

Permitting decisions

Bespoke permit

We have decided to grant the permit for Brocklesby Biogas Anaerobic Digestion Facility operated by Advantage Biogas Limited.

The permit number is [EPR/JP3435DN](#).

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 checklist](#) to show how all relevant factors have been taken into account.

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

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision checklist](#) to show how all relevant factors have been taken into account
- shows how we have considered the [consultation responses](#).

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

Read the permitting decisions in conjunction with the environmental permit. The introductory note summarises what the permit covers.

Key issues of the decision

1. Installation description

The installation will process up to 70,000 tonnes per annum of pumpable liquid wastes, the majority expected to be sourced via underground pipeline from the adjacent Brocklesby Limited Fatty Acid Methyl Ester (FAME) Plant. Delivery by road tankers of a range of other pumpable liquid wastes from other sites or suppliers is also permitted. These wastes will be directed to one of four waste reception tanks.

Glycerol waste will be delivered by road tankers, approximately one per day, and stored in a dedicated storage tank.

Prior to arrival of new waste streams on site, the operator will carry out pre-acceptance and screening tests to ensure that the material is suitable for digestion within the anaerobic digestion plant.

Wastes will be passed through a macerator into the primary and then secondary digesters where retention time will be about 50 days in total. Biogas generated in the digesters will be stored in gas storage bags in the roof spaces above the secondary digester and digestate storage tank.

Final digestate will be heated in one of three pasteurisation tanks to a minimum of 70°C for at least one hour before being pumped to the digestate storage tank.

The biogas generated will be subject to desulphurisation by chemical dosing with ferric chloride and biological control on sulphur mats. The ferric chloride will be stored in a dedicated tank adjacent to the waste reception tanks.

All waste storage tanks, ferric chloride tank, digesters, pasteurisers and final digestate tank are contained within a bunded area.

Biogas will be burned in five combined heat and power (CHP) engines – four of which are located within the Brocklesby Biogas AD Facility and one, the largest, located on the adjacent Brocklesby Limited FAME Site which has surrendered the land from its existing environmental permit, EPR/JP3931SG, for this CHP unit and the underground pipeline supplying it with biogas from the Brocklesby Biogas AD Facility. These areas are now within the installation boundary for the Brocklesby Biogas AD Facility.

The electricity generated from CHP units 1 & 2 will be used for on-site operations at the anaerobic digestion plant and heat recovered from CHP unit 1 will be used for heating the waste storage process and pasteurisation tanks. Heat recovered from CHP unit 5 will be used for process heating at the Brocklesby Limited FAME plant. Electricity generated from the other CHP units is exported to the national grid.

There is a carbon filter at final digestate loading through which the air displaced from the tanker is sent to ensure no odour arises from this activity.

2. Management of odour emissions

The applicant submitted an odour management plan (OMP) dated January 2017 to demonstrate the systems that would be adopted on site to ensure no adverse odour impact at sensitive local receptors. This included:

- A review of local receptors;
- Potential sources of odour on site;
- A review of potential sources/pathways/receptors;
- Odour management & control measures; and
- Monitoring /community engagement/complaint handling.

The overall process is a sealed system. Gases are in continuity across the gas lines with the head spaces for the waste reception tanks, digesters and pasteurisers all connected. The gas storage bags have an internal membrane that can rise and fall with fluctuations in production and consumption of gas. The operator confirms there is therefore no requirement for odour control at waste reception tanks, digesters or

pasteurisers. Any odour is destroyed when the gas is burned in the five CHP units, all of which have a carbon filter on entry, or in the emergency flare.

The glycerol storage tank has a vent to atmosphere and is not in continuity with the sealed gas line system. Its head space is not connected to any other tank and no potentially odorous gases from the gas line can backflow into the tank and be released to atmosphere. The glycerol feeding lines from the glycerol tank to the digester and the secondary digester both have non-return valves which will prevent backflow of any odorous waste food substrate from the digestion tanks going back to the glycerol tank.

The two road tanker off-loading point lines have a non-return valve located in the lines. This will prevent any reverse flow of waste feed or odour through the lines back to the tankers. It is also part of the control philosophy that the tanks cannot be emptied down past the top of the inlet pipe. Although this is to prevent biogas moving into any part of the filling line and is included primarily as a safety measure, it also ensures that no odours could flow back to the tanker filling points.

The only odour that requires abatement is therefore that from the air displaced from road tankers loading final digestate for removal from site. There is a small stand-alone carbon filter for this operation to which the vent from the tanker will be connected before filling of the tanker commences. Once this is complete, the vent is disconnected and the carbon filter isolated.

As the wastes will be delivered to site in pumpable liquid form and directed to dedicated storage tanks, there is no waste reception facility which has the potential to generate odour. A significant proportion of the annual waste delivery is expected to arrive via underground pipeline from the adjacent Brocklesby Limited FAME plant again reducing the potential for odour. Should the waste be delivered to site by road tanker, it will be off-loaded into the storage tanks through a dedicated off-loading station. Any spillage of wastes will be collected in an adjacent sump from where it can be either pumped to the waste storage tanks or collected by a waste disposal company for off-site disposal. This would be carried out as quickly as possible to reduce the period of time any odorous wastes would be exposed to the atmosphere.

Quantitative odour impact assessment

The applicant provided quantitative odour dispersion modelling (1404-1r2, January 2017) to assess the impact of odour emissions from site activities at nine sensitive residential receptors. Odour emissions were modelled using the air quality modelling software, ADMS (version 5.2). The model considered only the potential emission from release point A20, vent from the carbon filter on the digestate loading system as potentially significant.

The modelling assessment used an odour emission concentration of 10,000 ouE/m^3 from release point A20. This was obtained from monitoring the odour emission from digestate tanker loading at a similar anaerobic digestion plant at Chatteris, Cambridgeshire. This value represented unabated odour emissions and is therefore worst-case for the situation at Brocklesby Biogas AD Facility as any odour from release point A20 will be abated by the carbon filter. The results from the odour modelling for the closest residential receptors are presented in Table 1 below. The figures shown are the maximum emissions at the residential receptors.

Table 1 – Maximum modelled odour concentrations at sensitive receptors

Sensitive Receptors		Modelled odour concentration ($C_{98\ 1\ hour\ ouE/m^3}$)
R1	Newport Road	0.024
R2	Newport Road	0.023
R3	Newport Road	0.017
R4	Newport Road	0.015
R5	Bungalow Farm	0.027
R6	Walnut Grove	0.016

Maximum modelled odour concentrations ranged from 0.015 ou_Em⁻³ to 0.027 ou_Em⁻³ and are below the 98th percentile of 1-hour odour concentrations indicative criterion for the most offensive odours (1.5 ou_Em⁻³). The Environment Agency audited the odour modelling and our results are in agreement with those of the applicant. We agree that odour emissions are not likely to contribute to odour annoyance at the sensitive receptors. However this is dependent on the plant operating at the parameters quoted in the modelling report.

The applicant re-modelled the odour impact to take into account the potential for two road tankers off-loading at the facility causing spillage at the same time (see Table 2 below). This was considered worst-case scenario based on spillage completely covering the tanker unloading areas and not being cleaned away throughout the entire unloading period. This modelling added these additional odour sources, at total odour emission rate of 138 ou_E/m²/s (based on data from a waste transfer station utilising food waste) and used the data for year 2010 whose meteorological data indicated maximum predicted odour at sensitive receptors.

Table 2 – Maximum modelled odour concentrations at sensitive receptors (worst case scenario)

Sensitive Receptors		Modelled odour concentration (C _{98 1 hour} ou _E /m ³)
R1	Newport Road	0.39
R2	Newport Road	0.023
R3	Newport Road	0.017
R4	Newport Road	0.015
R5	Bungalow Farm	0.027
R6	Walnut Grove	0.016

All predicted maximum modelled odour concentrations were below the 98th percentile of 1-hour odour concentrations indicative criterion for the most offensive odours (1.5 ou_Em⁻³). We consider that odour emissions are not likely to contribute to odour annoyance as a result of spilled feedstock.

In the absence of specific control on potential odour sources such as waste reception tanks, digesters, pasteurisers etc., the odour control system relies on the reliability of the sealed gas line and the continuity of the gases within that line. The operator will carry out inspections of the gas lines for potential leaks with the entirety of the line inspected over the course of a week. We consider that the odour control system employed by the operator with gases in continuity across a sealed gas line and the head spaces for the waste reception tanks, digesters and pasteurisers all connected, represents a non-typical approach to odour control within the anaerobic digestion sector.

We have therefore set improvement conditions 1 and 2 for the operator to demonstrate the effectiveness of the proposed odour abatement system against design parameters and to propose alternative measures if the system is not effective.

We have reviewed and approved the OMP provided by the operator including the additional information requested in the determination. We consider that the OMP complies with the requirements of the Environment Agency Technical Guidance H4 – Odour Management and the Draft Technical Guidance Note for Anaerobic Digestion (Reference LIT 8737). We agree with the scope and suitability of key measures but this should not be taken as confirmation that the details of equipment specification design, operation and maintenance are suitable and sufficient. That remains the responsibility of the operator.

3. Assessment of impact on air quality

The applicant's assessment of the impact of site activities on air quality is set out in the Application. The assessment comprises the dispersion modelling of emissions to air from the combustion of biogas in five CHP engines and boiler.

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the stack and its impact on local air quality. These assessments predict the potential effects on local air quality from the Installation's stack emissions using the ADMS (version 5.2) dispersion model, which is a commonly used computer model for regulatory dispersion modelling.

Meteorological data for the assessment comprises five years continuous monitoring from Leconfield Meteorological Station (2010 to 2014) located 18.1 km from the facility. The applicant's assessment has assumed "worse-case" scenario for conversion rates for NO_x using 35% in relation to short term impacts and 70% in relation to long term impacts. The impact of the terrain surrounding the site and buildings upon plume dispersion was considered in the dispersion modelling. As well as calculating the peak ground level concentration, the applicant has modelled the concentration of key pollutants at a number of specified locations within the surrounding area.

The pollutants considered in the assessment are those associated with combustion of biogas, namely nitrogen oxides, sulphur dioxide, carbon monoxide and total volatile organic compounds (VOCs). We are satisfied that there is no need to consider any other pollutants, as the fuel is biogas derived from separated biodegradable wastes.

The operator considered two operational scenarios:

- Scenario 1 – CHP engine units 1 to 5 operational
- Scenario 2 – CHP engine units 2 to 5 and biogas boiler operational.

CHP unit 1 and the biogas boiler will not operate concurrently at any time and this will be ensured by the programming in the SCADA (supervisory control and data acquisition) system. The flare will not operate at the same time as any other combustion plant item.

Impact of nitrogen oxides on human receptors

The applicant's modelling predictions indicate the predicted peak ground level exposure to pollutants in ambient air. We have made our own simple verification of the percentage process contribution and predicted environmental concentration submitted by the applicant. Our figures may be very slightly different to those shown in the Application. Any such minor discrepancies do not materially impact on our conclusions.

Table 3 shows the maximum modelled concentration of nitrogen oxides from the operation of the combustion plant at the most sensitive human receptor (Newport Road). We have not reported the grid maximum impact of pollutants in this decision document as the impact was contained within the site boundary with a small area outside the boundary to the south east of the facility. This area is scrubland and is not considered as locations of relevant exposure to employees and members of the public. In addition, we have not reported emissions of total VOCs and carbon monoxide as these pollutants were shown to be insignificant.

Table 3 – Maximum modelled annual mean concentration of nitrogen oxides at the most sensitive human receptor (R5 Newport Road)

Pollutant	ES	Back-ground	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
	µg/m ³	µg/m ³	µg/m ³	% of ES	µg/m ³	% of ES
Scenario 1						
NO ₂ (annual mean)	40	11.44	3.47	8.7	14.91	37.3
Scenario 2						
NO ₂ (annual mean)	40	11.44	3.26	8.2	14.7	36.8

The results in the table above show that the ground level annual PC of NO₂ at the most sensitive receptor is over 8% of the Environmental Standard (ES). We consider that the receptor ground level annual mean PC is significantly higher than the levels where emissions are considered insignificant (i.e. less than 1% of the annual mean ES). Our principal focus is with the long term impact of NO₂. We can use this as an indicator against which we carry out analyses of stack height, BAT and appropriate levels of dispersion. This is because annual NO₂ is the most sensitive to pollution taking into account the environmental impacts from likely emissions to atmosphere from this type of process.

We therefore requested additional information from the applicant to demonstrate how the current proposal was Best Available Techniques (BAT). Given the level of the NO₂ PC, we also requested that the applicant review their proposals to further reduce the impact of nitrogen oxides via a BAT options appraisal. The request was included in the information notice served on 30 June 2017.

BAT options appraisal for NO_x reduction

The applicant reported through the cost benefit analysis (HC1542-24, July 2017) that further reductions in NO_x emissions or their impact on the environment (by engine modification, new stack, raising the height of existing stacks) was not warranted or justified by the environmental benefits that would be realised.

We challenged this conclusion and in a follow-up air quality response (1404-4r2, September 2017), the applicant confirmed that engine modifications or the use of selective catalytic reduction (SCR) could reduce NO_x emissions from the CHP units from 500 mg/m³ to 250 mg/m³ with a corresponding reduction in maximum %PC from 8.7% to 4.4% of the annual mean ES. The applicant maintained that the costs of implementing the options would not be justified by the environmental benefits they delivered.

We did not agree with the applicant's conclusion of the cost benefit analysis. We considered that the applicant had not considered the option of reducing the number of combustion plants on site. In addition, we questioned the validity of the costs put forward by the applicant. Given that the maximum PC of NO₂ at the sensitive receptor is 8.7% of the long term ES without abatement, and that an engine modification or abatement via SCR would give a lower PC (a reduction by half, NO₂ PC of 4.4% of the long term ES), we did not consider that the applicant had demonstrated that their proposals preserved the best ambient air quality in the local environment. We notified the applicant of our decision.

The applicant committed to installing abatement technology to reduce the NO_x emissions associated with the plant on 12 October 2017. We agreed that this would represent BAT and that the applicant would be allowed to determine the most suitable technology to deliver the NO_x reduction specific to the facility and taking local environmental conditions into account.

In order to allow the applicant to commence commercial operation before the installation of the NO_x abatement for all the CHP engine units, we have agreed an interim operational regime that would allow a

reduced number of CHP engines to be operational at any one time (CHP 1 and 2; CHP 1 and 3 or CHP 1 and 4). This interim operational regime is supported by air quality modelling which ensures that the impact of nitrogen oxides from the facility is reduced (Reference 1404-6r2 dated 9 November 2017). We have set the interim operational regime in Table S1.1 and Table S3.1 in the Permit.

Impact of sulphur dioxide on human receptors

An initial Air Quality Assessment Report (1404-2r1, January 2017) assumed that the facility emitted the maximum permitted concentrations of SO₂ 24-hours per day, 365 days per year. The results indicated exceedances of the Environmental Standard for SO₂ within the modelling extents as a grid maximum.

The operator indicated that desulphurisation of the biogas could be carried out to limit the SO₂ emissions. This would result in a SO₂ emission concentration of 100 mg/m³ within the exhaust gases for all CHP units and the biogas boiler. Additional dispersion modelling was carried out with the reduced SO₂ emission limits which showed that the predicted SO₂ concentrations would now be below the relevant Environmental Standard.

We, and Public Health England have required the operator to install desulphurisation plant on site and this has been agreed.

4. Bioaerosols

The facility is not accepting any high risk materials that might generate bioaerosols. The feedstock from the adjacent Brocklesby Limited site are pumpable liquid wastes within a sealed system (underground pipeline). Should liquid wastes be delivered by road tanker, the off-loading point is greater than 250 metres from the nearest sensitive receptor. There are no open stockpiles of materials and no dusts generated by the feedstocks.

The applicant is proposing to employ the use of carbon filters rather than biofilters on site. We agree with the applicant's conclusion that the facility poses minimal risk for bioaerosols generation and that no site specific bioaerosols risk assessment or management plan is required.

5. Fire Prevention Plan

The facility will accept only pumpable liquid wastes. The waste delivered to site, by pipeline or road tanker, is wet and rapidly introduced to the process so there is little opportunity for combustion. The output (digestate) is also wet and loaded into road tankers for transport off site. The potential for combustion is low. The biogas generated is covered by the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) which ensures adequate safeguards are in place. We consider that a Fire Prevention Plan (FPP) is not required for this activity.

6. Fugitive Emissions

The applicant has provided a fugitive emissions management plan which satisfies us that measures are in place to prevent fugitive emissions to air, land and water. Odour and noise emissions are considered separately in this decision document.

Adequate bunding and secondary containment have been constructed around all the storage and process tanks which is designed to hold a minimum of 110% of the largest tank (digester, also known as fermenter) or 25% of total tank volume whichever is greater. Pre-operational condition 1 requires the operator to confirm, by means of a report, that the integrity of bunding and secondary containment is fit for purpose and in accordance with industry standards before commencement of operations.

The area around the tanker loading and off-loading points contains sumps to capture any spillage of materials during these operations. The main operational areas outside of the bunded area are set in an impermeable concrete surface which drains to the tanker loading and off-loading areas. Any spillages

collecting in these areas can be pumped back into the process from the sump or pumped to road tankers for removal from site.

The nature of the wastes, as pumpable liquids, and their delivery to site in sealed pipework or road tankers means there is little opportunity for release of fugitive dusts or particulate matter from the waste. Dust or mud from road vehicle movements can be controlled by the use of wheel washing and road spraying facilities. Inspections will be carried out for litter build-up on site.

7. Impact of noise and vibration emissions

The Application contained a noise impact assessment which identified local noise-sensitive receptors, potential sources of noise at the proposed Installation. Measurements were taken of the prevailing ambient noise levels to produce a baseline noise survey and an assessment was carried out in accordance with BS 4142:2014 to compare the predicted plant rating noise levels with the established background levels.

The assessment concluded that during daytime and night time periods, the operation of the proposed Installation at the predicted noise levels would be unlikely to cause complaints at any of the assessment locations as the change in noise impact at the sensitive receptors was assessed as being below marginal significance in line with BS4142.

The assessment carried out by the applicant was based on plant /equipment derived from other sites and not based on site operational data. From information supplied within the Application, we consider that the proposed Installation will not cause an additional noise impact at the nearest sensitive receptors.

We consider it prudent to set two improvement conditions (IC3 & IC4) in the permit to address any potential noise issues on site. Improvement condition 3 requires the operator to undertake a detailed assessment of noise and vibration from site activities at the facility including the combined operation of the adjacent FAME plant. The assessment shall be in accordance with BS 4142:2014. The assessment will have to measure noise levels at sensitive receptors and ensure the operator is in compliance with condition 3.3 of this permit.

Improvement condition 4 requires the operator to submit a report detailing proposals and timescales for the implementation of appropriate noise mitigation measures in the event the assessment indicates a significant impact on sensitive receptors outside the site boundary.

Based upon the information in the Application, we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise noise and vibration and to prevent pollution from noise and vibration outside the site.

8. Environmental Management System

We are satisfied that appropriate management systems and management structures will be in place for this Installation, and that sufficient resources are available to the operator to ensure compliance with all the Permit conditions. Pre-operational condition 2 is set in the permit which requires the operator to provide a written copy of the complete EMS and to make available for inspection all EMS documentation prior to the processing of waste at the AD facility.

9. Commissioning

The proposed Installation will undergo a period of commissioning before becoming fully operational. The IED and the conditions set out in the permit cover activities at the Installation once operational – accepting waste for treatment.

At the commissioning stage, operators are required to demonstrate that the plant (including any odour abatement system) is working effectively and that appropriate measures are in place to protect the environment and human health during this period (prior to the commencement of operations). As the plant is undergoing construction, we have included Pre-operational condition 3 in the permit which requires the operator to submit a commissioning plan to us for approval.

The commissioning plan will include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the measures to be taken to protect the environment and report to us in the event that actual emissions exceed expected emissions. Commissioning can only be undertaken in accordance with the approved commissioning plan. As the impact of odour emissions was the main concern during the determination, we expect the operator to pay particular attention to this issue in the commissioning plan.

10. Waste qualification – technically competent manager (TCM)

The applicant is a legal entity and has appropriate level of control and decision-making with regard to the facility and its operations. There are no recorded convictions and/or relevant offences lodged against the Applicant. Our National Enforcement Database has been checked and shows no relevant convictions.

The treatment of biodegradable waste by anaerobic digestion requires a Technically Competent Manager (TCM) under an approved scheme. We have set pre-operational condition 4 in the permit which requires the operator to provide evidence of appropriate technical competence for the treatment of biodegradable waste by AD prior to the treatment of waste to ensure that a TCM is in place at the facility.

Decision checklist

Aspect considered	Decision
Receipt of application	
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.
Consultation	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> • Director of Public Health/Public Health England • Inshore Fisheries & Conservation • Health and Safety Executive • East Riding of Yorkshire Council – Planning • East Riding of Yorkshire Council – Environmental Health • Sewerage Authority <p>The comments and our responses are summarised in the consultation section.</p>
Operator	
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.
The facility	
The regulated facility	<p>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 RGN 2 'Defining the scope of the installation', Appendix 1 of RGN 2 'Interpretation of Schedule 1', guidance on waste recovery plans and permits.</p> <p>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.</p>
The site	
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility including discharge points. The plan is included in the permit.
Site condition report	The operator has provided a description of the condition of the site, which we

Aspect considered	Decision
	consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.
Biodiversity, heritage, landscape and nature conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.</p> <p>We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.</p> <p>We have not consulted Natural England on the application. The decision was taken in accordance with our guidance. We have sent Natural England a copy of our Stage 1 Habitats Regulations Assessment for information.</p>
Environmental risk assessment	
Environmental impact assessment	<p>In determining the application we have considered the Environmental Statement.</p> <p>We have also considered the application for a non-material amendment following a grant of planning permission (Town and Country Planning Act 1990) to relocate tanker off-loading points outside of the bunded area. We are satisfied this is acceptable.</p>
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory.
Operating techniques	
General operating techniques	<p>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.</p> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p>
Operating techniques for emissions that do not screen out as insignificant	<p>Emissions of SO_x and NO_x cannot be screened out as insignificant. We have assessed whether the proposed techniques are BAT.</p> <p>We have required the operator to install desulphurisation of the biogas to reduce SO_x emissions from the facility.</p> <p>We have required the operator to install NO_x abatement technologies (engine modification) to reduce NO_x emissions from the facility.</p>
Operating techniques for emissions that screen out as insignificant	<p>Emissions of CO and VOCs (as benzene) have been screened out as insignificant, and so we agree that the applicant's proposed techniques are BAT for the installation.</p> <p>We consider that the emission limits included in the installation permit reflect the BAT for the sector.</p>

Aspect considered	Decision
Odour management	We have reviewed the odour management plan in accordance with our guidance on odour management. We consider that the odour management plan is satisfactory (see Key Issues).
Noise management	We have reviewed the noise management plan in accordance with our guidance on noise assessment and control. We consider that the noise management plan is satisfactory.
Permit conditions	
Use of conditions other than those from the template	Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template.
Raw materials	We have specified limits and controls on the use of raw materials and fuels.
Waste types	<p>We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.</p> <p>We are satisfied that the operator can accept these wastes for the following reasons:</p> <ul style="list-style-type: none"> • they are suitable for the proposed activities • the proposed infrastructure is appropriate • the environmental risk assessment is acceptable.
Pre-operational conditions	Based on the information in the application, we consider that we need to impose pre-operational conditions (see Key Issues).
Improvement programme	Based on the information on the application, we consider that we need to impose an improvement programme (see Key Issues).
Emission limits	<p>ELVs based on BAT have been set for the following substances:</p> <ul style="list-style-type: none"> • Nitrogen oxides, sulphur dioxide, carbon monoxide, total volatile organic compounds <p>It is considered that the ELV's described above will ensure that significant pollution of the environment is prevented and a high level of protection for the environment is secured.</p>
Monitoring	<p>We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.</p> <p>These monitoring requirements have been imposed in order to ensure emissions are within the permitted limits and that the anaerobic digestion process operates efficiently to minimise any potential impact on the environment.</p> <p>We made these decisions in accordance with Environment Agency How to comply with your environmental permit. Additional guidance for Anaerobic Digestion (Reference LIT 8737, November 2013).</p> <p>Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS</p>

Aspect considered	Decision
	certification or MCERTS accreditation as appropriate.
Reporting	<p>We have specified reporting in the permit.</p> <p>This is to ensure data are available to demonstrate compliance with the environmental permit and to monitor the efficiency of the process including material and energy use.</p> <p>Reporting forms have been prepared to facilitate reporting of data in a consistent manner.</p> <p>We made these decisions in accordance with Environment Agency How to comply with your environmental permit. Additional guidance for Anaerobic Digestion (Reference LIT 8737, November 2013).</p>
Considerations of foul sewer	<p>We agree with the operator's justification for not connecting to foul sewer.</p> <p>The facility is in a location where it is not reasonable to connect to the foul sewer.</p>
Operator competence	
Management system	<p>There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.</p> <p>The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.</p>
Technical competence	<p>Technical competence is required for activities permitted.</p> <p>The operator is a member of an agreed scheme.</p> <p>We are satisfied that the operator is technically competent.</p>
Relevant convictions	<p>The Case Management System has been checked to ensure that all relevant convictions have been declared.</p> <p>No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.</p>
Financial competence	<p>There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.</p>
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	<p>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.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“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</p>

Aspect considered	Decision
	<p>delivery of the protections set out in the relevant legislation.”</p> <p>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.</p> <p>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.</p>

Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
Public Health England (PHE)
Brief summary of issues raised
<p>PHE noted that the modelling in the application predicted exceedances of the Air Quality Objective for SO₂. It noted that the applicant had stated that de-sulphurisation of the biogas could be undertaken if deemed necessary by the regulator. PHE recommended that desulphurisation be included as a condition of any permit issued to the operator to minimise any impact from SO₂ emissions on the public health of residents in the vicinity of the site.</p> <p>Based on the information contained in the application supplied to us, Public Health England has no significant concerns regarding the risk to the health of the local population from the installation.</p> <p>This consultation response is based on the assumption that the permit holder shall take all appropriate measures to prevent or control pollution, in accordance with the relevant sector guidance and industry best practice.</p>
Summary of actions taken or show how this has been covered
<p>We ensured that the applicant committed to installing technology for desulphurisation of the biogas prior to the commissioning of the facility. The proposed Installation will be operated in accordance with BAT to prevent or control pollution as specified in our technical guidance notes: Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and H4 – Odour Management.</p>

No representations received from:
<ul style="list-style-type: none">• East Riding of Yorkshire Council (Environmental Health Department)• East Riding of Yorkshire Council (Planning Authority)• Director of Public Health, East Riding of Yorkshire Council• Health & Safety Executive• Inshore Fisheries & Conservation• Sewerage Authority• Members of the Public