

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/QP3090VL

The Operator is: Rodney Hill

The Installation is: Newbourne Farm Composting Facility

This Variation Notice number is: EPR/QP3090VL/V006

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.

The Variation Notice includes the addition of a swale to the site and a revised site plan. The swale will receive diverted surface water runoff during extreme rainfall events.

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 July 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 are not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised BAT standards described in the BAT Conclusions.

Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT-AEL) described in the BAT Conclusions Document, the Regulation 61 Notice required that the Operator make a

formal request for derogation from compliance with that BAT-AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request. The response to the Regulation 61 Notice was received from the Operator on 17 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, 10, 11, 12, 13, 14, 17, 18, 19, 21, 21, 23, 33, 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 response to the Regulation 61 Notice. We have therefore included Improvement Condition 1 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 Conclusion 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 which are applicable to the biowaste treatment 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	Operators response (this column to be removed before issue of permit)
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><u>Environment Agency assessment</u></p> <p>The Operator has provided information to support compliance with BATc 1. We have assessed the information provided and reviewed the site compliance report. We are not satisfied that the operator has demonstrated compliance with all the relevant points in BATc 1. The operator is required to review their existing environmental management system and bring it in line with the Waste Treatment BREF /BAT Conclusions.</p> <p>We consider that the operator will be future compliant with BATc 1. Improvement condition 1 has been included in the permit to achieve compliance (see Annex 3).</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>		

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Operators response (this column to be removed before issue of permit)
	XIII. accident management plan (see description in Section 6.5); XIV. odour management plan (see BAT 12) XV. noise and vibration management plan (see BAT 17).		
2	<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>	FC	<p>The operator has provided information to support compliance with BATc 2. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 2.</p> <p><u>Environment Agency assessment</u></p> <p>We have assessed the information provided in the site EMS. Although there is information relevant to compliance with BATc 2 in the operator's submission, we consider that aspects of BATc 2a, 2c, 2d and 2e have not been adequately addressed.</p> <p>The operator states that due to the low risk that the allowable inputs pose, waste sampling and characterisation is not undertaken at present. We do not agree with this statement. Waste sampling and</p>

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			<p>characterisation should form part of the site environmental management system which ensures that only appropriate wastes are received on site for biological treatment. Pre-acceptance procedures should include characterisation of the standard waste streams and non-standard waste streams for biological treatment (EWC 04 02 10, 17 02 01, 19 08 05 and 19 12 07).</p> <p>We consider that the operator will be future compliant with BATc 2a. Improvement condition 1 has been included in the permit to achieve compliance (see Annex 3).</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>	FC	<p>The operator reports that BATc 3 is not applicable to this Installation. The operator states that there is a process flow within the Safety and Quality Control System (SQCS) as part of the PAS 100 management system. This is seen to provide the descriptions of the process-integrated techniques. No evidence was provided to support this statement.</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><u>Environment Agency assessment</u></p> <p>We are not satisfied that the operator has demonstrated compliance with BATc 3 as BATc 3(i) applies to all sites.</p> <p>We consider that the operator will be future compliant with BATc 3(i). Improvement condition 1 has been included in the permit to achieve compliance (see Annex 3).</p>
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;</p>	FC	<p><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 4. We have assessed the</p>

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	(b) Adequate storage capacity; (c) Safe storage operation; (d) Separate area for storage and handling of packaged hazardous waste.		information provided and reviewed the site compliance report. The information does not provide relevant storage capacity details within the environment management system. We are not satisfied that the operator has demonstrated compliance with BATc 4. We consider that the operator will be future compliant with BATc 4. Improvement condition 1 has been included in the permit to achieve compliance (see Annex 3).
5	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. 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: <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; 	CC	<u>Environment Agency assessment</u> The operator has provided information to support compliance with BATc 5. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 5.

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	<ul style="list-style-type: none"> 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>		
6	<p>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).</p>	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc 6 is not applicable to this Installation.</p>
7	<p>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.</p>	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc 7 is not applicable to this Installation.</p>

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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>	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc 8 is not applicable to this Installation.</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); • 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>	FC	<p><u>Environment Agency assessment</u> The operator has provided information to support compliance with BATc 10. The operator acknowledges in their response to the Regulation 61 Notice that they need to develop their existing OMP and conduct odour monitoring in the form of sniff testing to fully operate in line with current BAT standards.</p> <p>Improvement condition IC1 has been included in 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>	FC	<p><u>Environment Agency assessment</u></p> <p>The operator acknowledges in their response to the Regulation 61 Notice that they require a way of recording water, energy and raw material usage in a central location to fully operate in line with current BAT standards.</p> <p>Improvement condition IC1 has been included in 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>
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; 	FC	<p><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 12. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to develop their existing OMP and commit to an annual review cycle</p>

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	<ul style="list-style-type: none"> • 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. 		<p>moving forward to fully operate in line with current BAT standards.</p> <p>Improvement condition IC1 has been included in 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>
13	<p>In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques given below:</p> <p>(a) Minimising residence times; (b) Using chemical treatment; (c) Optimising aerobic treatment</p>	FC	<p><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 13. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to review their existing management system and incorporate relevant elements of Technique A.</p> <p>Improvement condition IC1 is included in the permit to achieve compliance (see Annex 3). The operator is</p>

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			required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.
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; (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>	FC	<p><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 14. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to review their existing Fugitive Emissions Management Plan and incorporate elements of the techniques as stated. The operator shall produce a check sheet to record any cleaning undertaken. Once these have been completed, the site will fully operate in line with current BAT standards.</p> <p>Improvement condition IC1 is incorporated into the permit to achieve compliance (see Annex 3). The</p>

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			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>	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc 15 is not applicable to this 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><u>Environment Agency assessment</u> We are satisfied that BATc 16 is not applicable to this 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. 	FC	<p>Environment Agency assessment</p> <p>The applicability of BATc 17 is restricted to cases where noise or vibration is expected at sensitive receptors or has been substantiated already.</p> <p>Noise or vibration has not been an issue at the site, so we accept that a Noise and Vibration Management Plan is not currently required. Condition 3.4 in the permit means that we can require a plan should it been deemed necessary in the future.</p> <p>Improvement condition IC1 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>
18	<p>In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given below:</p> <p>(a) Appropriate location of equipment and buildings;</p>	FC	<p>The operator has provided information to support compliance with BATc 18.</p>

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	(b) Operational measures; (c) Low noise-equipment; (d) Noise and vibration equipment; (e) Noise attenuation		<p><u>Environment Agency assessment</u></p> <p>We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to add in reference to experienced staff operating equipment within their Noise and Vibration Management plan.</p> <p>Improvement condition IC1 is included in 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>
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;</p>	FC	<p><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 19. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to review their</p>

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	<p>(c) Impermeable surface; (d) Techniques to reduce the likelihood and impact of overflows and failures from tanks and vessels; (e) Roofing of waste storage and treatment areas; (f) Segregation of water streams (g) Adequate drainage infrastructure; (h) Design and maintenance provisions to allow detection and repair of leaks (i) Appropriate buffer storage capacity</p>		<p>existing Fugitive Emissions Management Plan and review their Fire Prevention Practices and required buffer tank storage.</p> <p>In addition, the operator has not adequately addressed BATc 19h with respect to detecting leaks in the underground tank (capacity of 54,500 litres) used for the storage of surface and process water.</p> <p>The report on the primary containment provided in the response shows that the tank is believed to have been constructed from 8 mm steel and concreted in position after placement (concrete base and sidewalls), theoretically providing secondary containment, however the installation was not supervised and the tank's water tightness has not been tested since construction and cannot be verified.</p> <p>Improvement condition IC1 is included in the permit to achieve compliance (see Annex 3). The operator is</p>

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			required to complete the improvement condition and demonstrate compliance with the Waste Treatment BREF and BAT Conclusions by the compliance date, 17 August 2022.
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 	NA	<p><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc 20 is not applicable to this Installation.</p>

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	<p>(j) Ion exchange (k) Stripping</p> <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>		

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Operators response (this column to be removed before issue of permit)
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><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 21. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to develop their existing Accident Management Plan and commit to an annual review cycle to be in line with current BAT standards.</p> <p>Improvement condition IC1 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>
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>	NA	<p><u>Environment Agency assessment</u></p> <p>We are satisfied that BATc 22 is not applicable to this Installation.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Operators response (this column to be removed before issue of permit)
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><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 23. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to develop an Energy Efficiency Management Plan to fully operate in line with current BAT standards.</p> <p>Improvement condition IC1 is included 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> <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,</p>	CC	<p><u>Environment Agency assessment</u></p> <p>We have assessed the information provided and considering the nature of the wastes received and treated at the Installation, we are satisfied that the operator has demonstrated compliance with BATc 24.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Operators response (this column to be removed before issue of permit)
	packaging 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>	FC	<p><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 33. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to develop permit documents to detail how the nutrient balance, moisture and toxic compounds are managed during treatment.</p> <p>Improvement condition IC1 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	Operators response (this column to be removed before issue of permit)
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; (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>	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc 34 is not applicable to this Installation.</p>
35	<p>In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given below:</p> <p>(a) Segregation of water streams; (b) Water recirculation; (c) Minimisation of the generation of leachate</p>	CC	<p><u>Environment Agency assessment</u> The operator provided information to support compliance with BATc 35. We have assessed the information provided and we are satisfied that the operator has demonstrated compliance with BATc 35.</p>

BAT Conclusion No	Summary of BAT Conclusion requirement for Waste Treatment	Status NA/ CC / FC / NC	Operators response (this column to be removed before issue of permit)
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><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 36. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to develop permit documents to detail how the nutrient balance, moisture and toxic compounds are managed during treatment. This is to include information from the PAS 100 Standard Operating Procedures and to include new controls of compost block height, width and porosity.</p> <p>Improvement condition IC1 is included in 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	Operators response (this column to be removed before issue of permit)
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><u>Environment Agency assessment</u></p> <p>The operator has provided information to support compliance with BATc 37. We have assessed the information provided and reviewed the site compliance report. The operator acknowledges in their response to the Regulation 61 Notice that they need to write into the new permit management system adaptations of the operation to meteorological conditions. This is to include avoiding batch formation, batch turning, shredding or screening when the wind is over a certain wind speed or when the wind is blowing in the direction of the sensitive receptor.</p> <p>Improvement condition IC1 is included in 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	Operators response (this column to be removed before issue of permit)
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; • 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. 	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc 38 is not applicable to this 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; (b) Recirculation of waste gas</p>	NA	<p><u>Environment Agency assessment</u> We are satisfied that BATc 39 is not applicable to this Installation.</p>

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

Existing Medium Combustion Plant

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

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

The Operator reported that there are no combustion plant or generators associated with the permitted activity at the facility.

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 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.

The current permit contains bioaerosols monitoring requirements. We have updated the bioaerosols monitoring requirements in the permit to reflect our guidance TGN M9 Environmental monitoring of bioaerosols at regulated facilities (version 2, July 2018).

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 reports that the waste materials accepted for treatment at the facility are not hazardous. However, the operator stores diesel and lubricating oils for use in operational plant and equipment on site and these are hazardous materials.

The Operator submitted a site condition report (CE-NF0287-RP01) and an environmental risk assessment (CE-NF0287-RP01-H1) during the original application received on 04/11/2010. The documents considered the possibility of soil and groundwater contamination at the installation. Fuel and oil storage tanks are double bunded and capable of storing 110% of the tanks volume. The tanks are located on an impermeable surface in a building in the southern portion of the site. The volume and void space in the tanks are measured and maintained accordingly and the integrity of the tanks are routinely checked and maintained.

The Operator reports that given that no baseline ground or water conditions were established the time of application, the operator commits to collecting this data by 2021, ahead of the BAT compliance date of 22 August 2022.

We have included an Improvement condition in the permit (IC2) which requires the Operator to submit an updated site condition report which includes baseline soil and groundwater data. See Improvement condition in Annex 3 of this decision document.

Waste types

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

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

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

Other wastes (non-standard waste codes)

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

Waste code	Description
04 02 10	organic matter from natural products (un-dyed and untreated only)
17 02 01	wood
19 08 05	sludges from treatment of urban waste water
19 12 07	wood other than that mentioned in 19 12 06

We consider that the Operator will be future compliant with BATc 2a. Improvement condition 1 has been included in the permit to achieve compliance (see Improvement condition in Annex 3 of this decision document).

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

Excluded wastes (99 waste codes)

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

Waste code	Description
02 02 99	wastes not otherwise specified (including horse manure, farmyard manure and bedding only)

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

The guidance specifies that the Operator must:

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

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

Secondary containment design

We asked the Operator via the Regulation 61 Notice to:

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

The Operator’s report included a review of the design, method of construction and integrity of the site secondary containment which was carried out by a structural or civil engineer. The review compared the existing site secondary containment against CIRIA C736.

The report included a review of the:

- physical condition of the secondary containment;
- future work required to ensure compliance with the standards set out in CIRIA C736 or other relevant industry standard; and
- Recommendations

We assessed the Operator’s assessment having regard to following guidance documents:

- CIRIA C736 Containment systems for the prevention of pollution
- ADBA Industry Guide: Secondary Containment at AD Plants (Version 1, 2016);
- ADBA PROjEN AD Containment Classification Tool

We reviewed the Operator’s report and its findings. We are not satisfied that the existing site containment meets the standards set out in CIRIA C736.

We have set an improvement condition in the permit to address the deficiencies in the existing site secondary containment (IC3). See Improvement condition 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 (IC4) in the permit to address this aspect of the permit review. See Improvement condition 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 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.

Improvement programme requirements		
Reference	Requirement	Date
Improvement condition for progress report to achieve Narrative BAT		
IC1	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 17 August 2022. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> 1) Methodology for achieving BAT 2) Associated targets /timelines for reaching compliance by 17 August 2022 3) Any alterations to the initial plan (in progress reports). <p>The report shall address the BAT Conclusions for Waste Treatment with respect to BAT 1, 2, 3, 4, 10, 11, 12, 13, 14, 17, 18, 19, 21, 21, 23, 33, 36 and 37.</p> <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>02/03/2021 02/09/2021 02/03/2022</p>
Improvement condition for site risk assessment to prevent soil & groundwater pollution		
IC2	<p>The operator shall:</p> <ol style="list-style-type: none"> a) prepare and submit a baseline report compliant with Article 22 of the Industrial Emissions Directive (IED) containing information necessary to determine the current state of soil and groundwater contamination; or 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, <p>so as to enable a quantified comparison to be made with the state of soil and groundwater contamination upon definitive cessation of activity.</p>	<p>12 months from date of permit issue or other date as agreed in writing with the Environment Agency</p>
Improvement condition for secondary containment design		

Improvement programme requirements		
Reference	Requirement	Date
IC3	<p>The operator shall submit a written 'secondary containment report' and shall obtain the Environment Agency's written approval to it.</p> <p>The report must:</p> <ul style="list-style-type: none"> include the results of remedial actions taken in response to the recommendations contained within the document entitled "Newbourne Farm Composting: Containment Structure and Associated Works Assessment; Regulation 61 (Schedule 1), Ref. 30425, February 2020; include a maintenance and inspection regime; and demonstrate that the recommended individual improvement measures necessary for the primary, secondary and tertiary containment systems, surface and sub-surface water drainage and, underground pipework and infrastructure, to adhere to the standards detailed/referenced within CIRIA C736 (2014), or equivalent have been adequately implemented. <p>The report must be reviewed and validated by a competent person to ensure that the site's secondary containment is fully compliant with the standards set in CIRIA C736 (2014) - Containment Systems for the Prevention of Pollution - secondary, tertiary and other measures for industrial and commercial premises.</p>	12 months from date of permit issue or other date as agreed in writing with the Environment Agency
Improvement condition for primary containment		
IC4	<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 	12 months from date of permit issue or other date as agreed in writing with the Environment Agency

Improvement programme requirements		
Reference	Requirement	Date
	<ul style="list-style-type: none"> • 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>	