Permitting Decisions- Variation

We have decided to grant the variation for Waste4Generation Ltd Corby operated by Waste4Generation Ltd.

The variation number is EPR/CB3902XP/V006.

The permit was issued on 04/10/2024.

This variation authorises the following changes to the permitted activities:

- This variation has been issued to update some of the conditions following a statutory review of the permits in the industry sector for biowaste treatment. The opportunity has also been taken to consolidate the original permit and subsequent variations.
- The maximum waste treatment capacity for the site has increased from 35,000 tonnes per annum to 109,500 tonnes per annum. This has an average daily volume of 300 tonnes.
- A new solid waste storage bay has been included in the permit. This bay is enclosed, with a roller shutter door. Solids are retained for less than 48 hours. This bay will have negative pressure and an odour abatement system installed.
- A new centralised odour abatement system has been installed on the site to take the place of the previous methane stripper.
- A nano-bubble polishing system has been included for ozone treatment of potentially odorous air and effluent.
- The following EWC codes have been added to Table S2.2 of the permit, and will be allowed for anaerobic digestion treatment: 19 07 03, 19 12 12, 16 01 15, and 16 03 06.
- The discharge to sewer of effluent has increased to 300 tonnes per day.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision-making process. It

- summarises the decision making process in the decision considerations section to show how the main relevant factors have been taken into account

- explains why we have also made an Environment Agency initiated variation
- shows how we have considered the consultation responses
- Annex 1 - Best Available Techniques Assessment

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit and the variation notice.

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential. The decision was taken in accordance with our guidance on confidentiality.

Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website.

We consulted the following organisations:

- Local Authority – Environmental Protection Department
- Director of PH/UKHSA
- Health and Safety Executive
- Food Standards Agency
- Sewerage Authorities

The comments and our responses are summarised in the consultation responses section.

The regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 ‘Understanding the meaning of regulated facility’, Appendix 2 of RGN2 ‘Defining the scope of the installation’, Appendix 1 of RGN 2 ‘Interpretation of Schedule 1’.

The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided plans which we consider to be satisfactory. These show the extent of the site of the facility. The plan is included in the permit.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

We have not consulted Natural England. The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory.

Bioaerosols

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

In addition, the site operates a biofilter which is located within 250 metres of a sensitive receptor.

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

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 submitted a site condition report during the original application. The site condition report included a report on the baseline conditions as required by Article 22. We reviewed that report and considered that it adequately described the condition of the soil and groundwater at that time.

Noise

We did not require the Operator to submit a Noise Impact Assessment or Noise Management Plan as part of the variation. Noise has been considered by the Operator as part of their Environmental Risk Assessment.

The number of vehicle movements in the yard area is likely to increase due to the increased throughput of waste. Vehicles movements will only occur during day time operating hours. The site is in an industrial park location.

The variation should not lead to a significant increase in noise emissions, and we have determined that the site will continue to not cause any significant noise pollution outside of the site boundary.

Condition 3.4.1 of the permit requires that noise emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency.

If notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, the Operator shall submit and implement a Noise and Vibration Management Plan which identifies and minimises the risks of pollution from noise and vibration.

Discharge to sewer

The operator has proposed to increase the volume of discharge to sewer to 300m^3 per day. We have reviewed the operator's sewer discharge consent. We are satisfied that the substances within the discharge should remain below the Environmental Quality Standards.

General operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate

techniques for the facility. The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

National Air Pollution Control Programme

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit.

Odour management

We have reviewed the Odour Management Plan in accordance with our guidance on odour management.

There is a new solids reception bay as part of this variation. This is an enclosed shed with negative pressure, and odour abatement unit. The solid waste shall have a short retention time of <48 hours, and odorous wastes shall be rejected as part of the sites waste acceptance procedures. A misting system shall be used whilst the solid waste is being unloaded into the reception bay. The plant associated to the movement of solid wastes shall be regularly cleaned and stored within the main building when not in use.

All relevant waste storage and treatment areas shall be connected to odour abatement systems. The permit includes requirements for the operator to monitor the odour abatement systems to ensure that they are working effectively. We have further included two improvement conditions (IC3 of Table S1.3 in the permit), to ensure that the odour abatement systems are working effectively.

Previous complaints

The site has experienced historic odour issues, including substantiated complaints. The Environment Agency have historically required the operator to implement improvements to prevent odour pollution from the site.

The operator has identified the following measures that have been implemented to prevent odour pollution.

- Daily odour monitoring is undertaken at the site boundary and at set receptors. Detection of odours shall lead to corrective measures.
- Daily clean down procedures.
- All IBCs are correctly labelled and are covered.
- The warehouse roller shutter doors are kept closed, unless open for access/maintenance.
- There are no open drains, gulleys or sumps on site.
- All site drains are bleached and cleaned a minimum of once per day. This prevents any odours emitting from any residues.

- Any spillages on site are dealt with immediately. Chemically treated, (bleach water), and washed down.
- Any equipment or tanks that may need maintenance works are cleaned and deodorised prior to the commencement of any works.
- All vented tanks are connected to our odour abatement system. As such there will be no odours being emitted into the air from these tanks.
- All tanks are covered to prevent odours being emitted.
- All tankers being loaded with feedstock have their venting pipe connected to our odour abatement system. These emissions will pass through our filter system before being released into the air.
- All hauliers have been notified that offensively smelling vehicles will be refused entry to the site
- No feedstock that is deemed could cause us an odour issue is accepted onto site.
- Use of a rotary atomiser deodorising system on site. This is used whenever there is a vehicle on site. This system and the associated deodoriser solution is designed to neutralise any airborne odours it contacts.

We have approved the Odour Management Plan as we consider it to be appropriate measures based on information available to us at the current time. The applicant should not take our approval of this plan to mean that the measures in the plan are considered to cover every circumstance throughout the life of the permit.

The applicant should keep the plans under constant review and revise them annually or if necessary sooner if there have been complaints arising from operations on site or if circumstances change. This is in accordance with our guidance ‘Control and monitor emissions for your environmental permit’.

The plan has been incorporated into the operating techniques S1.2.

Permit condition 3.3.1 requires that emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

Updating permit conditions during consolidation

We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permits.

Waste types

We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility. 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; and
- the environmental risk assessment is acceptable.

Other wastes (non-standard waste codes)

The following wastes in the current permit are not specified in the revised biowaste treatment permit templates.

The applicant has demonstrated by providing evidence from trials run that waste types 08 04 14 and 08 04 16 can be adequately treated at the facility.

Waste code	Description
04 01 05	tanning liquor free of chromium
04 01 07	sludges, in particular from on-site effluent treatment free of chromium
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15
20 03 06	waste from sewage cleaning

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.

The following wastes were applied to be added to the permit. We have included these wastes in Table S2.2 or the permit.

Waste code	Description
16 01 15	antifreeze fluids other than those mentioned in 16 01 14
16 03 06	organic wastes other than those mentioned in 16 03 05
19 07 03	landfill leachate other than those mentioned in 19 07 02

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

Excluded wastes (99 waste codes)

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

Waste code	Description
02 02 99	sludges from gelatine production, animal gut contents
02 03 99	sludge from production of edible fats and oils to include seasoning residues, molasses residues, residues from production of potato, corn or rice starch
02 04 99	off-specification molasses from the sugar refining process
02 07 99	spent grains, hops and whisky filter sheets/ cloths, yeast and yeast like residues, sludge from production process.

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].

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme. We have included an improvement programme to ensure that

Emission limits

Emission Limit Values (ELVs) have been added to the for the following substances:

- Channelled emissions such as odour abatement stack or vents – Ammonia 20 mg/m^3.

We have also set action levels for bioaerosols in Table S3.4 of the permit.

Monitoring

We have decided that monitoring should be added for parameters, using the methods detailed in the Permit Tables S3.1, S3.3 and S3.4. These monitoring requirements have been included in line with the standard biowaste installation monitoring requirements.

Reporting

We have added reporting in the permit, as outlined in Schedule 4 of the permit. These reporting requirements have been included in line with the standard biowaste installation monitoring requirements.

Previous performance

We have assessed operator competence. There is no known reason to consider the applicant will not comply with the permit conditions.

Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit variation.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Consultation Responses

The following summarises the responses to consultation with other organisations, and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from: UK Health Security Agency.

Brief summary of issues raised: The main emissions of potential concern are fugitive releases of bio-aerosols and odorous gases. Reducing public exposures to non-threshold pollutants.

Summary of actions taken: Please see odour section on page 6 of this decision document.

Response received from: Northamptonshire Council Environmental Health.

Brief summary of issues raised: Previous odour complaints should be considered. A question of how members of the public will know who to contact for odour issues.

Summary of actions taken: Please see odour section on page 6 of this decision document.

Representations from individual members of the public

No responses were received.

Annex 1 BAT Review

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.

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

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice), 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 (BAT Compliance Date), which will then ensure that operations meet the revised standards, or
- justifies why standards will not be met by 17 August 2022, and confirmation of the date when the operation of those processes will cease within the Installation or an explanation of why the revised BAT standards are not applicable to those processes, or
- justifies why an alternative technique will achieve the same level of environmental protection equivalent to the revised BAT standards described in the BAT Conclusions.

Where the Operator proposed that they were not intending to meet a BAT standard that also included a BAT Associated Emission Level (BAT-AEL) described in the BAT Conclusions Document, the Regulation 61 Notice required that the Operator make a formal request for derogation from compliance with that BAT-AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

The BAT Assessment from the Operator was received on 30/05/2023. We considered it was in the correct form and contained sufficient information for us to begin our determination of the permit review but not that it necessarily contained all the information we would need to complete that determination.

Based on our records and previous experience in the regulation of the installation we have no reason to consider that the Operator will not be able to comply with the techniques and standards described in the BAT Conclusions.

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.

BATc No	Summary of BAT Conclusion requirement for Waste Treatment	Compliance
1	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 features stated in BATc1.	Compliant
2	In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques listed below: (a) Set up and implement waste characterisation and pre-acceptance procedures; (b) Set up and implement waste acceptance procedures; (c) Set up and implement a waste tracking system and inventory; (d) Set up and implement an output quality management system; (e) Ensure waste segregation; (f) Ensure waste compatibility prior to mixing or blending of waste; (g) Sort incoming solid waste	Compliant
3	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).	Compliant
4	In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below: (a) Optimised storage location; (b) Adequate storage capacity; (c) Safe storage operation; (d) Separate area for storage and handling of packaged hazardous waste.	Compliant
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: • 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). Handling and transfer procedures are risk-based considering the likelihood of accidents and incidents and their environmental impact.	Compliant
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).	Not Applicable
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.	Not Applicable
8	BAT is to monitor channelled emissions to air with at least the frequency given in BATc 8, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	Compliant

BATc No	Summary of BAT Conclusion requirement for Waste Treatment	Compliance
10	BAT is to periodically monitor odour emissions. Odour emissions can be monitored using: • 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. The monitoring frequency is determined in the odour management plan (see BAT 12).	Compliant
11	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. 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.	Compliant
12	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: • 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.	Compliant
13	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: (a) Minimising residence times; (b) Using chemical treatment; (c) Optimising aerobic treatment	Compliant
14	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: (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	Compliant

BATc No	Summary of BAT Conclusion requirement for Waste Treatment	Compliance
15	BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using both of the techniques given below: (a) Correct plant design; (b) Plant management	Compliant
16	In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below: (a) Correct design of flaring devices; (b) Monitoring and recording as part of flare management	Compliant
17	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: 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.	Not Applicable
18	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: (a) Appropriate location of equipment and buildings; (b) Operational measures; (c) Low noise-equipment; (d) Noise and vibration equipment; (e) Noise attenuation	Compliant
19	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: (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	Compliant
20	In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques given.	Not Applicable

BATc No	Summary of BAT Conclusion requirement for Waste Treatment	Compliance
21	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): (a) Protection measures; (b) Management of incidental /accidental emissions; (c) Incident /accident registration and assessment system	Compliant
22	In order to use materials efficiently, BAT is to substitute materials with waste. 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).	Compliant
23	In order to use energy efficiently, BAT is to use both of the techniques given below: (a) Energy efficiency plan; (b) Energy balance record	Compliant
24	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). 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).	Compliant
33	In order to reduce odour emissions and to improve the overall environmental performance, BAT is to select the waste input. 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.	Compliant
34	In order to reduce channelled emissions to air of dust, organic compounds and odorous compounds, including H_2S and NH_3, BAT is to use one or a combination of the techniques given below: (a) Adsorption; (b) Biofilter; (c) Fabric filter; (d) Thermal oxidation; (e) Wet scrubbing See also: Table 6.7: BAT-associated emission levels (BAT-AELs) for channelled NH_3, odour, dust and TVOC emissions to air from the biological treatment of waste.	Compliant

BATc No	Summary of BAT Conclusion requirement for Waste Treatment	Compliance
35	In order to reduce the generation of waste water and to reduce water usage, BAT is to use all of the techniques given below: (a) Segregation of water streams; (b) Water recirculation; (c) Minimisation of the generation of leachate	Compliant
36	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. Monitoring and/or control of key waste and process parameters, including: • 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, O_2 and/or CO_2 concentration in the windrow, temperature of air streams in the case of forced aeration); • windrow porosity, height and width.	Not Applicable
37	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: (a) Use of semi permeable membrane covers; (b) Adaptation of operations to the meteorological conditions	Not Applicable
38	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. This includes monitoring and/or control of key waste and process parameters: • 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. H_2S) and pressure; • liquid and foam levels in the digester.	Compliant
39	In order to reduce emissions to air, BAT is to use both of the techniques given below: (a) Segregation of the waste gas streams; (b) Recirculation of waste gas	Compliant

Secondary containment

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

Risk assessment for secondary containment

We assessed site containment as part of the permit review. Our assessment is in two stages:

Stage 1 – A review of the site containment risk assessment; and

Stage 2 – A review of existing site containment – a demonstration that the existing site containment is fit for purpose i.e. meets the CIRIA C736 standards

The operator submitted a secondary containment report which consisted of an assessment of the site secondary containment in comparison to the CIRIA C736 standard. The report included a site-specific risk assessment methodology for the existing secondary containment in accordance with Chapter 2 of CIRIA C736.

In accordance with the CIRIA C736, the general framework for the risk assessment of containment adopts a three-step approach as follows:

Step 1 applies the source–pathway–receptor model to the site to assess the hazard presented by the inventory to the surrounding environment. The assessment of the source–pathway–receptor is combined to provide a **site hazard rating**. However, in many cases the nature and quantity of the inventory and knowledge of nearby sensitive receptors such as water bodies or designated habitats may be sufficient to determine that there is negligible (low site hazard rating) or, conversely, a high (high site hazard rating) risk.

Step 2 considers the likelihood of a loss of containment. This will depend on several factors such as the reliability of the operations and inspections undertaken on site, the conditions of the primary storage vessels and the degree they are protected from impact damage etc. Security will also be a consideration. The likelihood of a loss of containment is combined with the site hazard rating to provide a **site risk rating**.

Step 3 the site risk rating leads to a recommendation for an appropriate class of containment.

We assessed the operator's risk assessment in accordance with the following guidance documents:

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

We are satisfied that the risk assessment of the existing secondary containment is adequate with respect to the following aspects:

- The site hazard rating is accurate based on the details of the source-pathway-receptor assessment
- The site hazard risk rating is accurate based on the assessment of the likelihood of occurrence of each event that may lead to loss of containment

Consequently, we agree that the overall site risk rating is MEDIUM.

Assessment of existing secondary containment

The Operator's report included a review of the design, method of construction and integrity of the site secondary containment and storage which was carried out by a structural or civil engineer. The review compared the existing site secondary containment against CIRIA C736 or other [relevant industry standard]. The report included a review of the:

- physical condition of the secondary containment
- the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure;
- a preventative maintenance and inspection regime;
- future work required to ensure compliance with the standards set out in CIRIA C736 or other relevant industry standard; and
- Recommendations (where relevant)

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 meet the standards set out in CIRIA C736.

We have set improvement conditions in the permit to address the deficiencies in the existing site secondary containment (IC5).

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

We asked the Operator via the Regulation 61 Notice to provide a detailed report which describes an assessment of the suitability of any existing above ground storage or primary containment (tanks and/or vessels) used for the storage and treatment of waste in comparison to the relevant standard in the CIRIA C736 guidance or another equivalent industry standard.

We assessed the Operator's primary containment assessment having regard to the following guidance document as part of the permit review:

- CIRIA C736 Containment systems for the prevention of pollution

We reviewed the Operator’s report and its findings. We are not satisfied that the existing primary containment (tanks and vessels) meet the standards set out in CIRIA C736.

We have set improvement conditions in the permit to address the deficiencies in the existing site existing primary containment (IC4).