

# Permitting decisions

## Bespoke permit

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We have decided to grant the permit for Wardley Biogas AD Facility operated by BioContract NewEnergy Ltd.

The permit number is EPR/GP3636QX/A001.

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:

- 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

## Odour

As the applicant (now the operator) proposes to accept and treat potentially odorous wastes, an odour management plan is required to be submitted to ensure that odour emissions are not causing pollution at the surrounding sensitive receptors. The nearest residential receptor is on Newcastle Road approximately 600 metres to the north.

## **Potential odour source inventory**

The applicant identified potential sources of odour emissions at the facility. These are:

- Waste feedstocks
- Digestate in digesters and pasteuriser
- Gas upgrading unit vent, boiler and combined heat and power (CHP) engine stacks
- Flare
- Final digestate
- Wash waters from cleaning tanks
- Biogas venting/leak
- Condensate from gas line
- Membrane roof fan exhaust air
- Spillages
- Gas odorant

## **Management of odours**

The applicant has taken measures to prevent and abate any odorous emissions as follows:

- The reception building is enclosed and equipped with an odour abatement unit. This unit treats air extracted from the reception area with carbon filters and ultra violet (UV) technology. The unit is serviced every quarter and monitored to maintain efficiency. The unit has a dual stack arrangement so maintenance causes minimal impact on the plant's ability to abate odours from the reception areas.
- For tanker deliveries, catch pits are in place to prevent spillage of material onto the reception area floor. The catch pits drain to mixing pit and will be checked for level and state of repair on a daily, ongoing basis. All feedstocks will be offloaded only once vehicles are inside the waste reception shed with roller shutter doors closed.
- All external tanks holding digestate have airtight seals for the purpose of extracting biogas. Under normal operations there would be no release of odours. Tanks are fitted with high level alarms and will be continuously monitored to ensure they are not overfilled.
- Biogas is stored in airtight bags in the headspace of the tanks.
- Procedures and infrastructure for the safe pre-acceptance, acceptance, storage and treatment of wastes are in line with Environment Agency draft AD Technical Guidance Note November 2013 Version 1.0.
- The site has arrangements for the management of spillages. All areas where waste is handled are provided with impermeable surfacing and sealed drainage.
- Daily olfactory monitoring will be carried out at by trained staff at nine points around the site boundary.
- Any odour detected during monitoring or highlighted by a complaint will be investigated and remedial action taken.
- There is a daily inspection and maintenance programme to ensure litter does not build up on site
- The operator will undertake dosing of the digestion process with ferric chloride, oxygen and bacteria which reduces hydrogen sulphide (H<sub>2</sub>S) generated by the process.
- The digestion process will be monitored continuously to ensure the digestate is maintained within suitable parameters. This will reduce the likelihood of emissions release from digestate.
- In emergency situations, the flare will combust raw biogas at high temperature which eliminates any emissions of hydrogen sulphide.
- The membrane roof in gas upgrading unit is monitored for pressure. A leak detection exercise will be carried out following commissioning.
- Only small amounts of gas odorant in one tank will be stored on site at any one time.
- The site is equipped with a backup generator to stop the process being impacted by power outages.

## Our assessment

Overall, we consider that the applicant has proposed appropriate odour management measures to minimise any impact on nearby sensitive receptors. In the event that odour emissions are causing pollution, the permit conditions require the operator to comply with the measures specified in the OMP. The odour conditions in the permit are sufficient to ensure that odour emissions from the AD plant do not cause annoyance. Process monitoring conditions including daily olfactory tests at the site boundary will also ensure that emissions of odour are not causing annoyance.

We have reviewed and approved the OMP in its current format with the additional information submitted during the determination. We consider that the OMP complies with the requirements of our [H4 odour guidance](#). 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.

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

## **Air quality assessment**

As this facility has associated emissions to air from the combined heat and power (CHP) engine, boiler, flare and gas upgrading unit, an assessment of the impact on air quality was required.

Dispersion modelling of NO<sub>x</sub>, SO<sub>2</sub>, VOCs and CO emissions was undertaken. Impacts at sensitive receptors were quantified and the results compared with the relevant environmental standards (ES) and significance criteria.

Impacts were predicted based on a worst-case assessment scenario of the CHP unit and boiler constantly emitting the maximum anticipated concentration of each pollutant throughout an entire year. As such, predicted pollutant concentrations are likely to overestimate actual impacts.

The applicant also submitted a H1 assessment to consider the impact of air emissions from the biogas upgrading plant in combination with the air emissions assessment. Emissions of CH<sub>4</sub>, H<sub>2</sub>S and VOCs were quantified using data from a similar plant. Emissions of VOCs are for the most part absorbed by the carbon filters before gas is emitted from this stage of the process.

All emissions at the surrounding sensitive receptors were screened out as insignificant, as process contributions were <1% of the long term ES and <10% of the short term ES.

As the emissions data was taken from a similar plant and not based on real-time operational monitoring data at the site we consider it appropriate to set an Improvement Condition (IC1). IC1 requires the operator to undertake a monitoring survey following the commencement of operations at the biogas upgrading plant to obtain actual (real-time) operational monitoring data from the plant itself.

Improvement Condition 2 (IC2) requires the operator to undertake an air emissions impact assessment (H1 software tool) using the results of the monitoring survey and compare the long and short term impacts of pollutants in accordance with the Environment Agency Guidance – Air emissions risk assessment for your environmental permit. Following the review of results from the monitoring survey and impact assessment, the Environment Agency shall consider whether or not emission limits are appropriate at emission point A9. We have used this approach for biowaste treatment facilities proposing to install biogas upgrading plants across England.

## **Assessments of emissions on habitats**

The site is 9 km from Durham Coast SAC and Northumbria Coast SPA/Ramsar and within 2 km of 10 Local Wildlife Sites. The applicant has used the [APIS](#) database to assess the impact of the facility's emissions on the designated sites. The assessment showed that for all SAC/SPA/RAMSAR sites the predicted NO<sub>x</sub> impact was <1% of the long term and <10% of the short term ES. For LWS the predicted emissions were

below 100% of the long and short term ES. The impact on relevant ecological receptors can therefore be classified as insignificant.

The impacts for sulphur dioxide, nitrogen deposition and acid deposition were also found to be insignificant against their respective ES. They were modelled at <1% of the long term and <10% of the short term ES for sites protected under the Habitats Regulations. For the LWS, the predicted emissions were below 100% of the long and short term ES.

As all relevant emissions are found to be insignificant at the designated features of sites protected under the Habitats Regulations, there is no significant impact alone and therefore no need to undertake an in-combination assessment.

# Decision checklist

Aspect considered	Decision
<b>Receipt of application</b>	
Confidential information	A claim for commercial or industrial confidentiality has not been made. The decision was taken in accordance with our guidance on confidentiality.
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.
<b>Consultation</b>	
Consultation	The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement. The application was publicised on the GOV.UK website. We consulted the following organisations: Fire and Rescue Food Standards Agency Director of Public Health Public Health England Health and Safety Executive Local Authority Environmental Health. The comments and our responses are summarised in the <a href="#">consultation section</a> .
<b>Operator</b>	
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.
<b>The facility</b>	
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 RGN 2 'Defining the scope of the installation', Appendix 1 of RGN 2 'Interpretation of Schedule 1', guidance on waste recovery plans and permits. 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.
<b>The site</b>	
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. The plan is included in the permit.

Aspect considered	Decision
Site condition report	The operator has provided a description of the condition of the site, which we 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- AQTAG 14.</p>
<b>Environmental risk assessment</b>	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment, all emissions may be categorised as environmentally insignificant.</p>
<b>Operating techniques</b>	
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 screen out as insignificant	<p>Emissions of sulphur dioxide, nitrogen oxides, hydrogen sulphide, carbon monoxide and total volatile organic compounds 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>
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.
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.

Aspect considered	Decision
<b>Permit conditions</b>	
Raw materials	We have specified limits and controls on the use of fuels as required by the Sulphur Content of Liquid Fuels (England and Wales) Regulations 2007 and 2014 (Amendment).
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"> <li>• they are suitable for the proposed activities</li> <li>• the proposed infrastructure is appropriate</li> <li>• the environmental risk assessment is acceptable.</li> </ul> <p>We made these decisions with respect to waste types in accordance with our permit templates for anaerobic digestion and our Framework Guidance Note, <i>Framework for assessing suitability of wastes going to anaerobic digestion, composting and biological treatment July 2013</i>.</p>
Pre-operational conditions	<p>Based on the information in the application, we consider that we need to impose a pre-operational condition to ensure that the proposed waste stream 19 02 10 is suitable for biological treatment via anaerobic digestion. The operator is required to submit a full waste stream characterisation for our assessment and approval prior to accepting these waste streams.</p> <p>We made this decision with respect to waste types in accordance with our permit templates for anaerobic digestion and our Framework Guidance Note, <i>Framework for assessing suitability of wastes going to anaerobic digestion, composting and biological treatment July 2013</i>.</p> <p>We have excluded EWC 02 01 99, 02 02 99, 02 03 99, 02 04 99, 02 07 99 and 04 01 01 from the list of acceptable wastes for this facility as we consider that these wastes are not suitable for biological treatment.</p>
Improvement programme	Based on the information on the application, we consider that we need to impose an improvement programme. We have imposed an improvement programme to ensure that assumptions made around emissions from the gas upgrading plant are corroborated by operational data collection. See key issues section.
Emission limits	<p>We have decided that emission limits are required in the permit.</p> <p>ELVs have been set for the following substances.</p> <p><b>CHP engine(Medium Combustion plant):</b></p> <p>Oxides of nitrogen – 500 mg/m<sup>3</sup></p> <p>Sulphur dioxide – 107 mg/m<sup>3</sup></p> <p>Carbon monoxide – 1400 mg/m<sup>3</sup></p> <p>Total VOCs – 1000 mg/m<sup>3</sup></p> <p><b>Emergency Flare:</b></p>

Aspect considered	Decision
	<p>Oxides of nitrogen – 150 mg/m<sup>3</sup></p> <p>Sulphur dioxide – 50 mg/m<sup>3</sup></p> <p>Total VOCs – 10 mg/m<sup>3</sup></p> <p>Annual monitoring of emissions will be carried out to MCERTS standards. The Environment Agency has specified that monitoring of the CHP engine should be carried out in accordance with the monitoring requirements of M5 - Technical Guidance Note, Monitoring of stack gas emissions from medium combustion plants and specified generators.</p> <p>Guidance for monitoring enclosed landfill gas flares (LFTGN 05) sets out the emission standards for enclosed gas flares.</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 demonstrate compliance with the conditions of the permit requiring the management of emissions to air.</p> <p>We made these decisions in accordance with the Waste Treatment BREF and BAT Conclusions and our guidance on Medium Combustion Plant and LFTGN 05: <i>Guidance for monitoring enclosed landfill gas flares</i>.</p> <p>Based on the information in the application, we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.</p>
Reporting	<p>We have specified reporting in the permit.</p> <p>Reporting will be required annually in line with the annual emissions monitoring, ensuring the operator is complying with the limits in their permit. Considering that the majority of the biogas generated at the facility is sent to the grid the site should not produce a high volume of air emissions. Annual reporting and monitoring is therefore sufficient. We made these decisions in accordance with the Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013).</p>
<b>Operator competence</b>	
Management system	<p>There is no known reason to consider that the operator will not have the management system to enable them 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 and National Enforcement Database have been checked to ensure that all relevant convictions have been declared.</p>



Aspect considered	Decision
	<p>Relevant convictions were found during determination. We considered relevant convictions as part of the determination process.</p> <p>Two relevant convictions representing breaches of regulations 38(1)(a) and 38(2) of the Environmental Permitting Regulations were issued against the operator in June 2019. The convictions relate to operating without a permit and breach of a permit condition. We have determined that the offences do not affect the operator’s competence to the extent we would refuse the permit and therefore the operator satisfies the criteria in our guidance on operator competence. We will ensure that the relevant conviction history is taken into account during the compliance period.</p>
Financial competence	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.
<b>Growth Duty</b>	
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 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

<b>Response received from</b>
Public Health England
<b>Brief summary of issues raised</b>
Public Health England provided a consultation response asking for additional clarification around the air quality assessment, additional considerations within the accident management plan for explosion scenarios and amendments to the referenced guidance in the OMP. They also recommended that we consult the local authority health department, Food Standards Agency and The Director of Public Health.
<b>Summary of actions taken or show how this has been covered</b>
<p>The consultation response provided by Public Health England was sent to the applicant who provided additional justification with regards to the points raised. The operator's additional justification was found to be sufficient to address PHE's concerns.</p> <p>Among other amendments the odour management plan (OMP) has been updated to reflect the up to date H4 guidance on odour. We have assessed the re-submitted OMP and found it to be sufficient for managing odour emissions from the site (see key issues section).</p> <p>All consultees suggested in the PHE's consultation response have already been consulted and provided no comment.</p>

<b>Response received from</b>
Health and Safety Executive
<b>Brief summary of issues raised</b>
I am emailing you to let you know we have no comments to make regarding this application.
<b>Summary of actions taken or show how this has been covered</b>
No further action required.

No further consultation response was received from the other organisations and members of the Public.