

## 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/HP3323PW  
The Operator is:                         Thalia MK ODC Limited  
The Installation is:                     Milton Keynes Waste Recovery Park  
This Variation Notice number is:   EPR/HP3323PW/V002

### 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 and the waste treatment. 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; and BAT conclusions for waste treatment detailed in document reference C(2018) 5070. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position. It also provides a justification for the inclusion of any specific conditions in the permit that are in addition to those included in our generic permit template.

It explains how we will ensure that the installation complies with the BAT conclusions by 3<sup>rd</sup> December 2023. It is our record of our decision-making process and shows how we have taken into account all relevant factors in reaching our position. It also provides a justification for the inclusion of any specific conditions in the permit that are in addition to those included in our generic permit template.

As well as ensuring that the Installation complies with 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

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# 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.)

AD	Anaerobic Digestion
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 <sub>2</sub> expressed as NO <sub>2</sub> )
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 13/06/2022 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 and the waste treatment BAT Conclusions.. 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 3<sup>rd</sup> December 2023, which will then ensure that operations meet the revised standard, or
- Justifies why standards will not be met by 3<sup>rd</sup> 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 20/12/2022.

We considered that the response did not contain sufficient information for us to commence the permit review. We therefore issued a further information request to the Operator on 09/03/23. Suitable further information was provided by the Operator on 21/04/23 and 27/04/23.

We have not received any information in relation to the Regulation 61 Notice response that appears to be confidential in relation to any party.

### **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.

## 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 (Incineration and waste treatment plant)**

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 3<sup>rd</sup> December 2023. Further detail on our assessment is in annex 1 of this decision document.

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

### **5.2 Emissions to air and the emission limits applied to the plant (Incineration and waste treatment plant)**

The consolidated permit includes new emission limits for emissions to air. 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.

We have set IC1 which requires the operator to assess options to reduce NO<sub>x</sub> emissions below the top of the BAT AEL range.

### **5.3 Energy efficiency (Incineration)**

The BAT conclusions specify an energy efficiency level associated with the best available techniques (BAT-AEEL). The BAT AEEL is based on gross electrical efficiency, gross energy efficiency or boiler efficiency depending on the type of plant.

The relevant BAT AEEL for this installation is gross electrical efficiency.

The operator stated that the gross electrical efficiency has not yet been calculated. We have set improvement condition IC4 that requires the operator to calculate the efficiency and assess opportunities to improve energy efficiency in the event that gross electrical efficiency is below the BAT AEEL range.

### **5.4 Monitoring (Incineration)**

The monitoring requirements for mercury and dioxins/furans are dependent on whether the waste has low a low and stable mercury content and whether emissions of dioxins are stable respectively. Improvement conditions IC2 and IC3 require the operator to submit information to enable us to require the correct monitoring.

### **5.5 Containment and bunding (Waste Treatment Activities)**

The Operator submitted a report detailing the suitability of the of the existing primary and secondary containment for the waste treatment activities on site, including a comparison with relevant standards including CIRIA 535 and CIRIA 736. Based on the report we are satisfied that the existing containment infrastructure for waste treatment activities are appropriate.

However, in order to confirm this we have included improvement conditions IC5 and IC6 in the permit requiring the Operator to submit a written 'primary containment plan' and 'secondary and tertiary containment plan' to detail the results of an inspection and program of works carried out by a competent structural engineer in accordance with relevant standards (CIRIA 535 and

CIRIA 736). The plan shall be implemented in accordance with the Environment Agency's written approval.

#### **5.6 Abatement (Waste Treatment Activities)**

We have included improvement conditions IC7 in the permit requiring the Operator to review the waste treatment activities abatement and ventilation systems. The Operator shall implement any improvements identified in the review as approved by the Environment Agency.

#### **5.7 Emissions from gas engines (Waste Treatment Activities)**

We have included improvement condition IC8 in the permit requiring the Operator quantify methane emissions from the gas engines utilising the biogas produced by the AD treatment process to ensure that they are within benchmark levels. If they are found not be within benchmark levels the Operator will be required to take corrective actions to reduce the methane emissions.

## **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 (by 3<sup>rd</sup> December 2023)

NC - Not Compliant

Incineration BAT Conclusions

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.	<p>There is an EMS in place that complies with all the points listed in BAT 1.</p> <p>Our certified IMS incorporates all the requirements of the EMS and will be amended as required to include any changes as a result of the BAT C permit amendments</p>	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
2	Energy efficiency	Determine gross electrical efficiency, gross energy efficiency or boiler efficiency (depending on plant type).	Energy efficiency has not been calculated. A test will be carried out before 03/12/23 using long term data derived using Ricardo R1 guidance on 5-year boiler efficiency reassessment.  <b>Note we have included an improvement condition (IC4) in the permit requiring the Operator to carry out the Gross Electrical Efficiency calculation.</b>	FC
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 requirements for the following relevant parameters, flow, oxygen content, temperature, pressure, water vapour content.	CC
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 except for parameters below which will be in place by 03/12/23. HF is currently not done continuously . HCL is stable therefore it proposed to do this once every 6 months	FC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
	PBDD/F	Monitor emissions to air of brominated dioxins and furans periodically if waste streams are known to contain brominated flame retardants are burned	<p>The plant burns municipal waste or similar and therefore PBDD/F monitoring will be carried out from 01/01/23 where possible.</p> <p>Monitoring will be conducted monthly in year 1 to evidence stability in accordance with the PCCD/F Monitoring Protocol</p>	FC
	PCDD/F	Monitor emissions to air of dioxins and furans using a continuous sampler unless emissions are sufficiently stable.	<p>Attempts will be made to demonstrate via the PCCD/F Monitoring Protocol that emissions to air of PCDD/F are sufficiently stable and that a continuous sampler (long-term monitoring) is not required by 03/12/23; if these are unsuccessful, continuous sampling.</p> <p>Monitoring will be conducted monthly in year 1 to evidence stability in accordance with the PCCD/F Monitoring Protocol</p>	FC
	Mercury	Monitor emissions to air of mercury using continuous monitoring if required.	<p>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.</p> <p>Monthly in year 1 to evidence stability.</p>	FC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
5	OTNOC monitoring	<p>Appropriately monitor emissions during OTNOC.</p> <p>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.</p>	<p>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.</p> <p>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.</p>	FC
6	Water emissions monitoring	<p>Monitor emissions from FGC and/or bottom ash treatment.</p> <p>Monitor to frequencies and standards in corresponding table.</p>	<p>Not applicable as no emissions to water from FGC or bottom ash treatment.</p>	NA

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.	Not applicable as no emissions to water from FGC or bottom ash treatment.	NA
7	Ash monitoring	Monitor LOI or TOI content of bottom ash to the frequencies and standards in corresponding table .	Monitoring carried out for TOC	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.	Not applicable - plant is not a dedicated hazardous waste incinerator.	NA



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) are in place. Additionally, the following relevant techniques are in place:  D & E are already in place. F N/A	CC
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	Not required - no increased risk identified. Weighing of waste deliveries visual inspection periodic sampling of waste and analysis of key properties radioactive waste is not sampled as it is not considered a risk from the MSW.	NA
12		Storage and handling. Use both techniques listed in corresponding table.	Measures in line with BAT 12 are in place. A & B	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.  MKWRP furnace specification will not be suitable for clinical waste, no future modification will be practicable to enable this.	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: a, b, c.	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 as shown by historic monitoring data.  A, B & C - MKWRP will comply with TOC requirements for bottom ash	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:  By design the plant operates in a continuous manor. Start-up and shut-down will be minimised by operating with an agreed supply chain, holding sufficient critical parts on site and by operating a planned maintenance strategy.	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 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.	<p>An OTNOC management plan which meets the requirements of BAT 18 will be implemented by 03/12/23. A description of how critical equipment has been designed to minimise occurrence of abnormal operation (AO) and minimise impacts from AO and start-up and shut-down periods is included with this submission:</p> <p>The following critical equipment has been designed with a duty standby arrangement to ensure the plant will not be shutdown in the event of failure</p> <ul style="list-style-type: none"> <li>Boiler Feed pumps</li> <li>Demineralised water feed pumps</li> <li>Cooling water pumps</li> <li>Air Compressors</li> <li>Condensate return pumps</li> </ul>	FC
19	Energy efficiency	Increase efficiency by using a heat recovery boiler.	<p>A heat recovery boiler is used to generate electricity and/or steam and/or hot water.</p> <p>The energy contained in a flue gas is recovered in a waste heat boiler which generates steam to produce electricity.</p>	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
20		Increase efficiency by using a combination of techniques listed in corresponding table.	The following measures listed in the table of BAT 20 are used:  B, C, & D	CC
		BAT-AEEL is within the BAT – AEEL range	The gross electrical efficiency has not yet been calculated. See response to BAT 2 above.  <b>Note we have included an improvement condition (IC4) in the permit requiring the Operator to carry out the Gross Electrical Efficiency calculation.</b>	FC
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.	CC
22		Prevent diffuse emissions of VOCs from gaseous and liquid wastes by direct feed to furnace.	Not applicable - gaseous or liquid waste are not accepted	NA

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.	Not applicable - bottom ash treatment is not carried out.	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	Not applicable - bottom ash treatment is not carried out.	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: A & C	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.  Below current permitted values.	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 <sub>2</sub> using one or a combination of techniques in corresponding table.	The following measures listed in the table of BAT 27 are used:  Measure "C" will be used to reduce emissions of HCl, HF and SO <sub>2</sub> .	CC
28		Reduce peak emissions of HCl, HF and SO <sub>2</sub> 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:  A & B	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		BAT-AELs for HCl, HF and SO <sub>2</sub>	<p>The plant will be able to achieve an emission limit value set at the top end of the BAT-AEL range by 03/12/23.</p> <p>All will be achievable with current controls. The historic data records presented in the WID report shows that the plant has historically maintained a level which not only satisfies current emission limits but will continue to meet the future levels specified within the BAT-AELs. The WID Data is shared as part of the quarterly and annual reports filed by the plant.</p>	CC
29		Reduce emissions of NO <sub>x</sub> while limiting emissions of CO, N <sub>2</sub> O and NH <sub>3</sub> using appropriate combination of techniques in corresponding table.	The following measures listed in the table of BAT 29 are used: A & B.	CC
		BAT-AELs for NO <sub>x</sub> , CO and NH <sub>3</sub>	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)
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: A, C, D & E.	CC
		BAT-AELs for PCDD/F	<p>The plant will be able to achieve an emission limit value set at the top end of the BAT-AEL range by 03/12/23.</p> <p>Continued monitoring will be completed to assess the stability of the limits. Trials to take place and we are confident we will achieve the BAT AEL requirement. The current levels of dioxins &amp; furans currently achieve the BAT AEL and give us no reason to believe the BAT AEL will not be met for PCDD/F.</p>	FC
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: B	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		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.  Not currently continuously monitored	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.  BAT 12 A, water management process	CC
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 are used: A & C	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.	Not applicable - no direct or indirect emissions to water from FGC or bottom ash treatment	NA

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		BAT-AELs	Not applicable - no direct or indirect emissions to water from FGC or bottom ash treatment	NA
35	Resource efficiency	Resource efficiency. Handle and treat bottom ashes separately from FGC residues.	Bottom ashes are handled and treated separately from FGC residues.  Not carried out at site. FGC is exported to treatment.	CC
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,B,C,D & E.	CC

Waste Treatment BAT Conclusions

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
1. General BAT Conclusions				
1.1 – Overall environmental performance				
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	Environmental performance	Techniques for improvement of the overall performance of the plant.	The following measures listed in the table of BAT 2 are used: a, b, c, d, e, f, g	CC
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	CC
4	Waste Storage	Environmental risks associated with the storage of waste	Measures in line with BAT 4 are in place	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
5	Handling and transfer of waste	Environmental risks associated with the handling and transfer of waste.	Measures in line with BAT 5 are in place	CC
<b>1.2 - Monitoring</b>				
6	Waste water	Waste water monitoring	No direct or indirect emissions to water from AD and composting processes	NA
7	Waste water	Periodic waste water monitoring	No direct or indirect emissions to water from AD and composting processes	NA
8	Channelled emissions	Periodic Air emissions in accordance with EN standards:		
		Brominated flame retardants (mechanical treatment in shredders of metals waste)	No mechanical treatment in shredders of metal waste	NA
		CFCs (treatment of WEEE containing VFCs and/or VHCs)	No treatment of WEEE containing VFCs and/or VHCs	NA
		Dioxin-like PCBs (Mechanical treatment in shredders of metal waste; Decontamination of equipment containing PCBs)	No mechanical treatment in shredders of metal waste	NA
		Dust (Mechanical treatment of waste; Mechanical biological treatment of waste; Physico-chemical treatment of solid and/or pasty waste; Thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil; Water washing of excavated contaminated soil)	Dust filters, adsorption filters, chemical wet scrubbing and biofilter on site. Periodic six monthly monitoring as in BAT 25/34/41/49/50	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		HCl (Thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil; Treatment of water-based liquid waste)	No thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil or water-based liquid waste on site	NA
		HF (Thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil)	No thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil on site	NA
		Hg (Treatment of WEEE containing mercury)	No treatment of WEEE containing mercury	NA
		H <sub>2</sub> S(Biological treatment of waste)	Adsorption filters and biofilter on site. Periodic six monthly motoring as in BAT 34	CC
		Metals and metalloids except mercury (Mechanical treatment in shredders of metal waste)	No mechanical treatment in shredders of metal waste	NA
		NH <sub>3</sub> (Biological treatment of waste; Physico-chemical treatment of solid and/or pasty waste; Treatment of water-based liquid waste)	Wet scrubbing, adsorption filters & biofilter on site. 6 monthly periodic monitoring as in BAT 34/42/53	CC
		Odour concentration (Biological treatment of waste)	Wet scrubbing, adsorption filters & biofilter on site. 6 monthly periodic monitoring as in BAT 34/42/54	CC
		PCDD/F (Mechanical treatment in shredders of metal waste)	No mechanical treatment in shredders of metal waste	NA

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		TVOC (Mechanical treatment in shredders of metal waste; Treatment of WEEE containing VFCs and/or VHCs; Mechanical treatment of waste with calorific value; Mechanical biological treatment of waste; Physico-chemical treatment of solid and/or pasty waste; Refining of waste oil; Physico-chemical treatment of waste with calorific value; Regeneration of spent solvents; Thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil; Water washing of excavated contaminated soil; Treatment of water-based liquid waste; Decontamination of equipment containing PCBs)	Wet scrubbing, adsorption filters & biofilter on site. Periodic six monthly monitoring as in BAT 25/29/31/34/41/42/44/45/47/49/50/51/53	CC
9	Solvents	Monitor diffuse emissions from spent solvents regeneration.	No solvents used in the process	NA
10		Odour emissions monitoring	Odour monitoring in place. Odour management in place as part of the EMS	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
11	Annual consumption	Annual resources consumption	Records kept detailing resources consumed and residues generated. Consumption of water, energy and raw materials are monitored at least on an annual basis. Generation of residues and wastewater is monitored at least on an annual basis.	CC
<b>1.3 – Emissions to air</b>				
12	Odour	Odour management	An odour management plan is in place and regularly reviewed. This meets the requirements stated within BAT 12	CC
13	Odour	Odour reduction	Reduced storing times, wet scrubbing, adsorption filters and biofilters.  H <sub>2</sub> S reduced through addition of ferric chloride chemical.	CC
14	Air emissions	Prevent or reduce diffuse emissions to air, in particular of dust, organic compounds and odour.	All buildings are enclosed and under negative pressure to minimise odours and diffuse emissions. Appropriate materials utilized to avoid leaks or corrosion. Maintenance and cleaning schedules are in place for onsite to minimise possible emissions. Reduced storing times.  All techniques utilised.	CC
15	Flare	Flaring only used for safety reasons or non-routine operations	Flaring only used when CHP engines not available. Both techniques employed.	CC



BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
16	Flare emissions	Reduce emissions to air from flares when flaring is unavoidable.	Flare emissions are continuously monitored. Both techniques employed.	CC
<b>1.4 – Noise and vibrations</b>				
17	Noise and vibration	Noise and vibration management plan	A,B,C,D,E The applicability is restricted to cases where a noise or vibration nuisance at sensitive receptors is expected and/or has been substantiated.	CC
18	Noise and vibration	Techniques to reduce noise and vibration	A,B,C,D,E The applicability is restricted to cases where a noise or vibration nuisance at sensitive receptors is expected and/or has been substantiated.	CC
<b>1.5 – Emissions to water</b>				
19	Emissions to water	Water use reduction	The following techniques are in place and/or will be by 03/12/2023: b, c, d, e, f, g and h	CC
20	Emissions to water	Water treatment to reduce emissions to water	No direct or indirect emissions to water from AD and composting processes	NA
<b>1.6 – Emissions from accidents and incidents</b>				
21	Accidents and incidents	Prevent or limit the environmental consequences of accidents and incidents	We have an Incident Response Plan & procedures in place, with additional emergency response procedures for the highest risks.	CC
<b>1.7 – Material efficiency</b>				

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
22	Materials	Substitute materials with waste	Wood residues are used as bulking agent to mix with waste and digestate in the anaerobic step	CC
<b>1.8 – Energy efficiency</b>				
23	Energy efficiency	Reduce energy consumption	Techniques A & B are in place, or will be in place by 3/12/2023.	CC
<b>1.9 Re-use of packagingthat</b>				
24	Re-use of packaging	Maximise the use of packaging	No packaging used onsite	NA
<b>2. BAT conclusions for the mechanical treatment of waste (apply to the mechanical treatment of waste when it is not combined with biological treatment).</b>				
<b>2.1 General BAT conclusions for the mechanical treatment of waste</b>				
25	Air emissions	Reduce emissions to air of dust, and of particulate-bound metals, PCDD/F and dioxin-like PCBs	Fabric and adsorption filters, and LEV in place.	CC
		BAT AEL for channelled dust emissions to air for mechanical treatment of waste:  Dust: 2 -5 mg/Nm <sup>3</sup> *When a fabric filter is not applicable, the upper end of the range is 10 mg/Nm <sup>3</sup>	The fabric filter is designed for dust 3 mg/Nm <sup>3</sup> for channelled emissions from the MT.	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
<b>2.2 BAT conclusions for the mechanical treatment in shredders of metal waste</b>				
<b>2.2.1 overall environmental performance</b>				
26	Overall environmental performance	Improve the overall environmental performance, and to prevent emissions due to accidents and incidents	We only accept MSW & do not shred metal waste in the Mechanical Treatment Plant.	NA
<b>2.2.2 Deflagrations</b>				
27	Deflagrations	Prevent deflagrations and to reduce emissions when deflagrations occur	We only accept MSW & do not shred metal waste in the Mechanical Treatment Plant.	NA
<b>2.2.3 Energy efficiency</b>				
28	Energy efficiency	Keep shredder feed stable	We only accept MSW & do not shred metal waste in the Mechanical Treatment Plant.	NA
<b>2.3 BAT conclusions for the treatment of WEEE containing VFCs and/or VHCs</b>				
<b>2.3.1 Emissions to air</b>				

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
29	Emissions of organic compounds	Prevent or reduce emissions of organic compounds to air	WEEE not treated onsite, sent to appropriate treatment	NA
<b>2.3.2 Explosions</b>				
30	Emissions due to explosions	Prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs	WEEE not treated onsite, sent to appropriate treatment	NA
<b>2.4 BAT conclusions for mechanical treatment of waste with calorific value</b>				
<b>2.4.1 Emissions to air</b>				
31	Emissions to air	Reduce emissions of organic compounds	Adsorption and thermal oxidation of MT building air.	CC
<b>2.5 BAT conclusions for the mechanical treatment of WEEE containing mercury</b>				
<b>2.5.1 Emissions to air</b>				
32	Reduce mercury emissions to air	Collect mercury emissions at source, to send them to abatement and to carry out adequate monitoring	WEEE not treated onsite, sent to appropriate treatment	NA
<b>3. BAT conclusions for the biological treatment of waste</b>				
<b>3.1 General BAT conclusions for the biological treatment of waste</b>				

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)																		
<b>3.1.1 Overall environmental performance</b>																						
33	Environmental Performance	Reduce odour emissions and to improve the overall environmental performance	Waste input selected through pre-treatment using the mechanical treatment facility. Waste acceptance procedures in place and bulky compost addition used to optimise nutrient balance, structure and moisture levels.	CC																		
<b>3.1.2 Emissions to air</b>																						
34	Channelled emissions	Reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H <sub>2</sub> S and NH <sub>3</sub>	Biofilter & Wet scrubbing used on site. Techniques 'b' and 'e' employed.	CC																		
		<p>BAT AEL for channelled NH<sub>3</sub>, odour, dust and TVOC emissions to air from biological treatment of waste:</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>BAT-AEL (Average over the sampling period)</th> <th>Waste treatment process</th> </tr> </thead> <tbody> <tr> <td>NH<sub>3</sub> (†) (‡)</td> <td>mg/Nm<sup>3</sup></td> <td>0.3-20</td> <td rowspan="2">All biological treatments of waste</td> </tr> <tr> <td>Odour concentration (†) (‡)</td> <td>ou<sub>t</sub>/Nm<sup>3</sup></td> <td>200-1 000</td> </tr> <tr> <td>Dust</td> <td>mg/Nm<sup>3</sup></td> <td>2-5</td> <td rowspan="2">Mechanical biological treatment of waste</td> </tr> <tr> <td>TVOC</td> <td>mg/Nm<sup>3</sup></td> <td>5-40 (‡)</td> </tr> </tbody> </table> <p>(†) Either the BAT-AEL for NH<sub>3</sub> or the BAT-AEL for the odour concentration applies.  (‡) This BAT-AEL does not apply to the treatment of waste mainly composed of manure.  (§) The lower end of the range can be achieved by using thermal oxidation.</p>	Parameter	Unit	BAT-AEL (Average over the sampling period)	Waste treatment process	NH <sub>3</sub> (†) (‡)	mg/Nm <sup>3</sup>	0.3-20	All biological treatments of waste	Odour concentration (†) (‡)	ou <sub>t</sub> /Nm <sup>3</sup>	200-1 000	Dust	mg/Nm <sup>3</sup>	2-5	Mechanical biological treatment of waste	TVOC	mg/Nm <sup>3</sup>	5-40 (‡)	The top end of the BAT AEL can be met for NH <sub>3</sub> , TVOC and dust for channelled emissions to air from the waste reception areas. Analysis on the biofilter outlet is currently compliant with ammonia, TVOC and dust.	CC
Parameter	Unit	BAT-AEL (Average over the sampling period)	Waste treatment process																			
NH <sub>3</sub> (†) (‡)	mg/Nm <sup>3</sup>	0.3-20	All biological treatments of waste																			
Odour concentration (†) (‡)	ou <sub>t</sub> /Nm <sup>3</sup>	200-1 000																				
Dust	mg/Nm <sup>3</sup>	2-5	Mechanical biological treatment of waste																			
TVOC	mg/Nm <sup>3</sup>	5-40 (‡)																				

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
<b>3.1.3 Emissions to water and water usage</b>				
35	Waste water	Reduce the generation of waste water and to reduce water usage	Techniques a, b and c are used in the biological treatment of waste, as stated in our response to Question 2 for BAT 19 above.	CC
<b>3.2 BAT conclusions for the aerobic treatment of waste</b>				
<b>3.2.1 Overall environmental performance</b>				
36	Environmental performance	Reduce emissions to air and to improve the overall environmental performance	Aerobic process monitored to optimise production in line with BAT 36	CC
<b>3.2.2 Odour and diffuse emissions to air</b>				
37	Odour and diffuse emissions to air	Reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps	The aerobic process is an enclosed process.	NA
<b>3.3 BAT conclusions for anaerobic treatment of waste</b>				
<b>3.3.1 Emissions to air</b>				

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
38	Environmental performance	Reduce emissions to air and to improve the overall environmental performance	The monitoring detailed in BAT 38 is and will be carried out by 03/12/2023	CC
<b>3.4 BAT conclusions for the mechanical biological treatment (MBT) of waste</b>				
<b>3.4.1 Emissions to air</b>				
39	Emissions to air	Reduce emissions to air	No MBT process on site	NA
<b>4. BAT conclusions for the physico-chemical treatment of solid and/or pasty waste</b>				
<b>4.1.1 Overall environmental performance</b>				
40	Environmental performance	Waste input monitoring	Waste input pre-acceptance and acceptance procedures in place.	CC
<b>4.1.2 Emissions to air</b>				
41	Emissions to air	Reduce emissions to air of dust, organic compounds and NH <sub>3</sub>	Biofilter and Wet scrubbing	CC

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
		BAT AEL for channelled dust emissions to air from physico chemical treatment of solid and/or pasty waste:  Dust: 2 -5 mg/Nm <sup>3</sup>	Yes, the fabric filter is designed for dust 3 mg/Nm <sup>3</sup> for channelled emissions from the MT.	CC
<b>4.2 BAT conclusions for the re-refining of waste oil</b>				
<b>4.2.1 Overall environmental performance</b>				
42	Environmental performance	Reduce emissions	No waste oil treatment	NA
43	Environmental performance	Reduce waste disposal	No waste oil treatment	NA
<b>4.2.2 Emissions to air</b>				
44	Emissions to air	Reduce emissions of organic compounds to air	No waste oil treatment	NA
<b>4.3 BAT conclusions for the physico-chemical treatment of waste with calorific value</b>				
<b>4.3.1 Emissions to air</b>				



BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
45	Emissions to air	Reduce emissions of organic compounds to air	Adsorption in MT. Wet scrubbing and biofilter in AD	CC
<b>4.4 BAT conclusions for the generation of spent solvents</b>				
<b>4.4.1 Overall environmental performance</b>				
46	Environmental performance	Improve the overall environmental performance of the regeneration of spent solvents	No solvents used on site	NA
<b>4.4.2 Emissions to air</b>				
47	Emissions to air	Reduce emissions of organic compounds to air	No solvents used on site	NA
<b>4.5 BAT-AEL for emissions of organic compounds to air from the re-refining of waste oil, the physico chemical treatment of waste with calorific value and the regeneration of spent solvents</b>				
-	-	BAT AEL		NA
<b>4.6 BAT conclusions for the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil</b>				
<b>4.6.1 Overall environmental performance</b>				

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
48	Environmental performance	Improve the overall environmental performance of the regeneration of spent activated carbon, waste catalysts and excavated contaminated soil	No spent activated carbon, waste catalysts or excavated contaminated soil used on site	NA
<b>4.6.2 Emissions to air</b>				
49	Emissions to air	Reduce emissions of HCl, HF, dust and organic compounds to air.	No spent activated carbon, waste catalysts or excavated contaminated soil used on site	NA
<b>4.7 BAT conclusions for the water washing of excavated contaminated soil</b>				
<b>4.7.1 Emissions to air</b>				
50	Emissions to air	Reduce emissions of dust and organic compounds to air from the storage, handling, and washing steps	No excavated contaminated soil on site	NA
<b>4.8 BAT conclusions for the decontamination of equipment containing PCBs</b>				
<b>4.8.1 Overall environmental performance</b>				
51	Environmental performance	Reduce channelled emissions of PCBs and organic compounds to air	No PCBs treated on site	NA

BAT No.	Topic	Brief Description	Operator response	Complies with BAT? (NA, CC, FC, NC)
<b>5. BAT conclusions for the treatment of water-based liquid waste</b>				
<b>5.1 Overall environmental performance</b>				
52	Environmental performance	Monitor the waste input as part of the waste pre-acceptance and acceptance procedures	No water-based liquid waste treated on site	NA
<b>5.2 Emissions to air</b>				
53	Emissions to air	Reduce emissions of HCl, NH3 and organic compounds to air	No water-based liquid waste treated on site	NA

## **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.*

As part of their Regulation 61 Note response, the operator has not requested a derogation from compliance with any AEL values.

## 7 Summary checklist

Aspect considered	Decision
<b>Receipt of application</b>	
Confidential information	A claim for commercial or industrial confidentiality has not been made.
Identifying confidential information	<p>We have not identified information provided as part of the application that we consider to be confidential.</p> <p>The decision was taken in accordance with our guidance on confidentiality.</p>
<b>Operating techniques</b>	
General operating techniques	<p>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.</p> <p>The permit conditions ensure compliance with the relevant BREF, BAT Conclusions. The ELVs deliver compliance with the BAT-AELs.</p>
<b>Permit conditions</b>	
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	<p>Based on the information on the application, we consider that we need to impose an improvement programme.</p> <p>We have imposed an improvement programme see key issues section for further details.</p> <p>We have also removed the completed improvement conditions from the permit.</p>
Emission limits	<p>We have decided that emission limits should be set for the parameters listed in the permit.</p> <p>These are described in the relevant BAT Conclusions in Section 5 of this document.</p>

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	<p>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.</p> <p>These are described in the relevant BAT Conclusions in Section 5 of this document.</p>
<b>Operator competence</b>	
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.
<b>Growth Duty</b>	
Section 108 Deregulation Act 2015 – Growth duty	<p>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.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“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.”</p> <p>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.</p> <p>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.</p>