

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 (as amended)

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

The Permit number is: EPR/KP3308PM

The Operator is: Mr Ian Bond, Mrs Caroline Bond and Mr Harry Bond

The Installation is: Stanley's Quarry

This Variation Notice number is: EPR/KP3308PM/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 by the European Commission of updated decisions on BAT Conclusions.

We have reviewed the permit for this installation against the revised BAT Conclusions for the Waste Treatment industry sector published on 10 August 2018 in the Official Journal of the European Union. In this decision document, we set out the reasoning for the consolidated variation notice that we have issued.

It explains how we have reviewed and considered the techniques used by the Operator in the operation and control of the plant and activities of the installation. This review has been undertaken with reference to the decision made by the European Commission establishing Best Available Techniques (BAT) Conclusions (BATc) for Waste Treatment as 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.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issue. Where this has not already been done, 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 with other permits issued to Installations in this sector. Although the wording of some conditions has changed, while others have been deleted 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 only our determination of substantive issues relating to the new BAT Conclusions.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future.

How this document is structured

1. Our decision
2. How we reached our decision
3. The legal framework
4. Annex 1 – Review of operating techniques within the Installation against BAT Conclusions.
5. Annex 2 – Review and assessment of changes that are not part of the BAT Conclusions derived permit review
6. Annex 3 – Improvement Conditions

1 Our decision

We have decided to issue the Variation Notice to the Operator. This will allow the Operator to continue to operate the Installation, subject to the conditions in the Consolidated Variation Notice that updates the whole permit.

We consider that, in reaching our 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 have considered the techniques identified by the Operator for the operation of their installation, and have accepted that the details are sufficient and satisfactory to make those standard conditions appropriate. This document does, however, provide an explanation of our use of “tailor-made” or installation-specific conditions, or where our Permit template provides two or more options.

2 How we reached our decision

2.1 Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 21 October 2019 requiring the Operator to provide information to demonstrate where the operation of their installation currently meets, or how it will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

The Notice required that where the revised standards are not currently met, the Operator should provide information that:

- describes the techniques that will be implemented before 17 August 2022, which will then ensure that operations meet the revised standards, or
- justifies why standards will not be met by 17 August 2022, and confirmation of the date when the operation of those processes will cease within the Installation or an explanation of why the revised BAT standards are not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised BAT standards 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 required that the Operator make a formal request for derogation from compliance with that BAT-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 8 June 2020.

We considered it was in the correct form, however, much of the supporting documentation which could be used as evidence to demonstrate compliance with the BAT conclusions was not submitted. We completed the determination based on the information and supporting information received.

The Operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 61 Notice response that appears to be confidential in relation to any party.

2.2 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 experience in the regulation of the installation we consider that the Operator will be able to comply with the techniques and standards described in the BAT Conclusions other than for those techniques and requirements described in BAT Conclusions 1, 2, 3, 4, 5, 6, 7, 8, 10, 13, 14, 15, 16, 18, 19, 20, 21, 23, 24, 33, 34, 35 and 38. In relation to these BAT Conclusions, we do not fully agree with the Operator in respect of their current stated capability as recorded in their response to the Regulation 61 Notice. We have therefore included Improvement Conditions IC3 and IC4 in the consolidated variation notice to ensure that the requirements of the BAT Conclusions are delivered before 17 August 2022.

3 The legal framework

The Consolidated Variation Notice will be issued under Regulations 18 and 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, in issuing the Consolidated Variation Notice, it 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.

Annex 1: decision checklist regarding relevant BAT Conclusions

BAT Conclusions for the Waste Treatment sector were published by the European Commission on 10 August 2018. There are 53 BAT Conclusions. This annex provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the Consolidated Variation Notice.

The overall status of compliance with the BAT conclusion is indicated in the table as:

NA – Not Applicable

CC – Currently Compliant

FC – Compliant in the future (within 4 years of publication of BAT conclusions)

NC – Not Compliant

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
1	<p>In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features:</p> <ul style="list-style-type: none"> I. commitment of the management, including senior management; II. definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation; III. planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment; IV. implementation of procedures paying particular attention to: <ul style="list-style-type: none"> (a) structure and responsibility, (b) recruitment, training, awareness and competence, (c) communication, (d) employee involvement, (e) documentation, (f) effective process control, (g) maintenance programmes, (h) emergency preparedness and response, (i) safeguarding compliance with environmental legislation; 	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 1. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 1.</p> <p>The Operator's response claims that they are compliant with the BATc. However, the Operator did not submit any supporting evidence or documentation to demonstrate compliance with the BATc. In addition the site inspector's report states that the existing EMS does not meet current requirements set out in the BATc.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<p>V. checking performance and taking corrective action, paying particular attention to:</p> <ul style="list-style-type: none"> (a) monitoring and measurement (see also the JRC Reference Report on Monitoring of emissions to air and water from IED installations – ROM), (b) corrective and preventive action, recruitment, training, awareness and competence, (c) maintenance of records, (d) independent (where practicable) internal or external auditing in order to determine whether or not the EMS conforms to planned arrangements and has been properly implemented and maintained <p>VI. review, by senior management, of the EMS and its continuing suitability, adequacy and effectiveness;</p> <p>VII. following the development of cleaner technologies;</p> <p>VIII. consideration for the environmental impacts from the eventual decommissioning of the plant at the stage of designing a new plant, and throughout its operating life;</p> <p>IX. application of sectoral benchmarking on a regular basis;</p>		

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	X. waste stream management (see BAT 2); XI. an inventory of waste water and waste gas streams (see BAT 3); XII. residues management plan (see description in Section 6.5); XIII. accident management plan (see description in Section 6.5); XIV. odour management plan (see BAT 12) XV. noise and vibration management plan (see BAT 17).		
2	In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques listed below: (a) Set up and implement waste characterisation and pre-acceptance procedures; (b) Set up and implement waste acceptance procedures; (c) Set up and implement a waste tracking system and inventory; (d) Set up and implement an output quality management system; (e) Ensure waste segregation; (f) Ensure waste compatibility prior to mixing or blending of waste; (g) Sort incoming solid waste	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 2. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 2.</p> <p>The Operator's response claims that they are compliant with the BATc. However, the Operator did not submit any supporting evidence or documentation to demonstrate compliance with the BATc. In addition the site inspector's report states further that no evidence of pre-acceptance procedures, acceptance procedures, waste tracking systems, output quality management</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			<p>or pre-treatment procedures were provided and no procedures were subsequently audited.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
3	<p>In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features:</p> <p>(i) information about the characteristics of the waste to be treated and the waste treatment processes, including:</p> <p>(a) simplified process flow sheets that show the origin of the emissions;</p> <p>(b) descriptions of process-integrated techniques and waste water/waste gas treatment at source including their performances;</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 3. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 3.</p> <p>The Operator's response claims that they are compliant with the BATc. However, the Operator did not submit evidence of an inventory of waste gas and waste water. In addition the site inspector's reports recognises that there is a supervisory control</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<p>(ii) information about the characteristics of the waste water streams, such as:</p> <ul style="list-style-type: none"> (a) average values and variability of flow, pH, temperature, and conductivity; (b) average concentration and load values of relevant substances and their variability (e.g. COD/TOC, nitrogen species, phosphorus, metals, priority substances /micropollutants); (c) data on bioeliminability (e.g. BOD, BOD to COD ratio, Zahn-Wellens test, biological inhibition potential (e.g. inhibition of activated sludge)) (see BAT 52); <p>(iii) information about the characteristics of the waste gas streams, such as:</p> <ul style="list-style-type: none"> (a) average values and variability of flow and temperature; (b) average concentration and load values of relevant substances and their variability (e.g. organic compounds, POPs such as PCBs); (c) flammability, lower and higher explosive limits, reactivity; (d) presence of other substances that may affect the waste gas treatment system or plant safety (e.g. oxygen, nitrogen, water vapour, dust). 		<p>and data acquisition (SCADA) system, however, no evidence was submitted to indicate that an inventory of waste water and waste gas streams is in place.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
4	<p>In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below:</p> <ul style="list-style-type: none"> (a) Optimised storage location; (b) Adequate storage capacity; (c) Safe storage operation; (d) Separate area for storage and handling of packaged hazardous waste. 	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 4. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 4.</p> <p>The Operator's response states that they are compliant with BATc point 4, however, the Operator did not describe the measures in place to determine adequate storage capacity. No evidence was submitted to describe safe storage operations.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			We note that part (d) of this BATc is not relevant to this installation as no hazardous waste is accepted under the permitted activities.
5	<p>In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures.</p> <p>Handling and transfer procedures aim to ensure that wastes are safely handled and transferred to the respective storage or treatment. They include the following elements:</p> <ul style="list-style-type: none"> • handling and transfer of waste are carried out by competent staff; • handling and transfer of waste are duly documented, validated prior to execution and verified after execution; • measures are taken to prevent, detect and mitigate spills; • operation and design precautions are taken when mixing or blending wastes (e.g. vacuuming dusty/powdery wastes). <p>Handling and transfer procedures are risk-based considering the likelihood of accidents and incidents and their environmental impact.</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 5. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 4.</p> <p>The Operator's response states that they are compliant with BATc point 5, however, the Operator did not support their claims with evidence. No procedures were submitted to identify levels of staff training or evidence of a formal written handling procedure as specified within the gap analysis document. The response states that spillages will be dealt with by applying absorbents. No procedure of further supporting information was submitted. The Operator's response does not describe operating procedures for mixing and blending of wastes.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.
6	For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation).	NA	<u>Environment Agency assessment</u> We are satisfied that BATc point 6 is not applicable to this Installation. There are no point source emissions of waste water.
7	BAT is to monitor emissions to water with at least the frequency given in BATc 7, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	NA	<u>Environment Agency assessment</u> We are satisfied that BATc point 7 is not applicable to this Installation. There are no point source emissions of waste water.

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
8	<p>BAT is to monitor channelled emissions to air with at least the frequency given in BATc 8, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.</p>	FC	<p><u>Environment Agency assessment</u></p> <p>The Operator did not provide any relevant information to support compliance with BATc point 8 in response to the Regulation 61 Notice dated 21/10/2019. The Operator's response in the gap analysis refers to their CHP engines and no other point source emission points, such as odour extraction points.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
10	<p>BAT is to periodically monitor odour emissions.</p> <p>Odour emissions can be monitored using:</p> <ul style="list-style-type: none"> • EN standards (e.g. dynamic olfactometry according to EN 13725 in order to determine the odour concentration or EN 16841-1 or -2 in order to determine the odour exposure); 	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 10. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<ul style="list-style-type: none"> when applying alternative methods for which no EN standards are available (e.g. estimation of odour impact), ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. <p>The monitoring frequency is determined in the odour management plan (see BAT 12).</p>		<p>compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 10.</p> <p>The Operator's response states that they are compliant with BATc point 10, however, the Operator did not support their claims with evidence. The Operator only makes reference to existing boundary olfactory monitoring methods. No proposals are stated for dynamic olfactometry monitoring in line with EN 13725.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
11	<p>BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.</p>	CC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 11. We have assessed the information provided</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	Monitoring includes direct measurements, calculation or recording, e.g. using suitable meters or invoices. The monitoring is broken down at the most appropriate level (e.g. at process or plant/installation level) and considers any significant changes in the plant/installation.		and we are satisfied that the Operator has demonstrated compliance with BATc point 11.
12	<p>In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:</p> <ul style="list-style-type: none"> • a protocol containing actions and timelines; • a protocol for conducting odour monitoring as set out in BAT 10; • a protocol for response to identified odour incidents, e.g. complaints; • an odour prevention and reduction programme designed to identify the source(s); to characterise the contributions of the sources; and to implement prevention and/or reduction measures. 	CC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 12. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated full compliance with BATc point 12.</p> <p>The Operator's response states that they are compliant with BATc point 12. An odour management plan was approved in 2019 (application reference EPR/GP3893MX/V006), however, the Operator is not compliant with BATc point 10. A protocol for conducting odour monitoring is therefore not part of the current odour management plan. An improvement condition for BATc point 10 is included in the permit.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			We are however satisfied that the Operator has demonstrated compliance with BATc point 12.
13	<p>In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques given below:</p> <p>(a) Minimising residence times; (b) Using chemical treatment; (c) Optimising aerobic treatment</p>	FC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 13. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 13.</p> <p>The Operator's response states that they are compliant with BATc point 13, however, the Operator did not support their claims with evidence. The Operator indicates that minimising the residence time for odorous waste is in place. However, no detail on the specific timeframes for various phases of the anaerobic digestion process. It is unclear if there is a formal procedure to support this. However, we recognise that the Operator is compliant with part (b) of the BATc. Ferric Chloride is used in the digestion process to minimise the formation of H₂S.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			<p>We consider that the Operator will be future compliant with BATc point 13. Improvement condition IC4 has been included in the permit to achieve compliance (see Annex 3).</p> <p>We note that part (c) of this BATc is not relevant to this installation as no aerobic treatment takes place under the permitted activities.</p>
14	<p>In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given below:</p> <ul style="list-style-type: none"> (a) Minimising the number of potential diffuse emission sources; (b) Selection and use of high-integrity equipment; (c) Corrosion prevention; (d) Containment, collection and treatment of diffuse emissions; (e) Dampening; (f) Maintenance; (g) Cleaning of waste treatment and storage areas; (h) Leak detection and repair (LDAR) programme 	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 14. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 14.</p> <p>The Operator's response states that they are compliant with BATc point 14, however, the Operator did not support their claims with evidence. BATc point 14 includes a number of requirements (a – h). For each part, no evidence was submitted to support the claim of current compliance.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			<p>Under part (d), the BATc requires the containment, collection and treatment of diffuse emissions. The site contains and extracts (via negative pressure) diffuse odour emissions from the reception hall via a ground level emission point. There is no odour abatement system currently in place and no proposal to install one as part of the response to the Regulation 61 notice. The Operator will need to propose and implement a suitable odour abatement system in order to become compliant with this BATc point.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
15	BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using both of the techniques given below:	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 15. We have assessed the brief description</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	(a) Correct plant design; (b) Plant management		<p>provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 15.</p> <p>The Operator's response states that they are compliant with BATc point 15, however, the Operator did not support their claims with evidence. The Operator's gap analysis indicates that the biogas upgrading plant are of suitable size to account for expected gas generation. No evidence was submitted to support this claim. The Operator also states that a SCADA system will automatically balance the gas system. However, no detailed discussion on the system or evidence of gas balancing procedures were provided to support the claim of compliance with the BATc point.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
16	<p>In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below:</p> <p>(a) Correct design of flaring devices; (b) Monitoring and recording as part of flare management</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 16. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 16.</p> <p>The Operator's response states that they are compliant with BATc point 16, however, the Operator did not support their claims with evidence. The Operator's gap analysis indicates that the standby flares are suitably designed. However, no detail or design details are provided to demonstrate this claim. In addition, no monitoring of flare operational hours was submitted to the Environment Agency in 2020.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
17	<p>In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:</p> <ul style="list-style-type: none"> I. a protocol containing appropriate actions and timelines; II. a protocol for conducting noise and vibration monitoring; III. a protocol for response to identified noise and vibration events, e.g. complaints; IV. a noise and vibration reduction programme designed to identify the source(s), to measure /estimate noise and vibration exposure, to characterise the contributions of the sources and to implement prevention and /or reduction measures. 	NA	<p><u>Environment Agency assessment</u></p> <p>The Operator did not provide any relevant information to support compliance with BATc point 17 in response to the Regulation 61 Notice dated 21/10/2019.</p> <p>The permit condition 3.4 ensures that the Operator submits a noise management plan in the event emissions of noise and vibration are causing annoyance beyond the site boundary.</p>
18	<p>In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given below:</p> <p>(a) Appropriate location of equipment and buildings;</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 18. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	(b) Operational measures; (c) Low noise-equipment; (d) Noise and vibration equipment; (e) Noise attenuation		<p>compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 18.</p> <p>The Operator's response states that they are compliant with BATc point 18, however, the Operator provided partial responses to each BATc part and does not support their claims with evidence.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
19	<p>In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given below:</p> <p>(a) Water management;</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 19. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 19.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	(b) Water recirculation; (c) Impermeable surface; (d) Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels; (e) Roofing of waste storage and treatment areas; (f) Segregation of water streams (g) Adequate drainage infrastructure; (h) Design and maintenance provisions to allow detection and repair of leaks (i) Appropriate buffer storage capacity		<p>The Operator's response states that they are compliant with BATc point 19, however, the Operator provided partial responses to each BATc part and does not support their claims with evidence. The BATc outlines specific water management methods and references to impermeable surfaces. No detailed procedures or supporting evidence provided.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
20	<p>In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques given below:</p> <p><i>Preliminary and primary treatment, e.g.</i> (a) Equalisation (b) Neutralisation</p>	NA	<p><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc point 20 is not applicable to this Installation. There is no effluent treatment plant on site. All process water is recirculated into the digestion process. There are no point source emissions of waste water.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<p>(c) Physical separation, e.g. screens, sieves, grit separators, grease separators, oil-water separation or primary settlement tanks</p> <p>Physico-chemical treatment, e.g.</p> <p>(d) Adsorption (e) Distillation /rectification (f) Precipitation (g) Chemical oxidation (h) Chemical reduction (i) Evaporation (j) Ion exchange (k) Stripping</p> <p>Biological treatment, e.g.</p> <p>(l) Activated sludge process (m) Membrane bioreactor (n) Nitrification / denitrification when the treatment includes a biological treatment</p> <p>Solids removal, e.g.</p> <p>(o) Coagulation and flocculation (p) Sedimentation</p>		

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<p>(q) Filtration (e.g. sand filtration, microfiltration, ultrafiltration) (r) Flotation</p> <p>See also: Table 6.1: BAT-associated emission levels (BAT-AELs) for direct discharges to a receiving water body</p> <p>See also: Table 6.2: BAT-associated emission levels (BAT-AELs) for indirect discharges to a receiving water body</p>		
21	<p>In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques given below, as part of the accident management plan (see BAT 1):</p> <p>(a) Protection measures; (b) Management of incidental /accidental emissions; (c) Incident /accident registration and assessment system</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 21. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 21.</p> <p>The Operator's response states that they are compliant with BATc point 21, however, the Operator provides partial</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			<p>responses to each BATc part. The BATc requires the use of techniques as established by a formal accident management plan. No written accident management plan is in place. While the Operator specifies protection measures like CCTV, security fencing and a SCADA system, there is no systematic approach to prevent or limit accidents.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
22	<p>In order to use materials efficiently, BAT is to substitute materials with waste.</p> <p>Waste is used instead of other materials for the treatment of wastes (e.g. waste alkalis or waste acids are used for pH adjustment, fly ashes are used as binders).</p>	CC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 22. We have assessed the information provided and we are satisfied that the Operator has demonstrated compliance with BATc point 22.</p>
23	<p>In order to use energy efficiently, BAT is to use both of the techniques given below:</p>	NC	<p><u>Environment Agency assessment</u></p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<p>(a) Energy efficiency plan; (b) Energy balance record</p>		<p>The Operator has provided information to support compliance with BATc point 23. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 23.</p> <p>The Operator's response states that they are compliant with BATc point 23, however, the Operator provided a brief description that energy generation is monitored and there are some energy efficiency measures. However, there is no comprehensive energy efficiency plan or the provision of an energy balance record.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
24	<p>In order to reduce the quantity of waste sent for disposal, BAT is to maximise the reuse of packaging, as part of the residues management plan (see BAT 1).</p> <p>Packaging (drums, containers, IBCs, pallets, etc.) is reused for containing waste, when it is in good condition and sufficiently clean, depending on a compatibility check between the substances contained (in consecutive uses). If necessary, packaging is sent for appropriate treatment prior to reuse (e.g. reconditioning, cleaning).</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 24. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 24.</p> <p>The Operator's response states that they are compliant with BATc point 24, however, the Operator provided a brief description that packaging is reused or recycled. There is no residues management plan as part of their environmental management system.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
33	<p>In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input.</p> <p>The technique consists of carrying out the pre-acceptance, acceptance and sorting of the waste input (see BAT 2) so as to ensure the suitability of the waste input for the waste treatment, e.g. in terms of nutrient balance, moisture or toxic compounds which may reduce the biological activity.</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 33. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 33.</p> <p>The Operator's response states that they are compliant with BATc point 33, however, as specified in BATc 2, there is no evidence of effective pre-acceptance and acceptance procedures being in place.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
34	<p>In order to reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H₂S and NH₃, BAT is to use one or a combination of the techniques given below:</p> <ul style="list-style-type: none"> (a) Adsorption; (b) Biofilter; (c) Fabric filter; (d) Thermal oxidation; (e) Wet scrubbing <p>See also: Table 6.7: BAT-associated emission levels (BAT-AELs) for channelled NH₃, odour, dust and TVOC emissions to air from the biological treatment of waste.</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc point 34. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 34.</p> <p>The Operator states that there is a biofilter to treat extracted air from the reception hall. There is no evidence that any abatement system is in place. Untreated air is currently extracted via a stack (emitted at ground level). The Operator is required to propose appropriate abatement systems in line with BATc point 34.</p> <p>We have set a BAT-AEL for ammonia as specified in the Waste Treatment BREF and BAT Conclusions.</p> <p>Improvement condition (IC3 and IC4) has been included in the permit to achieve compliance. The Operator is required to complete the improvement condition and demonstrate</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			<p>compliance with BAT-AEL by the compliance date, 17 August 2022.</p> <p>In addition to the BAT-AEL, we have inserted the requirement to monitor odour concentration, hydrogen sulphide and ammonia on a 6-monthly frequency in Table S3.3 (process monitoring).</p> <p>As part of the Environment Agency approach to reduce emissions in the biowaste treatment sector, we have included the following improvement conditions:</p> <p><u>Improvement condition for the review of effectiveness of abatement plant</u></p> <p>Improvement condition 11 (IC11) requires the Operator to review abatement plant on site (upon installation of an abatement system in line with IC3 & IC4), in order to determine whether the selected abatement system has been effective and adequate to prevent and/or minimise emissions released to air.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
			Where further improvements are identified, the Operator is required to implement these measures.
35	<p>In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given below:</p> <p>(a) Segregation of water streams; (b) Water recirculation; (c) Minimisation of the generation of leachate</p>	NC	<p><u>Environment Agency assessment</u></p> <p>The Operator did not provide any information to support compliance with BATc point 35 in response to the Regulation 61 Notice dated 21/10/2019.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
36	<p>In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.</p> <p>Monitoring and/or control of key waste and process parameters, including:</p>	NA	<p><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc point 36 is not applicable to this Installation. There are no point source emissions of waste water.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<ul style="list-style-type: none"> • waste input characteristics (e.g. C to N ratio, particle size); • temperature and moisture content at different points in the windrow; • aeration of the windrow (e.g. via the windrow turning frequency, O₂ and/or CO₂ concentration in the windrow, temperature of air streams in the case of forced aeration); • windrow porosity, height and width. 		
37	<p>In order to reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps, BAT is to use one or both of the techniques given below:</p> <p>(a) Use of semi permeable membrane covers; (b) Adaptation of operations to the meteorological conditions</p>	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc point 37 is not applicable to this Installation.</p>
38	<p>In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters.</p> <p>This includes monitoring and/or control of key waste and process parameters:</p>	NC	<p><u>Environment Agency assessment</u> The Operator has provided information to support compliance with BATc point 38. We have assessed the brief description provided in the Operator's gap analysis and reviewed the site</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Assessment of the installation capability and any alternative techniques proposed by the Operator to demonstrate compliance with the BAT Conclusion requirement
	<ul style="list-style-type: none"> • pH and alkalinity of the digester feed; • digester operating temperature; • hydraulic and organic loading rates of the digester feed; • concentration of volatile fatty acids (VFA) and ammonia within the digester and digestate; • biogas quantity, composition (e.g. H₂S) and pressure; • liquid and foam levels in the digester. 		<p>compliance report. We are not satisfied that the Operator has demonstrated compliance with BATc point 38.</p> <p>The Operator's response states that they are compliant with BATc point 38, however, they do not provide any evidence or detailed descriptions of their automatic process monitoring. The Operator confirms that they have a SCADA system but no further discussion or evidence is provided.</p> <p>We have included improvement conditions in the permit to achieve compliance. The Operator is required to complete the improvement conditions and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p>
39	<p>In order to reduce emissions to air, BAT is to use both of the techniques given below:</p> <p>(a) Segregation of the waste gas streams;</p> <p>(b) Recirculation of waste gas.</p>	NA	<p><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc point 39 is not applicable to this Installation.</p>

Annex 2: Review and assessment of changes that are not part of the BAT Conclusions derived permit review

Existing Medium Combustion Plant

We asked the Operator to provide information on all combustion plant on site in the Regulation 61 Notice as follows:

- Number of combustion plant (CHP engines, back-up generators, boilers).
- Size of combustion plant – rated thermal input (MWth).
- Date each combustion plant came into operation.
- Confirmation as to whether or not the combustion plant is subject to a capacity market agreement (2014 or 2015 auction) or whether or not a Feed-in Tariff preliminary accreditation application was received prior to 1 December 2016.

Combined heat and power (CHP) engines

1. Rated thermal input (MW) of the medium combustion plant.	2.6 MWth (3 engines – 7.8 MWth total)
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Combined heat & power engine
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Biogas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	Engine 1 – 08/10/2010 Engine 2 – 16/05/2012 Engine 3 – 24/10/2016
5. Confirmation of capacity market agreement arising from 2014 or 2015 capacity auctions.	Not applicable
6. Confirmation of Feed-in Tariff preliminary accreditation application received by the Gas and Electric Markets Authority prior to 1 December 2016.	Not applicable

We have reviewed the information provided and we consider that the declared combustion plant qualify as “existing” medium combustion plant.

For existing MCP with a rated thermal input of less than or equal to 5 MW, the emission limit values set out in tables 1 and 3 of Part 1 of Annex II MCPD shall apply from 1 January 2030.

We have included the appropriate emission limit values for existing medium combustion plant as part of this permit review. See Table S3.1 in the permit.

We have included improvement condition IC 12 in the permit which requires the Operator to assess methane slip resulting from the combustion of biogas via the CHP engines. Following an assessment of the data, the Environment Agency shall consider whether or not emission limits for volatile organic compounds are applicable for this installation.

Bioaerosols monitoring requirements

There are no external site operational processes and/or channelled /point sources within 250 metres of a sensitive receptor. Monitoring of bioaerosols is not required at the Installation.

Soil & groundwater risk assessment (baseline report)

The IED requires that the Operator of any IED installation using, producing or releasing “relevant hazardous substances” (RHS) shall, having regarded the possibility that they might cause pollution of soil and groundwater, submit a “baseline report” with its permit application. The baseline report is an important reference document in the assessment of contamination that might arise during the operational lifetime of the regulated facility and at cessation of activities. It must enable a quantified comparison to be made between the baseline and the state of the site at surrender.

At the definitive cessation of activities, the Operator has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwater, taking into account both the baseline conditions and the site’s current or approved future use. To do this, the Operator has to submit a surrender application to us, which we will not grant unless and until we are satisfied that these requirements have been met.

The Operator submitted a brief inventory of hazardous substances used on site. No description of the condition of the site or consideration given of the possibility of soil and groundwater contamination at the installation was submitted. No site baseline condition or risk assessment was included in the submission.

We have therefore been unable to assess any risk assessment to determine the current condition of the site.

We have included improvement conditions in the permit (IC5 and IC6) which requires the Operator to submit an updated site condition report which includes baseline soil and groundwater data. See Improvement conditions in Annex 3 of this decision document.

Waste types

We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility. The wastes are specified in Table S2.2 in the permit.

We are satisfied that the Operator can accept these wastes for the following reasons:

- they are suitable for the proposed activities
- the proposed infrastructure is appropriate
- the environmental risk assessment is acceptable.

Other wastes (non-standard waste codes)

The following wastes in the current permit are not specified in the revised biowaste treatment permit templates. We have retained these wastes in the current permit provided the Operator undertakes a detailed characterisation of the wastes prior to acceptance for treatment at the site in accordance with BATc 2a.

Waste code	Description
02 06 02	wastes from preserving agents
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost

We consider that the Operator is not currently compliant with BATc 2a. Improvement condition 4 has been included in the permit to achieve compliance (see Annex 3).

We made this decision with respect to waste types in accordance with the Framework Guidance Note – *Framework for assessing suitability of wastes going to anaerobic digestion, composting and biological treatment* (July 2013).

Excluded wastes (99 waste codes)

We have excluded the following waste streams ending with “99” code(s) because more suitable waste codes are already in the European Waste Catalogue (EWC) that accommodate the waste described:

Waste code	Description
02 02 99	sludges from gelatine production, animal gut contents
02 03 99	sludge from production of edible fats and oils to include seasoning residues, molasses residues, residues from production of potato, corn or rice starch

Our technical guidance on waste classification WM3 specifically sets out clear instructions for the use of the European Waste Catalogue (EWC), particularly with regard to “99” codes.

The guidance specifies that the Operator must:

- Identify the source generating the waste in chapters 01 to 12 or 17 to 20 and identify the appropriate six-digit code of the waste (excluding codes ending with 99 of these chapters).
- If no appropriate waste code can be found in chapters 01 to 12 or 17 to 20, the chapters 13, 14 and 15 must be examined to identify the waste.
- If none of these waste codes apply, the waste must be identified according to chapter 16.
- If the waste is not in chapter 16, the 99 code (wastes not otherwise specified) must be used in the section of the list corresponding to the activity identified in step one as a last resort.

We made this decision with respect to “99” codes in accordance with the Technical Guidance WM3: Waste Classification – Guidance on the classification and assessment of waste 1st Edition v1.1, May 2018.

Secondary containment and lagoon storage infrastructure design

We asked the Operator via the Regulation 61 Notice to:

- Describe any secondary containment and whether it currently meets the relevant standard in the “Containment systems for the prevention of pollution (C736)” report, where there are above-ground storage or primary containment on site; or
- explain why the current site infrastructure design and construction is fit for purpose, where it is concluded that secondary containment is not required or does not need to meet the standards in the C736 report, to enable a baseline standard so as to establish a quantified comparison; and
- describe how the construction of the lagoons meets the relevant standard in CIRIA C736 report, where there are storage lagoons used for the storage of digestate on site.

Assessment of existing secondary containment & lagoon storage design and construction

The Operator did not provide a full response to the Regulation 61 Notice with respect to the existing site secondary containment and lagoon storage infrastructure. The response only included a brief description of the bund, capacity and ancillary equipment. No risk assessment of the site secondary containment was provided. No evidence was provided which reviewed

the design, method of construction and integrity of the site's secondary containment and storage.

We have set improvement conditions in the permit to address the deficiencies in the existing site secondary containment (IC8) and lagoon storage infrastructure (IC9). See Improvement conditions in Annex 3 of this decision document.

Primary containment infrastructure design (tanks/vessels used for storage and/or treatment activities)

We assessed primary containment as part of the permit review. This information was not requested in the Regulation 61 Notice issued to the Operator, however, it was considered prudent to address this aspect as part of the permit review process. In this instance, the required information relating to the review of primary containment infrastructure against CIRIA C535 was not previously submitted to the Environment Agency, nor was it included in the supporting documentation submitted by the Operator in their Regulation 61 response.

We have therefore set an Improvement Condition (IC7) in the permit to address this aspect of the permit review (see Annex 3).

Lagoon cover and digestate storage capacity

We asked the Operator via the Regulation 61 Notice to:

- confirm if storage lagoons are covered to prevent emission loss; and
- confirm whether or not the operational lagoon storage capacity provides a minimum of two months storage.

There is one existing lagoon on site. The Operator is in the process of constructing a second lagoon, however, no proposals were submitted in response to the Regulation 61 notice and therefore, a separate variation application will be required to assess the potential risks to groundwater from the proposed second lagoon.

The Operator confirmed the storage capacity of the existing lagoon, confirmed that it is not covered and highlighted that it has a storage capacity for 4 months.

The Operator only provided a brief description of the lagoon cover arrangements and operational digestate storage capacity on site. We have therefore set an Improvement Condition (IC10) in the permit to address this aspect of the permit review (see Annex 3).

Additional changes

A solid waste storage unit serving the screw press on the external yard area for the storage of solid waste was previously proposed and subject to a pre-operational condition in the permit variation EPR/GP3893MX/V006. The operator no longer has plans to install this infrastructure. We have therefore removed the pre-operational measure and related permit condition.

As a result, we have removed reference to the pre-operational measure (outlined formally in the now removed Table S1.4). Condition 2.5 in the permit has also been removed.

Annex 3: Improvement Conditions

Based on the information in the Operator's Regulation 61 Notice response and our own records of the capability and performance of the installation at this site, we consider that we need to set improvement conditions so that the outcome of the techniques detailed in the BAT Conclusions are achieved by the installation. These improvement conditions are set out below - justifications for them is provided at the relevant section of the decision document (Annex 1 or Annex 2).

We have also included two improvement conditions (IC1 and IC2). These specific requirements are outstanding requirements which the Operator is yet to be compliant with. We have set new deadlines for the two improvement conditions.

If the consolidated permit contains existing improvement conditions that are not yet complete or the opportunity has been taken to delete completed improvement conditions then the numbering in the table below will not be consecutive as these are only the improvement conditions arising from this permit variation.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the releases of pollutants to air. The study shall include the monitoring of point source releases to air from the biogas upgrading plant emission point A6 during normal operation, having regard to the Environment Agency technical guidance M2 and to MCERTS standards. As a minimum, two separate monitoring campaigns in a year shall be completed (one monitoring survey six months following commissioning of the biogas upgrading plant).</p> <p>The pollutants to be monitored shall include:</p> <ul style="list-style-type: none"> • Total volatile organic compounds. • Hydrogen sulphide. 	06/01/2022 or otherwise agreed in writing by the Environment Agency
IC2	<p>Following the completion of IC1, the operator shall undertake an impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The environmental impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p> <p>The environmental impact assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> • Reports showing details of the monitoring undertaken and the results obtained. • Results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance – Air emissions risk assessment for your environmental permit. • A completed H1 assessment software tool. <p>If the H1 assessment shows potential long or short term impacts from the emissions, the operator shall complete and</p>	3 months from the completion of IC1 or otherwise agreed in writing by the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	submit an action plan to reduce the impacts of the substances identified.	
Improvement condition for progress report to achieve BAT-AELs		
IC3	<p>The operator shall submit, for approval by the Environment Agency, a report setting out progress to achieving the Best Available Techniques Conclusion Associated Emission Levels (BAT-AELs) where BAT is currently not achieved, but will be achieved before 17 August 2022. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Current performance against the BAT-AELs. 2) Methodology for reaching the BAT-AELs by 17 August 2022. 3) Associated targets/timelines for reaching compliance by 17 August 2022. 4) Any alterations to the initial plan (in progress reports). <p>The report shall address the BAT Conclusions for Waste Treatment with respect to the following:</p> <ul style="list-style-type: none"> • BAT 34 Table 6.7 (compliance with BAT-AELs for channelled NH₃, odour, dust and TVOC emissions to air from the biological treatment of waste). <p>Refer to BAT Conclusions for a full description of the BAT requirement.</p>	<p>Progress reports at three monthly intervals from date of permit issue:</p> <p>Initial plan: 06/10/2021</p> <p>Progress report: 06/01/2022</p> <p>Progress report: 06/04/2022</p>
Improvement condition for progress report to achieve Narrative BAT		
IC4	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 17 August 2022. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Methodology for achieving BAT by 17 August 2022. 2) Associated targets/timelines for reaching compliance by 17 August 2022. 3) Any alterations to the initial plan (in progress reports). <p>The report shall address the BAT Conclusions for Waste Treatment with respect to BAT 1, 2, 3, 4, 5, 6, 7, 8, 10, 13, 14, 15, 16, 18, 19, 21, 23, 24, 33, 34, 35 and 38.</p>	<p>Progress reports at three monthly intervals from date of permit issue:</p> <p>Initial plan: 06/10/2021</p> <p>Progress report: 06/01/2022</p> <p>Progress report: 06/04/2022</p>
Improvement condition for site risk assessment to prevent soil & groundwater pollution		
IC5	The operator shall submit to the Environment Agency for approval a risk assessment considering the possibility of soil and groundwater contamination at the installation where the activity involves the use, production or release of a relevant	06/04/2022 or other date as agreed in writing with

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	hazardous substance (as defined in Article 3(18) of the Industrial Emissions Directive). The risk assessment shall clearly establish with appropriate evidence whether or not there is a risk of contamination of soil and groundwater and should follow the Defra Guidance – Industrial Emissions Directive EPR Guidance on Part A Installations (Section 5.10-5.15, pages 28-29 - Baseline Reports and Permit Surrender).	the Environment Agency
IC6	Where the risk assessment carried out under IC5 above establishes a risk to soil and groundwater, the operator shall: <ol style="list-style-type: none"> a) prepare and submit a baseline report compliant with Article 22 of the Industrial Emissions Directive (IED) containing information necessary to determine the current state of soil and groundwater contamination; or 4) b) provide a summary report referring to information previously submitted where the operator is satisfied that such information represents the current state of soil and groundwater contamination, 5) 6) so as to enable a quantified comparison to be made with the state of soil and groundwater contamination upon definitive cessation of activity. 	06/04/2022 or other date as agreed in writing with the Environment Agency
Improvement condition for primary containment		
IC7	The operator shall submit a written 'primary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a qualified engineer, and shall assess the extent design specification and condition of primary containment systems where polluting liquids and solids are being stored, treated, and/or handled. The plan shall include: <ul style="list-style-type: none"> • An assessment of the physical condition of all primary containment systems (storage and treatment vessels) using a Written Scheme of Examination and their suitability for providing primary containment when subjected to the dynamic and static loads caused by catastrophic tank failure. • A program of works with timescales for the implementation of individual improvement measures necessary to demonstrate that the primary containment is fit for purpose or alternative appropriate measures to ensure all polluting materials will be contained on site. • A preventative maintenance and inspection regime. 	06/04/2022 or other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	The plan shall be implemented in accordance with the Environment Agency's written approval.	
Improvement condition for secondary containment design		
IC8	<p>The operator shall submit a written 'secondary and tertiary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a competent structural engineer, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of secondary and tertiary containment systems where all polluting liquids and solids are being stored, treated, and/or handled.</p> <p>The inspection shall consider, but not be limited to, the storage vessels, bunds, loading and unloading areas, transfer pipework/pumps, temporary storage areas, and liners underlying the site.</p> <p>The plan shall include:</p> <ul style="list-style-type: none"> • An assessment of the physical condition of all secondary and/or tertiary containment systems, using a Written Scheme of Examination and their suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure. • A program of works with timescales for the implementation of individual improvement measures necessary for the secondary and/or tertiary containment systems to comply with CIRIA C736 (2014) guidance, or equivalent. • A preventative maintenance and inspection regime. <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	06/04/2022 or other date as agreed in writing with the Environment Agency
Improvement condition for storage lagoon design		
IC9	<p>The operator shall submit a written 'storage lagoon plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a competent structural engineer, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of the existing site lagoon where digestate or compost leachate are being stored, treated, and/or handled.</p>	06/04/2022 or other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>The inspection shall consider, but not be limited to, the transfer pipework/pumps, and liners underlying the existing storage lagoon.</p> <p>The plan shall include:</p> <ul style="list-style-type: none"> • An assessment of the physical condition of the existing storage lagoon, using a Written Scheme of Examination and the suitability for providing containment when subjected to the dynamic and static loads caused by the digestate or compost leachate. • A program of works with timescales for the implementation of individual improvement measures necessary for the existing storage lagoon to comply with CIRIA C736 (2014) guidance, or equivalent. • A preventative maintenance and inspection regime. <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	
Improvement condition for lagoon cover and operational storage capacity		
IC10	<p>The operator shall provide a written "digestate storage plan" and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of a review of the current storage of digestate produced from site operations. The review shall examine site contingency arrangements in the event of closed landspreading periods, extreme weather conditions, site closure, and disease outbreak.</p> <p>The storage plan shall include:</p> <ul style="list-style-type: none"> • A review of existing cover arrangements on the existing storage lagoon used to store digestate and/or compost liquor to minimise odour, ammonia and methane emissions. • Proposals to install a cover on the existing lagoon with a timeframe for its installation. • Additional storage capacity on-site (at least 2 months storage) and storage capacity off-site. • Identification of alternative outlets for digestate and/or compost liquor – identify companies/permitted waste facilities that would be able to manage the digestate and/or liquor outputs, taking into account their permits and capacity constraints. <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	06/04/2022 or other date as agreed in writing with the Environment Agency
Improvement condition for review of effectiveness of abatement plant		

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC11	<p>Following the installation of odour abatement on site (IC3 and IC4), the operator shall carry out a review of the abatement plant on site, in order to determine whether the measures have been effective and adequate to prevent and where not possible minimise emissions released to air including but not limited to odour and ammonia.</p> <p>The operator shall submit a written report to the Environment Agency following this review for assessment and approval.</p> <p>The report shall include but not limited to the following aspects:</p> <ul style="list-style-type: none"> • Full investigation and characterisation of the waste gas streams. • Abatement stack monitoring results (not limited to odour and ammonia). • Abatement process monitoring results (not limited to odour and ammonia). • Details of air quality quantitative impact assessment including modelling and a proposal for site-specific “action levels” (not limited to odour concentration, hydrogen sulphide and ammonia). • Odour monitoring results at the site boundary. • Records of odour complaints and odour related incidents. • Recommendations for improvement including the replacement or upgrading the abatement plant. • Timescales for implementation of improvements to the abatement plant. <p>The operator shall implement the improvements in line with the timescales as approved by the Environment Agency.</p>	06/04/2022 or other date as agreed in writing with the Environment Agency
Improvement condition for assessment of methane slip		
IC12	<p>The operator shall establish the methane emissions in the exhaust gas from engines burning biogas and compare these to the manufacturer’s specification and benchmark levels agreed in writing with the Environment Agency. The operator shall, as part of the methane leak detection and repair (LDAR) programme, develop proposals to assess the potential for methane slip and take corrective actions where emissions above the manufacturer’s specification or appropriate benchmark levels are identified.</p>	06/04/2022 or other date as agreed in writing with the Environment Agency