

# **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/LP3491EE  
The Operator is: Hills Waste Solutions Limited  
The Installation is: Northacre Resource Recovery Centre  
This Variation Notice number is: EPR/LP3491EE/V008

### **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 and any changes to the operation of the installation.

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 19/07/2019 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 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 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 16/01/2020.

We considered it was in the correct form and contained sufficient information for us to begin our determination of the permit review.

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 Conclusion 3 (air emissions), 14(h), 23 and 34. We have therefore included Improvement Condition 1 and 2 in the Consolidated Variation Notice to ensure that the requirements of the BAT Conclusions are delivered before 17 August 2022.

### **IMPACT OF COVID-19 PANDEMIC**

**SPECIAL NOTE: Due to the impact of the Covid-19 pandemic, compliance officers are unable to visit site in order to conduct a site audit and review against the Waste Treatment BATc. Therefore, we have required compliance officers to undertake a desk-based assessment of compliance. Whilst we appreciate that this is not the normal approach, we do need to follow Government guidelines until the lockdown measures are eased.**

## **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 but not all of them will be relevant to the installation. 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> <ol style="list-style-type: none"> <li>I. commitment of the management, including senior management;</li> <li>II. definition, by the management, of an environmental policy that includes the continuous improvement of the environmental performance of the installation;</li> <li>III. planning and establishing the necessary procedures, objectives and targets, in conjunction with financial planning and investment;</li> <li>IV. implementation of procedures paying particular attention to: <ol style="list-style-type: none"> <li>(a) structure and responsibility,</li> <li>(b) recruitment, training, awareness and competence,</li> <li>(c) communication,</li> <li>(d) employee involvement,</li> </ol> </li> </ol>	CC	<p>Hills Waste Solutions Ltd have an externally accredited Environmental Management System (ISO 14001). The operator provided information (Appendix 1 – EMS overview, Appendix 2 - Environment &amp; Community Policy) with their Regulation 61 response to verify their compliance. It covers the relevant points required by BAT 1.</p> <p>Compliance with the ISO 14001 standard is assessed by an accredited certification body. The certification body undertakes periodic audits to ensure that the requirements are being met. These audits involve both a review of the system documentation and assessing the implementation in practice by observing process, interviewing staff and gathering evidence.</p> <p>The key features of ISO 14001 are:</p> <ul style="list-style-type: none"> <li>• Scoping what is and isn't included in the EMS</li> <li>• Understanding the organisation and the context within which it operates</li> <li>• Top management leadership and commitment</li> <li>• An environmental policy which is publicly available and commits the company to compliance with relevant legal and other requirements, continual improvement and prevention of pollution</li> <li>• Determining the significant environmental aspects and impacts of the company</li> <li>• Planning actions, setting objectives, targets and improvement programmes</li> <li>• Implementing controls for the identified significant environmental impacts and processes</li> <li>• Defining responsibilities and authorities for environmental issues</li> <li>• Using competent staff and non-employees</li> <li>• Effective communication of all issues</li> <li>• Monitoring and measuring performance, including internal and external audits</li> </ul>

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	<p>(e) documentation, (f) effective process control, (g) maintenance programmes, (h) emergency preparedness and response, (i) safeguarding compliance with environmental legislation;</p> <p>V. checking performance and taking corrective action, paying particular attention to:</p> <p>(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</p>		<ul style="list-style-type: none"> <li>• Being prepared for emergencies or other threats to the business</li> <li>• Periodic review by management of the output from the EMS and its performance</li> </ul> <p><b>EA assessment</b></p> <p>Permit condition 1.1 on general management requires the operator to manage and operate the activities:</p> <p>(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and</p> <p>(b) using sufficient competent persons and resources.</p> <p>[Note: For waste stream management , refer to BAT 2 For odour management plan, refer to BAT 12 For noise and vibration plan, refer to BAT 17]</p> <p><b>We are satisfied the operator is currently compliant with BAT 1.</b></p>



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	<p>properly implemented and maintained</p> <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> <p>X. waste stream management (see BAT 2);</p> <p>XI. an inventory of waste water and waste gas streams (see BAT 3);</p> <p>XII. residues management plan (see description in Section 6.5);</p> <p>XIII. accident management plan (see description in Section 6.5);</p>		

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	<p>XIV. odour management plan (see BAT 12)</p> <p>XV. noise and vibration management plan (see BAT 17).</p>		
2	<p>In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques listed below:</p> <p>(a) Set up and implement waste characterisation and pre-acceptance procedures;</p> <p>(b) Set up and implement waste acceptance procedures;</p> <p>(c) Set up and implement a waste tracking system and inventory;</p> <p>(d) Set up and implement an output quality management system;</p> <p>(e) Ensure waste segregation;</p> <p>(f) Ensure waste compatibility prior to mixing or blending of waste;</p> <p>(g) Sort incoming solid waste</p>	<b>CC</b>	<p>The operator states they use all the techniques listed to achieve compliance:</p> <p>(a) The facility has been designed and built to process only Municipal Solid Waste (MSW) sourced from household collections in the County of Wiltshire, the waste received is therefore of a single type. Chemical and physical characterisation of this waste was carried out as part of the installation and commissioning of the Facility (ref Appendix 3 EMOP 51 – Northacre MBT MSW testing). Results are retained.</p> <p>Since full continuous operations commenced, additional waste from a neighbouring Council's household collections has been received. Testing of this waste was carried out to ensure that it did not significantly differ from that being received under the principal contract with Wiltshire Council.</p> <p>(b) Waste acceptance procedures are in place and consist of a visual inspection of waste prior to unloading into the reception bunker. Photographic records of a proportion of deliveries is maintained (see Appendix 4 example of waste inspection on arrival).</p> <p>(c) A waste tracking system is used. All deliveries of waste and dispatches of all fractions separated during the MBT process are recorded on an electronic weighbridge system. Waste is not specifically tracked through the treatment process other than the relative volumes of</p>

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			<p>the active and non-biologically active separated fractions. All waste received is processed through the initial separation and through the mechanical process. A mass balance is calculated. (ref Appendix 5 – MBT process flow chart).</p> <p>(d) An output quality management system is in place. RDF is sampled and analysed to ensure that the specification of the receiving processing plants are met. Contracts are in place with RDF off-takers, which specify the analytes and standards that are required to be met. Other solid stabilised outputs, disposed of to landfill, are periodically sampled and analysed. Output material flow of all solid fractions is monitored and recorded. Analytical results are retained (ref Appendix 13 – SRF sample analysis example)</p> <p>(e) All waste received is Municipal Solid Waste (MSW) of a similar composition and requires no segregation. RDF produced is stored in a separate dedicated part of the facility. Other solid outputs collected for onward disposal are collected into transit containers directly from the mechanical separation process and are not mixed with other wastes.</p> <p>(f) NA – All waste received is of a similar composition and delivered into a common reception bunker</p> <p>(g) Incoming waste is size separated using screening equipment to separate the biologically active waste components from the non-active fraction. This reduces the volume of waste requiring biological treatment. No other sorting takes place prior to the mechanical separation process in the preparation of RDF (ref Appendix 5 – MBT process flow chart)</p>

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			<p><b>EA assessment</b> The Environment Agency is satisfied the installation is currently compliant with BAT 2.</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: (a) simplified process flow sheets that show the origin of the emissions; (b) descriptions of process-integrated techniques and waste water/waste gas treatment at source including their performances;</p> <p>(ii) information about the characteristics of the waste water streams, such as: (a) average values and variability of flow, pH, temperature, and conductivity;</p>	<b>FC</b>	<p>The operator provided a process flow chart (ref Appendix 5) with their Regulation 61 response. Both process water and gas treatment flows are shown.</p> <p>Waste process water is not treated on site. It is collected for subsequent tankering to a third party authorised treatment facility. A sample analysis was provided (ref Regulation 61 response, Appendix 6 – leachate sample analysis). Data from analysis has been used to complete an annual Environment Agency Pollution Inventory Electronic Data Capture submission.</p> <p>Clean site drainage is discharged to sewer.</p> <p>The waste gas stream is monitored at the point source outlet from the biofilter and reported as required by Environmental permit EPR/LP3491EE.</p> <p><b>EA assessment</b> BAT 3 is referring to both direct and diffuse emission sources. The site should have an emission inventory of both direct and indirect emission sources of waste water <b>and</b> waste gas streams. Improvement condition 2 is therefore included in the permit, requiring the Operator to comply with this BAT conclusion with regard air emissions.</p>

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	<p>(b) average concentration and load values of relevant substances and their variability (e.g. COD/TOC, nitrogen species, phosphorus, metals, priority substances /micropollutants);</p> <p>(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> <p>(iii) information about the characteristics of the waste gas streams, such as:</p> <p>(a) average values and variability of flow and temperature;</p> <p>(b) average concentration and load values of relevant substances and their variability (e.g. organic compounds, POPs such as PCBs);</p> <p>(c) flammability, lower and higher explosive limits, reactivity;</p> <p>(d) presence of other substances that may affect the waste gas treatment system or plant safety (e.g. oxygen, nitrogen, water vapour, dust).</p>		

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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> <p>(a) Optimised storage location;  (b) Adequate storage capacity;  (c) Safe storage operation;  (d) Separate area for storage and handling of packaged hazardous waste.</p>	<b>CC</b>	<p>The operator uses the following techniques as stated in their Regulation 61 response:</p> <p>(a) No waste is received or stored outside the operational building. The process is designed such that waste, once received into reception pits, is handled automatically through the process. From the point of reception waste is only handled once, other than waste undergoing biological stabilisation, which is handled twice.</p> <p>(b) Maximum waste capacity is clearly established and detailed in an Environment Agency approved Fire Prevention Plan (ref Regulation 61 response, Appendix 7). Records of waste present in the facility are continually maintained. The maximum residence time of waste at the facility is detailed in the Fire Prevention Plan</p> <p>(c) Equipment used for loading and handling baled refuse derived fuel (RDF) in storage is appropriate for the task, installed with fire suppression systems, checked prior to use and is covered under preventative maintenance schedule. Waste known to be sensitive to heat, light, water, air etc. are not received and processed at the facility. Waste is not received in drums or containers. All waste is received in bulk and is loose. Containers holding residue from RDF preparation are suitable bulk waste containers appropriate for the task.</p> <p>(d) NA – hazardous waste is not accepted at the facility.</p> <p><b>EA assessment</b>  We are satisfied that the installation is currently compliant with BAT 4.</p>
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>	<b>CC</b>	<p>The operator states in their Regulation 61 response:</p> <p>All staff employed at the facility undergo induction and ongoing training to ensure a suitable level of competence. Training records are maintained and available for review.</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>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"> <li>• handling and transfer of waste are carried out by competent staff;</li> <li>• handling and transfer of waste are duly documented, validated prior to execution and verified after execution;</li> <li>• measures are taken to prevent, detect and mitigate spills;</li> <li>• operation and design precautions are taken when mixing or blending wastes (e.g. vacuuming dusty/powdery wastes).</li> </ul> <p>Handling and transfer procedures are risk-based considering the likelihood of accidents and incidents and their environmental impact.</p>		<p>As only a single type of waste (MSW) is received and processed at the facility; wastes are not mixed or blended but form one reception stockpile. Processing of this stockpile is monitored and volumes recorded. The activities take place inside an enclosed building with an impermeable surface.</p> <p><b>EA assessment</b></p> <p>The EA is satisfied that the operation is currently compliant with BAT 5.</p>

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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).	<b>NA</b>	<p>The operator states that waste water is not directly discharged but is removed from the facility by tanker for treatment at an appropriate third party facility.</p> <p>Water from external non-operational areas drains to a pond which has a penstock valve to stop the flow if necessary. The drainage then goes through an oil interceptor prior to discharge to sewer.</p> <p><b>EA assessment</b> There is no direct or indirect discharge from the site to controlled waters, therefore we are satisfied that BAT 6 is not applicable to the installation.</p>
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.	<b>NA</b>	<p>There are no direct or indirect discharges to controlled waters.</p> <p><b>EA assessment</b> We are satisfied that BAT 7 is not applicable to this installation.</p>
8	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	<b>FC</b>	The operator states in their Regulation 61 response:



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	use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.		<p>Channelled emission monitoring is currently carried out annually to comply with the monitoring and reporting requirement of EA Permit, schedule 2 (ref Regulation 61 response, Appendix 8) and includes specifically identified organic compounds.</p> <p><b>EA assessment</b></p> <p>The installation has a channelled emission point via a biofilter that treats the air extracted from the MBT building. The permit currently stipulates annual monitoring for a suite of parameters, <u>not</u> including those required by BAT 8.</p> <p>In order to ensure compliance with BAT 8, the permit has been amended to include monitoring frequency and standards as follows;</p> <p>Dust to EN13284-1 once every 6 months  H<sub>2</sub>S (no EN standard available), once every 6 months  NH<sub>3</sub> (no EN standard available), once every 6 months  Odour concentration to EN 13725, once every 6 months  TVOC to EN 12619, once every 6 months</p> <p><b>We are satisfied the operation will be future compliant with BAT 8.</b></p>
10	<p>BAT is to periodically monitor odour emissions.</p> <p>Odour emissions can be monitored using:</p>	<b>CC</b>	<p>The operator states in their Regulation 61 response:</p> <p>Odour emissions are regularly monitored (ref Appendix 9 – Northacre MBT odour and emissions monitoring plan). This plan was last reviewed in December 2019.</p>

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	<ul style="list-style-type: none"> <li>• 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);</li> <li>• 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.</li> </ul> <p>The monitoring frequency is determined in the odour management plan (see BAT 12).</p>		<p><b>EA assessment</b></p> <p>Please see BAT 8 above. The permit will stipulate 6 monthly monitoring of odour. We note that odour emissions are also currently periodically monitored.</p> <p>We are satisfied the operation is currently compliant with BAT 10.</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> <p>Monitoring includes direct measurements, calculation or recording, e.g. using suitable</p>	<b>CC</b>	<p>The operator states in their Regulation 61 response:</p> <p>The current permit (table S4.3) requires annual reporting of water, energy and raw materials use. Waste water generated and sent to an appropriate treatment facility is reported to the Environment Agency using quarterly E-waste returns. Residue generated as part of the installation activity but not relating to the residue from the processing of waste is reported to the Environment Agency on an annual basis.</p>

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	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.		<p>In monitoring consumption, the following techniques are used:</p> <ul style="list-style-type: none"> <li>- Invoices</li> <li>- Meter readings</li> <li>- Weighbridge information</li> </ul> <p><b>EA assessment</b> We are satisfied that the installation is currently compliant with BAT 11.</p>
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"> <li>• a protocol containing actions and timelines;</li> <li>• a protocol for conducting odour monitoring as set out in BAT 10;</li> <li>• a protocol for response to identified odour incidents, e.g. complaints;</li> <li>• an odour prevention and reduction programme designed to identify the source(s); to characterise the</li> </ul>	<b>CC</b>	<p>The operator states that the facility operates to an odour management plan (OMP) that is reviewed annually. The last review was in December 2019 (ref Appendix 9 Northacre MBT odour and emissions monitoring plan).</p> <p><b>EA assessment</b> The Environment Agency is satisfied the operator is currently compliant with BAT 12.</p>

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	contributions of the sources; and to implement prevention and/or reduction measures.		
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>	<b>NA</b>	<p>The operator states that the techniques do not apply to their installation.</p> <p><b>EA assessment</b></p> <p>Technique (a) NA (applicability is only to open systems).  Technique (b) NA (as it may hamper the desired output quality).  Technique (c) NA (as for aerobic treatment of waste other than waster-based liquid waste BAT 13 refers you to BAT 36).</p> <p>The Environment Agency is satisfied that BAT 13 does not apply to this installation.</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> <p>(a) Minimising the number of potential diffuse emission sources;  (b) Selection and use of high-integrity equipment;  (c) Corrosion prevention;</p>	<b>FC</b>	<p>The operator states they use an appropriate combination of techniques given to achieve BAT 14:</p> <p>Technique (a) Diffuse emission sources are minimised by the design of the facility. The waste reception, processing and handling all takes place in a building maintained at a lower pressure than the external environment. Waste gas is removed from the process and released to the atmosphere after passing through a biofilter. The length of ducting from the process to the biofilter is minimised by positioning the biofilter close to the waste processing areas. Minimal flanges are used. At this point, the gas stream is high in moisture and contains no dry dust. This ducting is under negative pressure.</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>(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</p>		<p>Technique (b) Not applicable as this is an existing installation with existing plant.</p> <p>Technique (c) Ducting noted in a) above is constructed of material appropriate for the moist waste gas passing through it with regard to corrosion resistance.</p> <p>Technique (d) Containment, collection and treatment of diffuse emissions is the principal technique used at the facility. The storage, treatment and handling of all waste materials is carried out in an enclosed building that is maintained at a pressure lower than that outside the building. The doors at the waste delivery point are fast acting by design. A door management procedure is followed to ensure doors are opened only when required and that only one vehicle door is opened at a time to maintain the pressure differential (ref Regulation 61 response, Appendix 10 – door opening procedures). Regular cleaning of the waste treatment area is carried out.</p> <p>Technique (e) and (g) Traffic areas are periodically cleaned with mechanical sweepers using water to damp down any dust. Waste reception, handling and processing areas are continually cleaned but are not a source of diffuse emissions as detailed in Technique (a).</p> <p>Technique (f) All doors including fast acting ones are included in the facility preventative maintenance schedule.</p> <p>Technique (h) Not applicable as this applies to organic compounds. These are not handled at the facility and emissions therefore not expected.</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><b>Environment Agency assessment</b></p> <p>We consider that technique (h) is appropriate and applicable to the installation as there are likely to be fugitive emissions from the bio drying hall. We have therefore included improvement condition 2 to ensure this BAT conclusion is met.</p> <p>The Environment Agency is satisfied that the installation will be future compliant with BAT 14.</p>
15	<p>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:</p> <p>(a) Correct plant design; (b) Plant management</p>	NA	<p>Flaring is not used at this site.</p> <p>The Environment Agency agrees that BAT 15 is not applicable to the installation.</p>
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>	NA	<p>Flaring is not used at this site.</p> <p>The Environment Agency agrees that BAT 16 is not applicable to the installation.</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"> <li>I. a protocol containing appropriate actions and timelines;</li> <li>II. a protocol for conducting noise and vibration monitoring;</li> <li>III. a protocol for response to identified noise and vibration events, e.g. complaints;</li> <li>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.</li> </ul>	NA	<p>The operator states this condition is not applicable; as noise and/ or vibration nuisance is not expected at sensitive receptor locations. In the past 4 years of operation, no complaints of noise or vibration have been received by the Facility.</p> <p><b>EA assessment</b></p> <p>We note the applicability of BAT 17 is restricted to cases where a noise or vibration nuisance at sensitive receptors is expected and/or has been substantiated. No incidents have been recorded, so the Environment Agency agrees that BAT 17 is not currently applicable to the installation. However, the permit contains conditions that should noise become an issue we can require a Noise Management Plan.</p> <p>We are satisfied that currently BAT 17 is not applicable to the installation.</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
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;  (b) Operational measures;  (c) Low noise-equipment;  (d) Noise and vibration equipment;  (e) Noise attenuation</p>	<b>CC</b>	<p>The operator states they use a combination of the following techniques to minimise noise and vibration:</p> <p>Technique (a) The facility is designed such that all processing of waste material is carried out inside a building where doors and windows remain closed unless access to or egress from the building is required. A number of fans are located outside this building but located in a position where they are surrounded by other buildings which act as screens.</p> <p>Technique (b) Equipment is inspected and maintained (preventative maintenance) on a regular basis and operated by competent staff. Heavy goods vehicle activity entering or leaving the facility is limited to the hours of 7am to 6pm.</p> <p><b>EA assessment</b>  The Environment Agency is satisfied the installation is currently compliant with BAT 18</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;  (b) Water recirculation;  (c) Impermeable surface;</p>	<b>CC</b>	<p>The operator uses an appropriate combination of techniques to achieve compliance, as given below:</p> <p>Technique (a) Water is not added to the process other than at the biofilter stage, the objective of the process being to allow the biological activity of the waste to generate heat and drive off moisture. Water is added to the biofilter to maintain moist ideal conditions for the organisms in the filter to perform optimally. The water used is primarily collected from rain falling on the roof of the facility.</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>(d) Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels;</p> <p>(e) Roofing of waste storage and treatment areas;</p> <p>(f) Segregation of water streams</p> <p>(g) Adequate drainage infrastructure;</p> <p>(h) Design and maintenance provisions to allow detection and repair of leaks</p> <p>(i) Appropriate buffer storage capacity</p>		<p>Technique (b) Not applicable as waste water (leachate) cannot be re-used in the biofilter because of contamination.</p> <p>Technique (c) All waste handling and processing takes place within a sealed building with all waste water generated being captured in holding vessels prior to despatch from the facility by tanker for treatment at an appropriate third party facility.</p> <p>Technique (d) Waste water collection vessels are monitored for the level of leachate. Excessive volumes are designed to remain in the contained drainage system and ultimately back-up under the plenum floor (false floor) in the bio-drying hall. 24 hour emergency arrangements are in place with a leachate haulage contractor should the removal of leachate from the facility be required.</p> <p>Technique (e) All waste handling and processing takes place within a sealed building. Rainfall onto this building does not come into contact with waste and is collected separately for re-use.</p> <p>Technique (f) Process water and surface run-off water are collected separately (reference Regulation 61 response, Appendix 11 - drainage plan).</p> <p>Technique (g) The waste handling and treatment areas have a purpose built drainage infrastructure. This is a sealed system collecting all process water and leachate from inside the operational building and delivering to underground storage tanks.</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>Technique (i) The contained drainage system of the process contains sufficient buffer for normal and abnormal operating conditions. Under abnormal conditions it is likely that less waste water would be generated.</p> <p><b>EA assessment</b> The Environment Agency is satisfied that the installation is currently compliant with BAT 19.</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><b>Preliminary and primary treatment, e.g.</b> (a) Equalisation (b) Neutralisation (c) Physical separation, e.g. screens, sieves, grit separators, grease separators, oil-water separation or primary settlement tanks</p> <p><b>Physico-chemical treatment, e.g.</b> (d) Adsorption (e) Distillation /rectification (f) Precipitation (g) Chemical oxidation (h) Chemical reduction (i) Evaporation</p>	<b>NA</b>	<p>The operator states that BAT 20 is not applicable to their installation. Waste process water is not treated at or discharged from the facility; all waste water is removed from the Facility by tanker for treatment at an appropriately permitted third party facility.</p> <p>Uncontaminated surface run-off water, not requiring treatment, is kept separate from waste process water and is discharged via an interceptor to sewer.</p> <p><b>EA assessment</b> There is no direct or indirect discharge from the site to controlled waters. Therefore we agree that BAT 20 is not applicable to the installation.</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>(j) Ion exchange (k) Stripping</p> <p><b>Biological treatment, e.g.</b> (l) Activated sludge process (m) Membrane bioreactor (n) Nitrification / denitrification when the treatment includes a biological treatment</p> <p><b>Solids removal, e.g.</b> (o) Coagulation and flocculation (p) Sedimentation (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>		

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
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>	<b>CC</b>	<p>The operator states in their response that they employ the following techniques to achieve compliance with this BAT conclusion:</p> <p>Technique (a) The facility is fully protected by palisade fencing with only one gated entry to the site. During outside hours when vehicle enter and leave the facility, the access gate is closed. The facility has an extensive CCTV system installed for security purposes. The facility is manned 24/7 either by employees or contract security. A fire detection and suppression system is installed at the facility (reference Appendix 7 – Fire Prevention Plan). Fire suppression is instigated automatically following any detection. Additionally, the fire detection system is constantly monitored remotely and the Fire Service will attend site unless stood down.</p> <p>Technique (b) Procedures covering containment are in place to deal with firefighting water and spillages (reference Fire Prevention Plan &amp; Northacre Spillage Clean-up procedure).</p> <p>Technique (c) Accidents and incidents are logged using a web based management system. This incorporates actions that are taken to prevent recurrence following investigation.</p> <p><b>EA assessment</b>  The Environment Agency is satisfied that the installation is currently compliance with BAT 21.</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>	<b>NA</b>	<p>The operator states that BAT 22 is not applicable as no materials are added to the waste to carry out treatment.</p> <p><b>EA assessment</b>  The Environment Agency is satisfied that BAT 22 is not applicable to the installation.</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
23	<p>In order to use energy efficiently, BAT is to use both of the techniques given below:</p> <p>(a) Energy efficiency plan; (b) Energy balance record</p>	<b>FC</b>	<p>The operator states they employ the following technique: Techniques (a) An energy efficiency audit has been carried out at the facility within the last 12 months (reference Regulation 61 response, Appendix 12 – summary audit records); while Technique (b) is not applicable as no energy is generated from the process.</p> <p><b>EA assessment</b> The operator has not got an energy efficiency plan or a complete balance record. We have therefore included an improvement condition IC2 in the permit to address this by the compliance date.</p> <p>We are satisfied the operator will be future compliant.</p>
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</p>	<b>NA</b>	<p>The operator states this BAT is not applicable. All waste received at the facility is delivered in bulk (either RCV, skip or bulk HGV) with no packaging.</p> <p><b>EA assessment</b> The Environment Agency is satisfied that BAT 24 is not currently applicable to the installation.</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
	is sent for appropriate treatment prior to reuse (e.g. reconditioning, cleaning).		
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>	<b>CC</b>	<p>The site accepts Municipal Solid Waste (MSW) only, which is collected by the local council. As such waste input is of one waste type only, selection is therefore not possible. Pre-acceptance and acceptance procedures are in place, and contracts stipulate that only MSW can be received.</p> <p><b>EA assessment</b> The Environment Agency is satisfied that the installation is currently compliant with BAT 33.</p>
34	<p>In order to reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H<sub>2</sub>S and NH<sub>3</sub>, BAT is to use one or a combination of the techniques given below:</p> <p>(a) Adsorption; (b) Biofilter; (c) Fabric filter;</p>	<b>CC with narrative BAT FC with Table 6.7 BAT-AELs</b>	<p>The operator states in their Regulation 61 response:</p> <p>At this installation, channelled emissions pass through a biofilter prior to discharge to atmosphere. The waste gas fed into the biofilter is wet and further watering of the biofilter media is carried out to maintain moisture content.</p> <p>Parameters listed in table 6.7 are not monitored. See Environmental Permit, see Appendix 8 for details of parameters monitored and reported.</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>(d) Thermal oxidation; (e) Wet scrubbing</p> <p>See also: Table 6.7: BAT-associated emission levels (BAT-AELs) for channelled NH<sub>3</sub>, odour, dust and TVOC emissions to air from the biological treatment of waste.</p>		<p><b>Environment Agency assessment</b></p> <p>The operator provided information to support compliance with BATc 34. A biofilter is used, BAT 34 (b), as abatement for emissions from the MBT plant.</p> <p>We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 34 with regards <u>narrative</u> BAT.</p> <p>We have set a BAT-AEL for ammonia, dust and TVOC as specified in the Waste Treatment BREF and BAT Conclusions. Improvement condition (IC1) has been included in the permit to achieve compliance. The operator is required to complete the improvement condition and demonstrate compliance with BAT-AEL for ammonia, dust and TVOC 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 condition (IC4): <u>Improvement condition for the review of effectiveness of abatement plant</u></p> <p>Improvement condition 4 requires the operator to review abatement plant on site, in order to determine whether existing measures have been effective and adequate to prevent and /or minimise emissions released to air. Where further improvements are identified, the operator is required to implement these measures.</p>
35	In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given below:	<b>CC/NA</b>	The operator states they use all the techniques given to achieve compliance with BAT 35:

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) Segregation of water streams; (b) Water recirculation; (c) Minimisation of the generation of leachate		<p>Technique (a) There is only one stream of waste water, which is separated from surface run-off.</p> <p>Technique (b) NA as process waste water is not of a composition that permits recycling or re-use. Surface run-off of water is not suitable for re-use in the process without further processing prior to use. The drainage system is not designed for such re-use. However, surface water falling on the roof of the facility is collected and used in preference to fresh water as a feed to the biofilter.</p> <p>Technique (c) NA - Optimising the water content of the waste is counterproductive to the process, which is designed to reduce the water content of the solid waste output.</p> <p><b>EA assessment</b></p> <p>The Environment Agency is satisfied that the operator is currently compliant with BAT 35(a) and that 35(b) and (c) are not applicable.</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> <ul style="list-style-type: none"> <li>waste input characteristics (e.g. C to N ratio, particle size);</li> </ul>	<b>CC</b>	<p>The operator states that the waste is Municipal Solid Waste (MSW) from households and the waste characteristics, such as particle size and C:N ratio, cannot be controlled.</p> <p>Temperature of waste undergoing bio-drying is monitored for fire safety reasons with the aim of the process being to remove as much moisture from the waste through self-heating of the waste and air stripping.</p> <p>The windrows (or sectors) are not distinct as in a composting facility but merge into one pile of approximately 4,000 tonnes that is not moved or turned while drying, over a period of approximately 15 days. However, air is continually drawn through the windrows by a series of</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"> <li>• temperature and moisture content at different points in the windrow;</li> <li>• aeration of the windrow (e.g. via the windrow turning frequency, O<sub>2</sub> and/or CO<sub>2</sub> concentration in the windrow, temperature of air streams in the case of forced aeration);</li> <li>• windrow porosity, height and width.</li> </ul>		<p>fans, to maintain aerobic conditions and remove moisture. The temperature of this air stream is monitored.</p> <p>The width of a windrow/sector is defined by the dimensions of the bio-drying hall, the height is detailed in the Fire Prevention Plan. Porosity is not applicable.</p> <p><b>EA assessment</b></p> <p>The EA is satisfied that the operation is currently compliant with BAT 36.</p>
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;</p> <p>(b) Adaptation of operations to the meteorological conditions</p>	<b>NA</b>	<p>This is not applicable as there are no open air treatment steps. All waste reception, handling and processing is conducted within the facility building.</p> <p>The Environment Agency is satisfied that BAT 37 is not applicable to the process.</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>	<b>NA</b>	<p>BAT 38 is applicable to anaerobic treatment only.</p> <p>The Environment Agency is satisfied that BAT 38 is not applicable to the process.</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>This includes monitoring and/or control of key waste and process parameters:</p> <ul style="list-style-type: none"> <li>• pH and alkalinity of the digester feed;</li> <li>• digester operating temperature;</li> <li>• hydraulic and organic loading rates of the digester feed;</li> <li>• concentration of volatile fatty acids (VFA) and ammonia within the digester and digestate;</li> <li>• biogas quantity, composition (e.g. H<sub>2</sub>S) and pressure;</li> <li>• liquid and foam levels in the digester.</li> </ul>		
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; (b) Recirculation of waste gas</p>	<b>NA</b>	<p>The incoming waste is homogenised in nature and therefore produces a single gas stream. The air circuit layout therefore does not lend itself to segregation or recirculation of the waste gas.</p> <p>The Environment Agency is satisfied that BAT 39 does not apply to this process.</p>

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

### Existing Medium Combustion Plant

The Operator provided further information on combustion plant on site. The operator confirmed there are no combustion plant used at the site. We have confirmed this information and no future action is required.

### Bioaerosols monitoring requirements

We asked the Operator to confirm the following aspects regarding the site operations in the Regulation 61 Notice:

- Whether or not the operational processes of biodegradable waste are in open processes within 250 metres of human receptors.
- Whether or not there is a channelled or point source release within 250 metres that are open sources e.g. biofilters within 250 metres of human receptors; and
- The existing permit contains bioaerosols monitoring requirements, the microbiological markers, associated bioaerosols limits and the monitoring standards

The Operator provided a Bioaerosols Assessment report in their response to the Regulation 61 Notice, which included a modelling report based on operational figures.

We carried out an assessment of the site location and the distance of site processes from sensitive local receptors as part of this determination.

The site operates a biofilter with a channelled air emission which is located within 250 metres of sensitive receptors.

We consider it appropriate to insert the bioaerosols monitoring requirements in the permit in accordance with our guidance TGN M9 Environmental monitoring of bioaerosols at regulated facilities (version 2, July 2018). The Operator is required to comply with the new monitoring requirements from the date of permit issue.

### 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 does not use, produce or release any relevant hazardous substances from the installation, therefore this section does not apply. Activities take place inside a building with impermeable floor and sealed drainage.

#### 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 S2.3 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.

#### **Secondary containment and storage infrastructure**

The Operator responded to the Regulation 61 notice, saying that they do not have secondary containment or storage lagoons on the site, so the questions in this section were not relevant. All waste activity takes place in an enclosed building on impermeable flooring with sealed drainage.

#### **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 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 (IC3) in the permit to address this aspect of the permit review (see Annex 3).

## 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).

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.

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
<b>Improvement condition for progress report to achieve BAT-AELs</b>		
IC1	<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"> <li>1) Current performance against the BAT-AELs.</li> <li>2) Methodology for reaching the BAT-AELs.</li> <li>3) Associated targets/timelines for reaching compliance by 17 August 2022.</li> <li>4) Any alterations to the initial plan (in progress reports).</li> </ol> <p>The report shall address the BAT Conclusions for Waste Treatment with respect to the following:</p> <ul style="list-style-type: none"> <li>• <b>BAT 34 Table 6.7</b> (compliance with BAT-AELs for channelled NH<sub>3</sub>, dust and TVOC emissions to air from the biological treatment of waste) and <b>BAT 8</b> (associated monitoring requirements).</li> </ul> <p><b>Refer to BAT Conclusions for a full description of the BAT requirement.</b></p>	<p>Progress reports at six monthly intervals from date of permit issue:</p> <p>04/05/2021 04/11/2021 04/05/2022</p>
<b>Improvement condition for progress report to achieve Narrative BAT</b>		
IC2	<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>	<p>Progress reports at six monthly intervals from date of permit issue:</p>

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	1) Methodology for achieving BAT 2) Associated targets/timelines for reaching compliance by 17 August 2022 3) Any alterations to the initial plan (in progress reports).  The report shall address the BAT Conclusions for Waste Treatment with respect to: <ul style="list-style-type: none"> <li>• <b>BAT 3</b> complete an emissions inventory</li> <li>• <b>BAT 14(h)</b> set up and implement a leak detection and repair (LDAR) programme</li> <li>• <b>BAT 23(a)</b> draw up and implement an energy efficiency plan and <b>(b)</b> make an energy balance record</li> </ul> <b>Refer to BAT Conclusions for a full description of the BAT requirement.</b>	04/05/2021 04/11/2021 04/05/2022
<b>Improvement condition for primary containment</b>		
IC3	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 a review conducted by a suitably qualified person.  The review shall include: <ul style="list-style-type: none"> <li>• the physical condition of all primary containment systems (i.e. underground leachate storage tanks);</li> <li>• the suitability of the primary containment when subjected to the dynamic and static loads caused by the vessels' contents;</li> <li>• a preventative maintenance and inspection regime.</li> </ul> The plan shall be implemented in accordance with the Environment Agency's written approval.	04/11/2020 or other date as agreed in writing with the Environment Agency
IC4	The operator shall carry out a review of the abatement plant on site, in order to determine whether the abatement 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.  The operator shall submit a written report to the Environment Agency following this review for assessment and approval.  The report shall include but not be limited to the following aspects: <ul style="list-style-type: none"> <li>• Full investigation and characterisation of the waste gas streams (see BAT3)</li> </ul>	04/11/2020 or other date as agreed in writing with the Environment Agency

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	<ul style="list-style-type: none"> <li>• Abatement stack monitoring results</li> <li>• Abatement process monitoring results</li> <li>• Details of air quality quantitative impact assessment including modelling and a proposal for site-specific “action levels”</li> <li>• Odour monitoring results at the site boundary</li> <li>• Records of odour complaints and odour related incidents</li> <li>• Recommendations for improvement including the replacement or upgrading the abatement plant</li> <li>• Timescales for implementation of improvements to the abatement plant</li> </ul> <p>The operator shall implement the improvements in line with the timescales as approved by the Environment Agency.</p>	