

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/DB3601HB
The Operator is: Hollybush Recycling Limited
The Installation is: Hollybush Farm
This Variation Notice number is: EPR/DB3601HB/V004

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 30 January 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 1, 2, 3, 4, 5, 8, 10, 12, 13, 14, 21, 22, 23, 33, 34, 35, 36 and 37.

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 regulation 61 Notice response.

We have therefore included Improvement Conditions IC5 and IC6 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; | FC | <p>The operator has stated that they are operating to BAT.</p> <p><u>Environment Agency assessment</u></p> <p>There appears to be key elements missing from previously submitted EMS documents.</p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p> |

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| | <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> <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> | | |

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| | <p>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).</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; (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</p> | FC | <p>The operator has stated that they are operating to BAT.</p> <p><u>Environment Agency assessment</u> There appears to be key elements missing from previously submitted EMS documents. Although there is information relevant to compliance with BATc 2 in the operator's EMS, we consider that aspects of BATc 2a have not been adequately addressed in the EMS with respect to characterisation of the following non-standard waste streams: EWC 02 04 01, 03 03 08, 03 03 11, 04 02 10, 04 02 21, 07 02 13, 17 02 01, 19 12 07, 20 01 38 and 20 03 01.</p> |

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| | | | <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition 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: (a) simplified process flow sheets that show the origin of the emissions;</p> | <p>FC BATc 3 (i) and (iii)</p> <p>N/A BATc 3 (ii)</p> | <p>The operator has stated that BATc 3 is not applicable to the installation, the installation however has four open vessel wood chip biofilters Table S3.1 - A1, A2, A3 and A4 which are channelled emissions to air. Table S3.1 has been updated to include monitoring requirements for Odour, Ammonia and</p> |

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| | <p>(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; (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> <p>(iii) information about the characteristics of the waste gas streams, such as: (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> | | <p>Hydrogen Sulphide together with associated BATc ELV's for odour and Ammonia.</p> <p>i) A Biofilter efficiency report has been submitted but does not consider efficiency or performance.</p> <p>iii) Full characterisation of waste gas streams not supplied, will require a complete inventory of gases input and out flow</p> <p>Average concentration and load values of relevant substances and their variability (e.g. organic compounds, POPs such as PCBs) – incomplete.</p> <p>Flammability, lower and higher explosive limits, reactivity; low risk but not eliminated.</p> <p>Presence of other substances that may affect the waste gas treatment system or plant safety</p> |

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| | | | <p>(e.g. oxygen, nitrogen, water vapour, dust) – not submitted.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>There appears to be key elements missing from previously submitted documents.</p> <p>Please also see BATc 8 and 34.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF</p> |

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| | | | and BAT Conclusions by the compliance date, 17 August 2022. |
| 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. | FC | <p>The operator has stated that they are operating to BAT.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>There appears to be key elements missing from previously submitted EMS documents, there is some detail in the OMP and FPP for wood waste only.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the</p> |

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| | | | improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022. |
| 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> | FC | <p>The Operator has stated that they are operating to BAT.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>There appears to be key elements missing from previously submitted EMS documents.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate</p> |

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| | | | 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). | N/A | <p><u>Environment Agency assessment</u></p> <p>There are no permitted channelled emissions of process waters either direct or indirect to controlled waters.</p> <p>We are satisfied that BATc 6 does not apply to the installation.</p> <p>Also See BATc 7 and BATc 20.</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. | N/A | <p><u>Environment Agency assessment</u></p> <p>There are no permitted channelled emissions of process waters either direct or indirect to controlled waters. Only clean surface waters</p> |

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| | | | <p>from non-operational areas are discharged to controlled waters.</p> <p>We are satisfied that BATc 7 does not apply to the installation.</p> |
| 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>The operator has stated that BATc 8 is not applicable.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>The installation however has four open vessel wood chip biofilters (A1, A2, A3 and A4) which are considered channelled emissions to air.</p> |

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| | | | <p>Tables S3.1 and S3.3 have been updated to include monitoring requirements for odour concentration, ammonia and hydrogen sulphide together with associated BAT-AEL for ammonia.</p> <p>Improvement condition IC5 and IC6 have been incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p> <p>Please also see BATc 3 and 34.</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); | FC | <p>The operator has stated that they have an approved odour management plan and are operating to BAT.</p> <p>Monitoring frequencies are not determined in the current OMP.</p> |

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| | <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>The site does generate odour complaints.</p> <p>Please also see BATc 12 to 14.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p> |

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| 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 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> | CC | <p>Water, energy and raw materials, and generation of residues and waste water are monitored and reported annually to the Environment Agency.</p> <p><u>Environment Agency assessment</u> We are satisfied that the Installation is currently compliant with BATc 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"> • 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. | FC | <p>The operator has stated that they currently have an approved odour management plan and are operating to BAT.</p> <p>IC1 in existing permit required the operator to obtain written approval for an updated OMP by the 24 July 2017. This improvement condition remains outstanding. Several versions have been rejected by the Environment Agency.</p> <p>The requirement for written approval should be progressed, an updated IC together with a new</p> |

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| | | | <p>deadline for submission has been included. Windrows are monitored for temp, moisture & gases. There are elements missing from the current OMP.</p> <p>The site does generate odour complaints.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p> |

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| | | | See also BATc 10. |
| 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>The operator has stated that they are operating to BAT.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</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> | FC | <p>The operator has stated that they are operating to BAT, EMS and dust management plan.</p> |

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| | <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 | | <p>IC1 in existing permit required the operator to obtain written approval for an updated OMP by the 24 July 2017. This improvement condition remains outstanding. Several versions have been rejected by the Environment Agency.</p> <p>The site does generate odour complaints.</p> <p>The operator has an approved dust management plan in place. However the site does generate dust complaints. Air monitoring unit has confirmed elevated Total Suspended Particulate (TSP) emanating from the site.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> |

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| | | | Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022. |
| 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> | N/A | <p>No flare on site.</p> <p><u>Environment Agency assessment</u> We are satisfied that BATc 15 does not apply 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> | N/A | <p>No flare on site.</p> <p><u>Environment Agency assessment</u> We are satisfied that BATc 16 does not apply to the installation.</p> |

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| 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. | CC | <p>The operator has confirmed that they currently have a noise management plan and are operating to BAT, Noise management plan and EMS.</p> <p>The site does not generate noise complaints.</p> <p><u>Environment Agency assessment</u> We are satisfied that the Installation is currently compliant with BATc 17. See also BATc 18.</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> <ul style="list-style-type: none"> (a) Appropriate location of equipment and buildings; (b) Operational measures; (c) Low noise-equipment; (d) Noise and vibration equipment; (e) Noise attenuation | CC | <p>The operator has confirmed that they currently have a noise management plan and are operating to BAT, Noise management plan and EMS.</p> <p>The site does not generate noise complaints.</p> |

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|-------------------|--|----------------------------|---|
| | | | <p><u>Environment Agency assessment</u> We are satisfied that the Installation is currently compliant with BATc 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> <ul style="list-style-type: none"> (a) Water management; (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 | CC | <p>There are no process waste water emitted directly or indirectly to controlled waters. All operations take place on impermeable surface with sealed drainage.</p> <p>Table S3.2 of the existing permit allows discharge of clean site surface waters only via emission point SW1 to brook (during heavy rainfall only) from inert and clean wood processing areas via attenuation trench (French Drain).</p> <p>Process waters are harvested into site tanks and treated through a reverse osmosis plant for re-use within on site processes.</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><u>Environment Agency assessment</u></p> <p>We are satisfied that the Installation is currently compliant with BATc 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><i>Preliminary and primary treatment, e.g.</i></p> <ul style="list-style-type: none"> (a) Equalisation (b) Neutralisation (c) Physical separation, e.g. screens, sieves, grit separators, grease separators, oil-water separation or primary settlement tanks <p><i>Physico-chemical treatment, e.g.</i></p> <ul style="list-style-type: none"> (d) Adsorption (e) Distillation /rectification (f) Precipitation (g) Chemical oxidation (h) Chemical reduction (i) Evaporation (j) Ion exchange (k) Stripping | CC | <p>There are no process waste waters emitted directly or indirectly to controlled waters.</p> <p>Table S3.2 of the EPR permit allows discharge of clean site surface waters from inert and clean wood processing areas only via attenuation trench (French Drains) via emission point SW1 to brook (during heavy rainfall only).</p> <p>Process waters are harvested into site tanks and treated through a reverse osmosis plant for re-use within on site processes and not discharged off-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 |
|-------------------|---|----------------------------|---|
| | <p>Biological treatment, e.g. (l) Activated sludge process (m) Membrane bioreactor (n) Nitrification / denitrification when the treatment includes a biological treatment</p> <p>Solids removal, e.g. (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> | | <p><u>Environment Agency assessment</u> We are satisfied that the Installation is currently compliant with BATc 20.</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> | FC | <p>The operator has stated that they are BAT compliant, working to EMS/accident management Plan.</p> <p><u>Environment Agency assessment</u> Appendix J of the EMS Fire and Accident Management Plan does not meet BAT conclusion requirements.</p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF</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 |
|-------------------|---|----------------------------|--|
| | | | and BAT Conclusions by the compliance date, 17 August 2022. |
| 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> | FC | <p>The operator has stated that they are working to BAT.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition 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 |
|-------------------|--|----------------------------|---|
| 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> | FC | <p>The operator has stated that they are working to BAT. The Installation makes use of solar panels to reduce mains energy consumption.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</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> | N/A | <p>No Packaging is used.</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 |
|-------------------|--|----------------------------|--|
| | 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><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc 24 does not apply to the installation.</p> |
| 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> | FC | <p>The operator has stated that they are operating to BAT, working to EMS and waste acceptance procedures.</p> <p>The site has an unapproved OMP in place.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</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>The site is non-compliant with BATc 2 requirement. There are ongoing issues with dust and odour causing nuisance therefore the operator must take steps to improve the environmental performance of the site.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</p> |
| 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> <p>(a) Adsorption; (b) Biofilter; (c) Fabric filter;</p> | FC | <p>The operator has stated that the biofilters are BAT compliant, with emissions being monitored bi-annually in accordance with permit conditions, with monitoring undertaken by a third party to UKAS accredited standards.</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 NH₃, odour, dust and TVOC emissions to air from the biological treatment of waste.</p> | | <p>Environment Agency records show that testing completed in 2012 (two biofilters) showed a 72 and 89% odour removal efficiency.</p> <p>There are now four wood chip open biofilters used to abate odour emissions and the Environment Agency would expect >90% efficiency in all units. The system should be effective to reduce odour to a level that does not have impact in raising overall odour emissions from site activities. Therefore the biofilters should be monitored for odour concentration and GCMS at least once per year, to confirm the effectiveness of the system.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence</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 data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>We have inserted the associated BAT-AEL for ammonia in Table S3.1. We have inserted the requirement to monitor ammonia, hydrogen sulphide and odour concentration on a 6-monthly frequency (Table S3.3), and have included improvement conditions (IC13 and IC14) which requires the operator to characterise and minimise emissions, review effectiveness of the abatement plant and abatement plant design.</p> <p>Improvement conditions IC5 and IC6 are incorporated into the permit to achieve compliance with BATc34 (see Annex 3). The operator is required to complete the improvement conditions (IC5, IC6, IC13 and IC14) and demonstrate compliance with the</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 |
|-------------------|---|----------------------------|--|
| | | | Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022. |
| 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> <ul style="list-style-type: none"> (a) Segregation of water streams; (b) Water recirculation; (c) Minimisation of the generation of leachate | FC | <p>The operator has stated that they are operating to BAT. Water is harvested into site lagoons and treated through a reverse osmosis plant for re-use on site. Leachate is stored in open lagoons.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3) The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF</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 |
|-------------------|---|----------------------------|---|
| | | | and BAT Conclusions by the compliance date, 17 August 2022. |
| 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"> • 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. | FC | <p>Measures are documented in the unapproved OMPv8 and EMS but appears to exclude detailed assessment to how waste input characteristics are monitored and controlled, windrow porosity, moisture contents etc. Windrows will need to be representatively monitored.</p> <p><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the</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 |
|-------------------|--|----------------------------|--|
| | | | improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022. |
| 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> | FC | <p>The operator has stated that they are BAT compliant, however no information has been provided to justify excluding the use of semi-permeable membranes or why they are not used.</p> <p>The site inspector has confirmed that there are issues with dust.</p> <p>Windrows are orientated North West to South East. The site is surrounded in part by a bund to prevent stripping. No details were provided in regard to height of windrows or other adaption to meteorological conditions. The Odour Management plan is not approved.</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><u>Environment Agency assessment</u></p> <p>The operator did not complete the appropriate Annex 1 spreadsheet section or provide appropriate supporting information, evidence or data as required by the Regulation 61 notice issued on 19 July 2019.</p> <p>Improvement condition IC6 is incorporated into the permit to achieve compliance (see Annex 3). The operator is required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.</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> <ul style="list-style-type: none"> pH and alkalinity of the digester feed; | N/A | The operator has stated that this BATc is not applicable to their installation. |

| 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"> • 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><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc 38 does not apply to the installation.</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> | N/A | <p>The operator has stated that this BATc is not applicable to their installation.</p> <p><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc 39 does not apply to the 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

There are no medium combustion plant on site.

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 did not provide information regarding bioaerosols monitoring in their response to the Regulation 61 Notice. We carried out an assessment of the site location and the distance of site processes from sensitive receptors as part of this determination.

There are external site operational processes within 250 metres of a sensitive receptor.

We have updated 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). We have removed the requirement to monitor gram negative bacteria. 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 did not submit a risk assessment which includes a description of the condition of the site and a consideration of the possibility of soil and groundwater contamination at the installation as required by the EPR 2016, Regulation 61 notice issued on 19 July 2019. No site baseline condition was included in the submission.

We have included Improvement condition IC7 which requires the operator to submit a site risk assessment to consider the possibility of soil and groundwater contamination at the installation. Improvement condition IC8 requires the operator to provide a site baseline report (soil and groundwater data) depending on the results of the risk assessment. 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 (IC9) in the permit to address this aspect of the permit review. See Improvement condition in Annex 3 of this decision document.

Secondary containment and lagoon storage infrastructure

The site includes secondary containment and a storage lagoon. The operator has not described secondary containment and confirmed whether it currently meets the relevant standard in the “Containment systems for the prevention of pollution (C736)” report or described how the construction of the lagoons meet CIRIA 759 report, as required by the EPR 2016, Regulation 61 notice issued on 19 July 2019.

We have set an improvement conditions in the permit to address the deficiencies in the existing site secondary containment and storage infrastructure (IC10, IC11 and IC12). See Improvement conditions in Annex 3 of this decision document.

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).

We also consider that we need to set improvement conditions relating to changes in the permit not arising from the review of compliance with BAT conclusions. The justifications for these are provided in Annex1 or Annex 2 of this decision document.

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 submit a revised odour management plan to the Environment Agency for written approval. The plan shall take into account the appropriate measures for odour control specified in section 2.2.6 of Sector Guidance Note IPPC S5.06 – <i>Guidance for the Treatment of Hazardous and Non Hazardous Waste</i>. The plan shall also incorporate all the required detailed information as specified in the Environment Agency's Horizontal Guidance H4 – <i>Odour Management</i>. The plan must contain dates for implementation of individual measures.</p> | 02/04/2021 |
| IC2 | <p>The operator shall develop and submit a fire prevention plan to the Environment Agency in writing. The plan shall take into account the required information as specified in the Environment Agency's technical guidance, Fire prevention plans (dated July 2016). The appropriate measures for fire prevention shall include:</p> <ul style="list-style-type: none"> • the management of storage of feedstock, product and/or waste piles • measures to prevent, detect and contain fires; and • the management of firewaters. <p>The notification requirements of condition 2.4.2 will be deemed to have been complied with on submission of the written proposals.</p> <p>The operator shall implement the procedures and measures in accordance with the Environment Agency's written approval.</p> | Completed |

| Table S1.3 Improvement programme requirements | | |
|---|--|---|
| Reference | Requirement | Date |
| IC3 | The operator shall submit a written plan to the Environment Agency for written approval. The plan must contain proposals for the provision of an impermeable concrete surface with sealed drainage for the oversize materials processing area, including construction standards and maintenance measures. The plan must contain timescales for the implementation of the work. | 02/04/2021 |
| IC4 | The operator shall undertake the works outlined within the plan submitted under Improvement Condition 3 and demonstrate to the Environment Agency for written approval that works have been undertaken in line with the relevant standards. | Within the timescales agreed by the Environment Agency under IC3 |
| Improvement condition for progress report to achieve BAT-AELs | | |
| IC5 | <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. 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> <ol style="list-style-type: none"> 5) 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 six monthly intervals from date of permit issue:</p> <p>02/04/2021 02/10/2021 02/10/2022</p> |
| Improvement condition for progress report to achieve Narrative BAT | | |
| IC6 | 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: | Progress reports at six monthly intervals from date of |

| Table S1.3 Improvement programme requirements | | |
|---|--|---|
| Reference | Requirement | Date |
| | 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 BAT 1 to 5, 8, 10, 12, 13 to 14, 21 to 23 and 33 to 37. Refer to BAT Conclusions for a full description of the BAT requirement. | permit issue: 02/04/2021 02/10/2021 02/10/2022 |
| Improvement condition for site risk assessment to prevent soil & groundwater pollution | | |
| IC7 | 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 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). | 02/10/2021 or other date as agreed in writing with the Environment Agency |
| IC8 | Where the risk assessment carried out under IC7 above establishes a risk to soil and groundwater, the operator shall: <ul 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 • 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, so as to enable a quantified comparison to be made with the state of soil and groundwater contamination upon definitive cessation of activity. | 02/10/2021 or other date as agreed in writing with the Environment Agency |

| Table S1.3 Improvement programme requirements | | |
|---|---|--|
| Reference | Requirement | Date |
| Improvement condition for primary containment | | |
| IC9 | <p>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 competent person, and shall compare the design specification of primary containment systems where all polluting liquids and solids are being stored, treated, and/or handled against the design standards within CIRIA C535 guidance or equivalent.</p> <p>The review shall include:</p> <ul style="list-style-type: none"> • physical condition of all primary containment systems (storage and treatment vessels); • the suitability for providing primary containment when subjected to the dynamic and static loads caused by the vessels’ contents; • any work required to ensure compliance with the standards set out in CIRIA C535 or equivalent; and • a preventative maintenance and inspection regime <p>The plan must contain dates for the implementation of individual improvement measures necessary for the primary containment to adhere to the standards detailed/referenced within CIRIA C535 guidance, or equivalent.</p> <p>The plan shall be implemented in accordance with the Environment Agency’s written approval.</p> | 02/10/2021 or other date as agreed in writing with the Environment Agency |
| Improvement condition for secondary containment design | | |
| IC10 | <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 a review conducted, by a competent person, 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> | 02/10/2021 or other date as agreed in writing with the Environment Agency |

| Table S1.3 Improvement programme requirements | | |
|--|--|--|
| Reference | Requirement | Date |
| | <p>The review shall consider, but not 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 must contain dates for the implementation of individual improvement measures necessary for the secondary and tertiary containment systems to adhere to the standards detailed/referenced within CIRIA C736 (2014) guidance, or equivalent.</p> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p> | |
| Improvement condition for storage lagoon design | | |
| IC11 | <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 a review conducted, by a competent person, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of the site lagoon(s) where digestate or compost leachate are being stored, treated, and/or handled.</p> <p>The review shall consider, but not limited to, the lagoon cover, transfer pipework/pumps, and liners underlying the storage lagoon. The plan must contain dates for the implementation of individual improvement measures necessary for the storage lagoon to adhere to the standards detailed/referenced CIRIA C736 (2014) guidance, or equivalent.</p> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p> | 02/10/2021 or other date as agreed in writing with the Environment Agency |
| Improvement condition for lagoon cover and operational storage capacity | | |
| IC12 | <p>The operator shall provide a written "digestate /compost liquor 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 and/or compost liquor produced from site operations. The review shall examine site contingency arrangements in the event of closed landspreading periods, extreme weather conditions, site closure, disease outbreak etc.</p> <p>The storage plan shall include:</p> | 02/10/2021 or other date as agreed in writing with the Environment Agency |

| Table S1.3 Improvement programme requirements | | |
|---|---|---|
| Reference | Requirement | Date |
| | <ul style="list-style-type: none"> Existing cover arrangements on storage lagoons used to store digestate and/or compost liquor to minimise odour, ammonia and methane emissions; 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 output(s), taking into account their permits and capacity constraints. <p>The plan shall be implemented in accordance with the Environment Agency’s written approval.</p> | |
| Improvement condition for review of effectiveness of abatement plant | | |
| IC13 | <p>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 | 02/10/2021 or other date as agreed in writing with the Environment Agency |

| Table S1.3 Improvement programme requirements | | |
|---|--|---|
| Reference | Requirement | Date |
| | <ul style="list-style-type: none"> • 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> | |
| Improvement condition for review of abatement plant design | | |
| IC14 | <p>The operator shall submit to the Environment Agency a written review report of the design details of the site ventilation system and abatement plant and obtain the Environment Agency's written approval to it.</p> <p>The report shall include but not limited to:</p> <ol style="list-style-type: none"> a) Ventilation design performance criteria for effective fugitive odorous emission control b) Design of the abatement systems that will ensure compliance with the odour condition 3.3. The report shall include a demonstration (whether by a detailed review of technical papers or by trial results) that all odorous chemical compounds and their loading rates expected in the relevant air streams have been considered in the design; and supporting evidence that the odorous compounds will be controlled and/or abated either by operating techniques or by the proposed abatement systems. c) Design alarms and triggers for each relevant scenario to alert the operator to the malfunction of both ventilation and abatement systems. The report should further list all relevant contingency mitigation actions to minimise risk of elevated odour pollution from the installation linked to each malfunction scenario and detail the actions to restore systems to normal operating conditions for effective odour control. <p>Ventilation and abatement systems should be designed by suitably qualified named engineers who can supervise and sign-off on construction quality assurance.</p> | 02/10/2021 or other date as agreed in writing with the Environment Agency |