Environment Agency

Review of an Environmental Permit for an Installation subject to Chapter II of the Industrial Emissions Directive under the Environmental Permitting (England & Wales) Regulations 2016

Decision document recording our decision-making process following review of a permit

The permit number is:	EPR/ZP3438CF
The Operator is:	Fine Environmental Services Limited
The Installation is:	Fine Environmental Services Seal Sands Facility
This Variation Notice number is:	EPR/ZP3438CF/V003

What this document is about

Article 21(3) of the Industrial Emissions Directive (IED) requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on best available techniques (BAT) conclusions.

We have reviewed the permit for this installation against the revised BAT Conclusions for waste incineration published on 3rd December 2019. This is our decision document, which explains the reasoning for the consolidated variation notice that we are issuing. This review has been undertaken with reference to the decision made by the European Commission establishing best available techniques (BAT) conclusions ('BAT conclusions') for incineration as detailed in document reference C(2019) 7987. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position.

As well as reviewing the operators techniques against the BAT conclusions the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issued. It also modernises the entire permit to reflect the conditions contained in our current generic permit template.

The introduction of new template conditions makes the Permit consistent with our current general approach and philosophy and with other permits issued to

installations in this sector. Although the wording of some conditions has changed, while others have been removed because of the new regulatory approach, it does not reduce the level of environmental protection achieved by the permit in any way. In this document we therefore address mainly our determination of substantive issues relating to the new BAT Conclusions.

Throughout this document we will use a number of expressions. These are as referred to in the glossary.

We try to explain our decision as accurately, comprehensively and plainly as possible. We would welcome any feedback as to how we might improve our decision documents in future. The use of technical terms and acronyms are inevitable in a document of this nature: we provide a glossary of acronyms near the front of the document, for ease of reference.

How this document is structured

Contents

1 Glossary of acronyms used in this document

(Please note that this glossary is standard for our decision documents and therefore not all these acronyms are necessarily used in this document.)

APC	Air Pollution Control
BAT	Best Available Technique(s)
BAT-AEEL	BAT Associated Energy Efficiency Level
BAT-AEPL	BAT Associated environmental performance level
BAT-AEL	BAT Associated Emission Level
BATc	BAT conclusion
BREF	Best available techniques reference document
CEM	Continuous emissions monitor
CHP	Combined heat and power
CV	Calorific value
DAA	Directly associated activity – Additional activities necessary to be carried out to allow the principal activity to be carried out
ELV	Emission limit value derived under BAT or an emission limit value set out in IED
EMS	Environmental Management System
EPR	Environmental Permitting (England and Wales) Regulations 2016 (SI 2016 No. 1154)
EWC	European waste catalogue
FSA	Food Standards Agency
IC	Improvement Condition
IED	Industrial Emissions Directive (2010/75/EU)
NOx	Oxides of nitrogen (NO plus NO_2 expressed as NO_2)
PHE	Public Health England
SAC	Special Area of Conservation
SGN	Sector guidance note
TGN	Technical guidance note
TOC	Total Organic Carbon
WFD	Water Framework Directive (2000/60/EC)

2 Our decision

We have decided to issue the consolidated variation notice to the operator. This will allow it to continue to operate the Installation, subject to the conditions in the consolidated variation notice.

We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the varied permit will ensure that a high level of protection is provided for the environment and human health.

The consolidated variation notice contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the Notice, we consider that those conditions are appropriate.

3 How we reached our decision

3.1 Requesting information to demonstrate compliance with BAT Conclusions for incineration Plant

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 08/07/2022 requiring the Operator to provide information to demonstrate how the operation of their installation currently meets, or will subsequently meet, the revised standards described in the incineration BAT Conclusions document. The Notice also required that where the revised standards are not currently met, the operator should provide information that:

- Describes the techniques that will be implemented before 3rd December 2023, which will then ensure that operations meet the revised standard, or
- Justifies why standards will not be met by 3rd December 2023, and confirmation of the date when the operation of those processes will cease within the installation or an explanation of why the revised BAT standard is not applicable to those processes, or
- Justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised standard described in the BAT Conclusions.

Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT AEL) described in the BAT Conclusions Document, the Regulation 61 Notice requested that the Operator make a formal request for derogation from compliance with that AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must

be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

The Regulation 61 Notice response from the Operator was received on 27/01/23 with additional information received on 04/01/23, 27/01/23, 04/04/23, 25/05/23, 23/06/23, 25/07/23, 13/10/23, 24/11/23 and27/11/23.

We consulted on our draft decision from 06/03/24 until 05/04/24. A summary of the consultation responses and how we have taken them into account is shown in Annex 3.

3.2 Review of our own information in respect to the capability of the installation to meet revised standards included in the BAT Conclusions document

Based on our records and previous regulatory activities with the facility we have no reason to consider that the operator will not be able to comply with the conditions that we include in the permit.

In relation to BAT Conclusion 29 we agree with the operator in respect to their current stated capability as recorded in their Regulation 61 Notice response that improvements are required.

4 The legal framework

The consolidated variation notice will be issued under Regulation 20 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that the consolidated variation notice will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

5 The key issues

The key issues arising during this permit review are:

- Ensuring the Installation complies with the BAT conclusions.
- Setting emission limits (including BAT AELs) for emissions to air,
- The energy efficiency levels associated with the Best Available Techniques (BAT-AEELs)

5.1 Ensuring the Installation complies with the BAT conclusions

We have reviewed the operator's response to the regulation 61 notice and we are satisfied that the Installation will meet the requirements of the BAT conclusions by 3rd December 2023 with the exception of BAT 9 and the BAT AEL for oxides of nitrogen as set out in BAT 29.

In relation to BAT Conclusion 9 we have set an improvement condition IC3 in the consolidated variation notice, which requires them to upgrade their operational techniques. The IC also addresses the appropriate measures (see section 6.1 below).

In relation to BAT 29, the operator applied for a time limited derogation. Further information is in section 6 of this decision document.

5.2 Emissions to air and the emission limits applied to the plant

The consolidated permit includes new emission limits for emissions to air, and water. These limits ensure that the installation will comply with the relevant BAT-AELs, as specified in the BAT conclusions, and the relevant limits from IED Annex VI.

A number of general principles were applied during the permit review, including those set out in the UK Waste Incineration BAT Conclusions Interpretation Document . These included:

- The upper value of the BAT-AELs ranges specified were used unless use of the tighter limit was justified.
- The principle of no backsliding where if existing limits in the permit were already tighter than the upper end of the BAT-AEL ranges, the existing permit limits were retained.
- Where a limit was specified in both IED Annex VI and the BAT Conclusions for a particular reference period, the tighter limit was applied and in the majority of cases this was from the BAT Conclusions.

We have set the emissions limit values at the top end of the BAT-AEL range in line with section 4.35 of Defra's Industrial emissions Directive EPR Guidance on Part A installations which states: *Where the BAT AELs are expressed as a range, the ELV should be set on the basis of the top of the relevant BAT-AEL range – that is to say, at the highest associated emission level - unless the installation is demonstrably capable of compliance with a substantially lower ELV, based on the BAT proposed by the operator, or exceptional environmental considerations compel a tighter ELV.*

We are satisfied that environmental considerations do not require tighter ELVs to be set, and the operator has not proposed any lower ELVs, and so we have set the ELVs at the top end of the BAT-AEL ranges.

5.3 Monitoring

The monitoring requirements for mercury and dioxins/furans are dependent on whether the waste has a low and stable mercury content and whether emissions of dioxins are stable respectively. Our interpretation document states that the mercury monitoring protocol does not apply to hazardous waste plants and as such continuous monitoring is mandatory for these plants. Improvement condition IC2 requires the operator to submit information to enable us to require the correct monitoring for dioxins. IC5 requires mercury continuous monitoring to be installed.

6 Review and assessment of derogation requests made by the operator in relation to BAT Conclusions which include an associated emission level (AEL) value

The IED enables a competent authority to allow derogations from BAT AELs stated in BAT Conclusions under specific circumstances as detailed under Article 15(4):

By way of derogation from paragraph 3, and without prejudice to Article 18, the competent authority may, in specific cases, set less strict emission limit values. Such a derogation may apply only where an assessment shows that 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.

6.1 Introduction

Derogation from NOx BAT AEL, from BAT 29 of the Waste Incineration BAT Conclusions

The BAT AEL for existing plants is 180 mg/m^3 as a daily average. This AEL cannot currently be met by the plant. The operator provided monitoring data to demonstrate this. The current ELV in the operator's permit is 400 mg/m^3 as a daily average.

The operator applied for a time limited derogation based on the *technical characteristics.*

The operator identified that selective non catalytic reduction (SNCR) is the only viable option to meet the NOx BAT AEL. Article 50(2) of IED requires this plant to burn waste at a temperature of at least 1,100^{o}C. SNCR will not work at this temperature . The furnace is an induced draft, down-fired, staged thermal oxidiser designed for liquid wastes. There is no provision within the design of the current plant for the temperature of the gases to be reduced to the required temperature following their exit from the thermal oxidiser.

IED allows alternative furnace temperatures to be used, but the rest of the IED chapter IV requirements (including all emission limit values) must be met. A time limited derogation is required for a period of 3 years to enable the operator to carry out trials on running the plant at a lower temperature and then to install SNCR abatement.

6.2 Cost Benefit analysis (CBA)

The operator assessed the following options in a cost benefit analysis:

- Option 0 : Business as usual
- Option 1 : Derogation case of installing SNCR
- Option 2: Replace entire plant to comply with BAT AEL
- Option 3: install SCR and flue gas re-heat system

A quantitative Cost Benefit Assessment was carried out by the operator. They provided detailed costs for the derogation case, the option of a new plant and the option of installing SCR. These costs along with damage costs were used to calculate the net present value (NPV) of each option

Option	Upfront investment cost (£m)	Operating costs (£m)	Net present value (central)	Net present value (lowest NPV under sensitivity testing)
Business as usual	0	15.2		
Option 1 – derogation (SNCR)	1.5	15.2	0	0
Option 2 – BAT AEL (new plant)	25.7	12.8	-102.22	-109.64
Option 3 - SCR	4.9	15.6	-96.71	-98.25

The derogation case (option 1) clearly has the lowest NPV. The significant NPV of building a new plant or of retrofitting SCR show that the they are disproportionally expensive compared to the derogation.

6.3 Impacts

The annual emissions of oxides of nitrogen from the activity are currently 39.7 tonnes and these would reduce to at least 30.6 tonnes if the BAT AEL was met in accordance with the timeline set by the IED.

The operator's proposal will mean that an additional 9.1 tonnes will be emitted per year, a total of 27.3 tonnes over the 3 year derogation period. This is a relatively small amount, being below the pollution inventory reporting threshold of 100 tonnes per year.

Dispersion modelling was previously carried out for emissions to air which included oxides of nitrogen.

The modelling showed that both long term and short term impacts of oxides of nitrogen are insignificant with the process contributions (PC) being less than 1% and 10% respectively of the environmental standards (ES).

Oxides of nitrogen			
Environmental standard (ES) ($\mu g/m^3$)	**Process contribution (PC) ($\mu g/m^3$)**	**PC % of ES**	**Comment**
40 (annual average)	0.3	0.75	Insignificant
200 (hourly average)	5.1	2.6	

The emissions of oxides of nitrogen will not affect any sites of heritage, landscape or nature conservation, and/or protected species or habitat.

Dispersion modelling from 2012 predicted impacts and compared to critical levels as well as critical loads for nitrogen deposition and acid deposition. The modelling showed that all impacts are insignificant with all process contributions being less than 1% of the critical levels and critical loads.

The operator calculated damage costs for the derogation and for complying with the BAT AEL as follows:

Option	**Annual emission of oxides of nitrogen (tonnes)**	**Central Damage costs (£k per year)**
BAT AEL (option 2)	30.6	89.7
Derogation (option 1)	39.7	116.4

6.4 Conclusion

We have decided to allow the derogation for a period of 3 years from the BAT conclusions compliance date. The derogation will end on 3rd December 2026. The current permit limit is 400 mg/m^3 as a daily average, however information provided by the operator showed that they could meet a limit of 360 mg/m3. We have set 360 mg/m^3 (daily average) as the emission limit for the derogation period, the limit from 3rd December 2026 will be the BAT AEL of 180 mg/m^3.

7 Issues not directly relating to the BAT conclusions

7.1 Chemical waste appropriate measures for permitted facilities

The operator does not comply with all of the waste pre-acceptance, acceptance and tracking appropriate measures given in the Chemical waste: appropriate measures for permitted facilities. The operator needs to comply with all of section 3.1, we have therefore set improvement condition IC3 for a pre-acceptance, acceptance and waste tracking plan to be submitted for approval.

The operator currently complies with all the storage segregation and handling appropriate measures given in the Chemical waste: appropriate measures for permitted facilities except for subsection:4.16, 4.17, 4.20 and 4.22.

The operator stated that packaged wastes (wastes in IBCs or drums) will not be received until a computerised waste tracking system is in place that address the following:

4.15	Management of (packaged) wastes such that accumulation is avoided
4.16	Retention of original labels where possible
4.20	Appropriate segregation by reactivity
4.22	Minimum 0.7m between rows of packaged waste
4.23	Movements of wastes to update tracking system at point of transaction
4.28	Condition monitoring of packages
4.70	Use of waste tracking system for the life cycle of the (packaged) wastes
4.86	Use of a designated and signed area for repacking of wastes when needed
4.88	Waste ID retained if new labels or packaging is required.

We have set a pre-operational condition so that packaged wastes cannot be received until the operator is in full compliance with the above.

The following parts of the appropriate measures guidance are not applicable:

- those which relate to laboratory smalls in containers less than 5 litres, asbestos and aerosols, which the site do not store or treat
- the following tests on liquid wastes (ash content, inhibition of biological treatment, cyanide testing)
- the following tests on solid wastes (content of volatile and semi-volatile substances)
- testing of fractions of multiphase wastes
- those relating to HSG76
- those relating to wheeled containers, skips or racking system which the site do not use
- the use of overflow pipes and rotary pumps which the site does not use

7.2 Emissions to water or sewer

The operator carried out a risk assessment following our guidance on gov.uk for emissions to estuaries and coastal waters.

7.2.1 Emissions to sewer
Emissions of effluent from cleaning of exhaust gases is discharged to the adjacent chemical site and then to the Bran Sands waste water treatment plant for treatment and discharge to the Tees.

Pollutants with available monitoring data

Test 1
The following pollutants screened out because the level of pollutant in the discharge is less than the EQS limits:
As, Cd, Cu, Hg, Ni, Pb, Zn.
The following pollutants were taken through to the next tests:
Cr(VI), Pb, Hg, Ni, Zn

Test 2
Not applicable

Tests 3 to 5
Discharge location does not have restricted dilution or dispersion and is not negatively buoyant and then screens out at test 5 (allowable effective volume flux).

Pollutants that could be in the discharge but no monitoring data is available.
No monitoring data was available for the following substances, but the operator stated not screened out or the emissions concentration was estimated to be above the EQS at test 1:
Ammonia, Fluoride, Fe, Sn, V

We have set an improvement condition for the operator to carry out monitoring and provide a risk assessment for these pollutants.

7.2.2 Emissions to water
Emission to sewer is the normal operation for the plant. The current permit includes provision to discharge effluent directly to the Tees estuary. However written agreement from the Environment Agency is required before it can be emitted.
Our view is that discharge directly to water carries a higher risk than discharging via the Bran Sands works. Therefore we have set a pre-operational condition that requires a full risk assessment before W1 can be used.

Emission limits set

The BAT AELs have been set, the operator stated that they could be achieved. BAT AELs for emission to sewer apply at the point the emission leaves the incineration plant. There is no AEL for suspended solids but there is a limit in IED which is based on a mass balance calculation which we have also set in the permit.

7.3 Emergency release valve (ERV)

There is no emergency by-pass.

7.4 Waste codes

The following were removed from the permit at the request of the operator:
13 08 03* other emulsions
Note that this is listed as 13 08 02* in the current waste catalogue

7.5 PFAS

The operator confirmed that they do not take wastes containing PFAS. There is some concern that PFAS waste (primarily fire-fighting foams which contain PFAS) may not be properly destroyed at high temperature incinerators. We have therefore put a restriction in table S2.2 so that such wastes cannot be received.

Annex 1

Decision checklist regarding relevant BAT Conclusions

This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation.

The overall status of compliance with the BAT conclusion is indicated in the table below as
NA - Not Applicable
CC - Currently Compliant
FC - Compliant in the future
NC - Not Compliant

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
1	EMS	Improve overall performance via use of a compliant EMS.	There is an EMS in place that complies with all the points listed in BAT 1	CC
2	Energy efficiency	Determine gross electrical efficiency, gross energy efficiency or boiler efficiency (depending on plant type).	Energy efficiency has not been calculated. This facility does not operate an energy recovery module	NA

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
3	Process Monitoring	Monitor key process parameters for emissions to air and water specified in the corresponding table.	Process monitoring is carried out in line with BAT 3 except for continuous flue gas flow.	FC
4	Air emissions monitoring	Monitor emissions to air with at least the frequency in the corresponding table and in accordance with the EN standards.	Monitoring is carried out in line with BAT 4 requirements	CC
	PBDD/F	Monitor emissions to air of brominated dioxins and furans periodically if waste streams are known to contain brominated flame retardants are burned	PBDD/F monitoring is not required as no waste containing brominated flame retardants are/will be burned. We are requiring this monitoring for hazardous waste plant and as such is set in the permit	CC
	PCDD/F	Monitor emissions to air of dioxins and furans using a continuous sampler unless emissions are sufficiently stable.	PCDD/F emissions have been plotted in a time series and have been shown to meet the stability criteria set out in the monitoring protocol document. Permit contains option for continuous monitoring if emissions are not stable.	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
	Mercury	Monitor emissions to air of mercury using continuous monitoring if required.	Attempts will be made to demonstrate via the Mercury Monitoring Protocol that emissions to air of mercury are low and stable and that a continuous sampler is not required by 03/12/23; if these are unsuccessful, continuous monitoring will be installed as soon as reasonably practical. Our interpretation document states that the monitoring protocol does not apply to hazardous waste plants and as such continuous monitoring is mandatory for these plants. IC set for CEMS to be installed	FC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
5	OTNOC monitoring	Appropriately monitor emissions during OTNOC. Monitor PCCD/F and dioxin-like PCB mass emissions during a planned start-up and shut-down following the successful commissioning of the plant; already-operational plants must carry out this monitoring every 3 years; emissions profiles of continuously monitored pollutants must also be established following successful commissioning and for existing plants; consider further monitoring for plants that use abatement-system bypasses during start-up and/or shut-down.	Plant has been successfully commissioned, or is likely to be before 03/12/23. Emissions profiles of continuously monitored pollutants have been established during start-up and shut-down or will be established by 03/12/23. Monitoring of PCCD/F and dioxin-like PCB mass emissions during a planned start-up and shut-down will be carried within 3 years of 03/12/23.	FC
6	Water emissions monitoring	Monitor emissions from FGC and/or bottom ash treatment. Monitor to frequencies and standards in corresponding table.	Monitoring is carried out in line with BAT 6 requirements for FGC except for monthly TOC measurement which will be in place by 03/12/23	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		Reduced monitoring frequency permitted if emissions can be shown to be sufficiently stable.	Emissions are sufficiently stable based on historic monitoring data and will be monitored at reduced frequency We have included wording in the permit that can allow a lower frequency to be agreed with us.	CC
7	Ash monitoring	Monitor LOI or TOI content of bottom ash to the frequencies and standards in corresponding table	Monitoring carried out for TOC. The solid residues (brick debris) produced by the process are submerged in water and consistently flushed. No discrete bottom ash phase is produced	CC
8	POP monitoring	For hazardous waste containing POPs, monitor POP content of waste streams (applicable to dedicated hazardous waste incinerators only). After commissioning and then after significant change that could affect POP content.	Applicable - necessary POP content determination will be carried out after 03/12/23. POP testing was carried out every quarter for the first two years of operation and every 6 months thereafter. The requirement to re-validate POP output of the process after significant change (such as the addition of a new boiler or turbine) should remain relevant if and when a significant process design change is implemented.	FC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
9	Waste input controls	Pre-acceptance / acceptance procedures. Use all techniques (a) to (c) in corresponding table, and where relevant (d), (e) and (f).	Techniques set out in BAT 9 (a)-(c) will be place by 03/12/23. Techniques (d)-(f) are not relevant as no packaged wastes are received. We do not agree that the techniques are not relevant. We have set improvement condition IC3 to address this which also covered the appropriate measures	FC
10	Bottom ash treatment	Quality output management system part of EMS where bottom ash treatment is carried out.	Not applicable - bottom ash treatment is not carried out.	NA
11	Waste delivery, storage and handling	Monitor waste deliveries in line with corresponding table, depending on the risk posed by the waste type.	Measures in line with BAT 11 are in place	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		Radioactivity detection	Radioactivity detection will be carried out from 03/12/23 due to site-specific reasons as set out as follows: XRF detection of heavy elements has been used to date Not a direct measure of radioactivity and a separate analytical device for radioactivity screening will need to be procured and waste pre-acceptance/acceptance procedures updated.	CC
12		Storage and handling. Use both techniques listed in corresponding table.	Measures in line with BAT 12 are in place	CC
13		Storage and handling of clinical waste. Combination of techniques listed in corresponding table.	Not applicable as clinical waste not received at the installation	NA
14	Overall environment performance	Reduce unburnt substances in slags / bottom ash and reduce emissions. Use a combination of techniques listed in corresponding table	The following measures listed in the table of BAT 14 are used: b	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		BAT-AEPL for TOC or LOI	The installation meets the BAT-AEPL for [TOC or LOI] as shown by historic monitoring data. Solid residues spend their process lives submerged in water.	CC
15		Control plant settings to reduce emissions to air. Use techniques such as an advanced control system.	An advanced control system is in place to achieve the requirements of BAT 15.	CC
16		Procedures to limit shutdown and start-up. Set up and implement procedures such as continuous rather than batch operation	Start-up and shut-down is minimised by planned maintenance intervals which coincide with residue removal	CC
17	Emission to air and water	Design of FGC system and waste water treatment plant. Appropriate design, operated in design range, maintained to ensure optimal availability.	Flue gas system and waste water treatment plant is designed appropriately and is operated within those design parameters	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
18	OTNOC	Reduce frequency of OTNOC by setting up and implementing an OTNOC management plan.	Not applicable The DCS will not allow waste to enter the combustion chamber unless operating conditions are satisfied Thus, there are no periods of OTNOC. Our view is that an OTNOC management plan is still required. OTNOC will cover abatement as well as other operational controls.	FC
19	Energy efficiency	Increase efficiency by using a heat recovery boiler.	A heat recovery boiler is not applicable because a design which meets the operating requirements of a hazardous waste incinerator (time, temperature and turbulence) has yet to be designed	NA
20		Increase efficiency by using a combination of techniques listed in corresponding table.	No energy recovery	NA

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		BAT-AEEL is within the BAT – AEEL range	No energy recovery	NA
21	Diffuse emissions to air	Prevent or reduce diffuse emissions (including odour) using the listed techniques.	Measures in line with BAT 21 are in place. All waste tanks are kept under a 7 to 10mbar nitrogen 'blanket' vac/vent valves are routed to the main process flue	CC
22		Prevent diffuse emissions of VOCs from gaseous and liquid wastes by direct feed to furnace.	Direct feed to the incinerator is only carried out in special cases whereby, due to reactivity or specific waste hazards, it is not suitable to mix wastes in bulk tanks. Pressure-feeding is not a viable option for several reasons: 1. The incinerator inlet is ~15m off the ground and significant pressure would be needed 2. Pressure feed does not offer the same level of DCS control as a pump which can be stopped and started by the operator in the control room 3. The UN-approved packaging and ADR road barrels in use are not pressure rated	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
23		Prevent or reduce diffuse emissions to air from treatment of slags and bottom ashes by including listed measures in the EMS.	Does not apply	NA
24		Prevent or reduce diffuse emissions to air from treatment of slags and bottom ashes. Use one or a combination of techniques in corresponding table	Does not apply	NA
25	Channelled emissions to air	Reduce emissions of metals and metalloids from incineration of waste. Use one or a combination of techniques in corresponding table.	The following measures listed in the table of BAT 25 are used: b, d	CC
		BAT-AELs for dust and metals	The plant is currently able to achieve an emission limit value set at the top end of the BAT-AEL range.	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
26		Reduce emissions of dust from treatment of slags and bottom ashes. Use a bag filter if treating air from treatment of IBA under sub-atmospheric conditions.	Not applicable - bottom ash treatment is not carried out.	NA
		BAT-AEL for dust from IBA treatment. Applies if using a bag filter to treat air from treatment of IBA under sub-atmospheric conditions	Not applicable - bottom ash treatment is not carried out.	NA
27		Reduce emissions of HCl, HF and SO_2 using one or a combination of techniques in corresponding table.	The following measures listed in the table of BAT 27 are used: a	CC
28		Reduce peak emissions of HCl, HF and SO_2 and amount of residue produced, using technique (a) or both techniques in corresponding table.	The following measures listed in the table of BAT 28 are used: None	NA for wet scrubber

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		BAT-AELs for HCl, HF and SO2	The plant is currently able to achieve an emission limit value set at the top end of the BAT-AEL range.	CC
29		Reduce emissions of NOx while limiting emissions of CO, N_2O and NH_3 using appropriate combination of techniques in corresponding table.	The following measures listed in the table of BAT 29 are used: g Technique a - Optimisation of the process is used in this case to minimise the formation of carbon monoxide (CO). The burner set up is configured to produce the most oxidation and destruction efficiency. CO and NOx are in the same list for this BAT. CO is minimised here, not NOx.	CC
		BAT-AELs for NOx, CO and NH_3	Current design is unable to achieve BAT-AEL for NOx applying BAT A derogation from the BAT-AEL for NOx has been requested. See key issues section for further details.	NC
30		Reduce emissions of organic compounds including PCDD/F and PCBs using techniques (a), (b), (c), (d) and one or a combination of techniques (e) to (i) in corresponding table	The following measures listed in the table of BAT 30 are used: b, d See BAT 29 for technique a	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		BAT-AELs for PCDD/F	The plant is currently able to achieve an emission limit value set at the top end of the BAT-AEL range.	CC
31		Reduce mercury emissions using one or a combination of techniques in the corresponding table.	The following measures listed in the table of BAT 31 are used: None The plant can meet the BAT AEL so we are satisfied that appropriate techniques are used.	CC
		BAT-AEL for mercury	The plant is currently able to achieve an emission limit value set at the top end of the BAT-AEL range. Mercury emissions are very low	CC
32	Emissions to water	Reduce contamination of uncontaminated water, reduce emissions to water and increase resource efficiency. Segregate waste water streams and treat them separately.	The measures listed under BAT 32 are used.	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
33	Water usage	Reduce water usage, prevent waste water generation using one or a combination of techniques in the corresponding table	The following measures listed in the table of BAT 33 will be implemented by 03/12/23: C Condensed water (of combustion) can be re-used as quench water saving, during peak operation, up to 10 tonnes per hour of raw water	CC
34	Emissions to water	Reduce emissions to water from FGC and/or from storage and treatment of slags and bottom ashes using one or a combination of techniques in the corresponding table and use secondary techniques as close to source as possible.	The following measures listed in the table of BAT 34 will be implemented by 03/12/23: M There may be a need to invest in filtration of process waste water to help reduce total suspended solids.	CC
		BAT-AELs	The plant is currently able to achieve an emission limit value set at the top end of the BAT-AEL range.	CC
35	Resource efficiency	Resource efficiency. Handle and treat bottom ashes separately from FGC residues.	Bottom ashes are not handled on this site	NA

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
36		Resource efficiency for treatment of slags and bottom ashes. Use appropriate combination of techniques in corresponding table depending on hazardous properties of the slags and bottom ashes.	Not applicable - bottom ash treatment is not carried out.	NA
37	Noise	Reduce noise emissions using one or a combination of techniques in the corresponding table.	The following measures listed in the table of BAT 37 are used: A, E	CC

Annex 2 Summary checklist

Aspect considered	Decision
Receipt of application	
Confidential information	A claim for commercial or industrial confidentiality has not been made.
Identifying confidential information	We have not identified information provided as part of the application that we consider to be confidential. The decision was taken in accordance with our guidance on confidentiality.
Operating techniques	
General operating techniques	We have reviewed the techniques used by the operator where they are relevant to the BAT Conclusions and compared these with the relevant guidance notes. The permit conditions ensure compliance with the relevant BREF, BAT Conclusions. The ELVs deliver compliance with the BAT-AELs.
Permit conditions	
Updating permit conditions during consolidation	We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide at least the same level of protection as those in the previous permit and in some cases will provide a higher level of protection to those in the previous permit.
Changes to the permit conditions due to an Environment Agency initiated variation	We have varied the permit as stated in the variation notice.
Improvement programme	Based on the information on the application, we consider that we need to impose an improvement programme.
Emission limits	We have decided that emission limits should be set for the parameters listed in the permit. These are described in the relevant BAT Conclusions in Section 5 of this document.

Aspect considered	Decision
	It is considered that the ELVs/equivalent parameters or technical measures described above will ensure that significant pollution of the environment is prevented and a high level of protection for the environment is secured.
Monitoring	We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. These are described in the relevant BAT Conclusions in Section 5 of this document.
Operator competence	
Management system	There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit. Paragraph 1.3 of the guidance says: "The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation." We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections. We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Annex 3 Consultation on the Draft Decision

This section reports on the outcome of the public consultation on our draft decision.

We received two responses, one from the UKHSA and the other from Stockton Borough Council. No issues were raised in either of the two responses.