting note: Seek advice on what limit to set*
Incineration plant	Gross energy efficiency *(for plants producing only heat or electricity and heat using a back pressure turbine)*	[Within 6 months of first operation and then] *Drafting note: remove text in brackets for existing plants* within 6 months of any modification that significantly affects energy efficiency	Performance test at full load	No lower than 72%
Incineration plant	Boiler efficiency*(for hazardous waste or sewage sludge)*	[Within 6 months of first operation and then] *Drafting note: remove text in brackets for existing plants* within 6 months of any modification that significantly affects	Performance test at full load	No lower than 72% *(for hazardous waste other than wood)* No lower than 60% *(for sewage sludge)*

Table S3.8 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
		energy efficiency		

Drafting Note: Table is shown for A1 only but needs to cover all emission points.

Table S3.9 Land monitoring requirements				
Location or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**

Drafting Note: This condition is only required where land monitoring is specified in condition 3.5.1. This should not normally be needed and must be fully justified if required within the decision document. Advice should be sought if planning to use this table. Delete table if not needed and renumber subsequent tables accordingly – cross reference all table numbers with the conditions in main body of the permit to ensure they all properly align.

Table S3.10 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 LOI *Drafting note: select either TOC or LOI and then appropriate limit and monitoring*	<3% *[for TOC]* <5% *[for LOI]*	Monthly in the first year of operation. Then Quarterly	EN 14899 and either EN 13137 or EN 15936 *for TOC* EN 14899 and either EN 15169 or EN 15935 *for LOI*	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'
(Where materials of animal origin (e.g. MBM, tallow, animal parts) are burned.) Bottom Ash	Protein		Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom Ash	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	

Table S3.10 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	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
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'	
Other solid residues *(Note: Specify each residue separately. These residues are those which have been subjected to combustion conditions – e.g. boiler ash. Residues such as tramp metal are not included)*	Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs.		Monthly in the first year of operation. Then Quarterly	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Other solid residues *(Note: Specify each residue separately. These residues are those which have been subjected to combustion conditions – e.g. boiler ash. Residues such as tramp metal are not included)*	Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions		Before use of a new disposal or recycling route	Environment Agency Guidance, 'TGN M4 – Guidelines for Ash Sampling and Analysis'	
Bottom ash, fly ash, [add other residues if applicable such as waste water from gas cleaning] *Drafting note: for plants that incinerate hazardous waste*	Persistent organic pollutants (POPs) if required by BAT 8 of the BAT Conclusions.		Within 6 months of first operation and then after any change that could affect the POP		

Table S3.10 Residue quality					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method ***	**Other specifications**
containing levels of POPs as specified in BAT conclusions BAT 8. Note – please check BAT 8 and seek advice before setting this requirement			content of output streams.		

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

Schedule 4 – Reporting

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

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

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A1, A2, A3, A4, A5	Quarterly	1 Jan, 1 Apr, 1 Jul and 1 Oct
Emissions to water Parameters as required by condition 3.5.1	W1	Quarterly *(if article 8 applies) – otherwise* Annually	1 Jan, 1 Apr, 1 Jul and 1 Oct *or* 1 Jan
Emissions to sewer Parameters as required by condition 3.5.1	S1	Quarterly *(if article 8 applies) – otherwise* Annually	1 Jan, 1 Apr, 1 Jul and 1 Oct *or* 1 Jan
Noise monitoring Parameters as required by condition 3.5.1	Perimeter noise survey at grid reference SK345678	Annually	1 Jan
Ambient air monitoring Parameters as required by condition 3.5.1	DM1	Bi-annually	1 Jan and 1 Jul
Surface water monitoring Parameters as required by condition 3.5.1	SWMP 1 and SWMP2	Bi-annually	1 Jan and 1 Jul
Land monitoring Parameters as required by condition 3.5.1	L1	Bi-annually	1 Jan and 1 Jul
TOC or LOI *select to match monitoring table* Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) and their compounds, dioxins/furans and dioxin-like PCBs Parameters as required by condition 3.5.1	Bottom Ash	Quarterly (but monthly for the first year of operation)	1 Jan, 1 Apr, 1 Jul and 1 Oct
Total soluble fraction and metals (Antimony, Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Bottom Ash	Before use of a new disposal or recycling route	

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

Drafting note : make changes to tables S4.2, S4.3 and S4.4 as required on a site specific basis. For example if there is a front end MRF or other pre-treatment

Table S4.2: Annual production/treatment	
Parameter	**Units**
Total Municipal Waste Incinerated *(Drafting Note: Or other main waste stream incinerated or co-incinerated at the plant – always required)*	tonnes
Total Commercial Waste Incinerated *(Drafting Note: Or other subsidiary waste streams incinerated or co-incinerated at the plant – not required if no subsidiary wastes burned)*	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
Incinerator bottom ash aggregate exported (*Drafting Note: include this if bottom ash treatment is included in this permit}*	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Annual Report as required by condition 4.2.2	Annually	-
Electrical energy exported, imported and used at the installation	Annually	KWh / tonne of waste incinerated
Fuel oil consumption	Annually	Kg / tonne of waste incinerated

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Bottom Ash residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
APC residue	Annually	Route, tonnes and tonnes / tonne of waste incinerated
[Other solid residues]	Annually	Route, tonnes and tonnes / tonne of waste incinerated
[Ammonia / Urea] consumption	Annually	Kg / tonne of waste incinerated
Activated Carbon consumption	Annually	Kg / tonne of waste incinerated
[Lime / Sodium Bicarbonate] consumption	Annually	Kg / tonne of waste incinerated
Water consumption	Annually	Kg / tonne of waste incinerated
Periods of abnormal operation	Annually	No of occasions and cumulative hours for current calendar year for each line.

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Annual report required by condition 4.2.2	Annual performance report template	DD/MM/YY
Air	Forms air [1-9] or other forms as agreed in writing by the Environment Agency	DD/MM/YY
Water and Land	Form water 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Sewer	Form sewer 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Residue quality	Form residue 1 and 2 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

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

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

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

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

Drafting note: these terms must be added to all permits as appropriate. All other sector or activity-specific interpretation terms can be found in the other annexes of conditions and the sector-specific schedules.

Drafting note: other definitions may be added. But this should only be done only where necessary. It is not necessary to define commonly understood terms (eg day or week) or standard technical terms (eg mg m-3)

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

Drafting Note: For incinerators or co-incinerators with ½ hourly ELVs for normal operation us the following:

"abnormal operation" means: any technically unavoidable stoppages, disturbances, or failures of the plant or the measurement devices. Abnormal operation starts as defined in condition 2.3.13 and ends as defined in condition 2.3.14. 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.

Drafting note: only use above definition if condition 3.1.3 used

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

"CEM" Continuous emission monitor

"CEN" means Commité 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].

Drafting note: the above definition should be amended if required to a site specific definition

Daily average emissions limit 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.

Drafting note: only use above definition for chapter 5 installations

"emissions to land" includes emissions to groundwater.

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

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

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

'Hazardous property' has the meaning in Annex lll of the Waste Framework Directive

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

Drafting note: only use above definition if permitted to receive hazardous wastes

"[co] 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

Drafting note: Use for installations subject to the Directive

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

"ISO" means International Standards Organisation.

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

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

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

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

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

"Pests" means Birds, Vermin and Insects.

Drafting note: Use when Pests condition in included in permit.

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

Drafting note: only use above definition if condition 4.2.5 used

"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.

Drafting note: only use above definition for chapter 5 installations

"Solvent Emissions Directive" means Directive 1999/13/EC (as amended by Directive 2004/42/EC) on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations.

Drafting note: only use above definition for installations that are not subject to the Industrial Emissions Directive under transitional provisions

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

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

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

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

Drafting note: use only when setting limits in schedule 2.

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

Drafting note: only use above definition for chapter 5 installations

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:

Drafting note: Only select the relevant condition(s) from (a) to (d) below.

(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) (Where the installation is an incineration plant) in relation to gases from incineration plants other than those burning waste oil, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 11% dry, (Where the installation is a co-incineration plant) in relation to gases from co-incineration plants the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 6% dry

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

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

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

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

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

"year" means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, table 2.2 (or if more than one table state the table references), for that table/those tables (delete as applicable), they have the meaning given below:

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

'heavy metal' means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances

'PCBs' means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight

'transition metals' means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances

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

'solidification' means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste

'partly stabilised wastes' means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan

Drafting note: on the occasions where no site plan is required, all text should be deleted and replaced with the words “No site plan is required under this schedule.”

If this permit includes a standard facility then the following words must be added:

- either at the top of the site plan when the standard facility area and whole site are the same, and the whole site must be edged in green;
- or at the top of a separate plan showing the boundary of the standard facility, edged in green, within the whole site. (The whole site boundary must not also be edged in green on this plan. The whole site boundary must be shown in green on a separate plan.)

This is the plan referred to in the standard rules [number]

If the permit is varied to increase the site boundary then the operator must provide a new site plan to show that boundary.

Drafting note: where emission points have been referenced in Schedule 3, it would be useful to include them on the site plan in this schedule – this is especially important where the description of the emission point in schedule 3 references the site plan in schedule 7.

Drafting note: the following text should be added at the bottom of the plan when the plan has been copied from an Ordnance Survey map. The year needs to match the year of determination.

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END OF PERMIT

Annex to conditions – Derogation under Industrial Emissions Directive

Drafting note: Only use as an informative at the end of the permit where a derogation under Article 15 of the Industrial Emissions Directive has been made to set less strict emission limit values than the relevant sector guidance BAT conclusions

Derogation under Article 15(4) of Industrial Emissions Directive

DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

Operating techniques	We have considered the Operator's proposed techniques and its comparison against other relevant techniques as described in the relevant BAT reference note. Our full reasoning is given in our decision document that accompanies the permit determination. *[identify the key measures proposed by the operator in the application or Regulation 60 notice and show how these compare with the relevant sector guidance BAT conclusions]* The proposed techniques will result in emissions for which the appropriate emission limits are less stringent than those associated with the best available techniques as described in BAT conclusions. We have considered the operators justification for departure from the guidance and accept it in the following respects and for the following reasons; The achievement of emission levels associated with the best available techniques as described in BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to: **(a) the geographical location or the local environmental conditions of the installation concerned; or** **(b) the technical characteristics of the installation concerned.** *[explain reasons]* and have therefore set the following alternative requirements *[identify and explain]*