

Permitting decisions

Bespoke permit

We have decided to grant the permit for Park Farm AD Plant operated by Holme Bioenergy Limited.

The permit number is EPR/LP3500BL/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

Air emissions assessment

An assessment of the impact on air quality was required as the facility will release emissions to air from two combined heat and power (CHP) engines, two back-up boilers, an emergency flare and a biogas upgrading unit. An assessment of the impact of emissions of ammonia, volatile organic compounds (VOCs) and H₂S was calculated using the H1 emissions screening tool. All emissions of these substances [screened out](#) as insignificant for human receptors.

Dispersion modelling of NO_x, SO₂ and CO emissions was undertaken by the applicant. Impacts at human sensitive receptors were quantified and the results compared with the relevant environmental standards (ES). Modelling was undertaken based on the worst case scenario, where the two gas engines and two boilers are operating continually. In reality, the boilers provide a back-up where there is insufficient heat generated by the gas engines to meet demand and will not be in continual operation.

All emissions at the surrounding human sensitive receptors were screened out as insignificant, as process contributions were either <1% of the long term ES and <10% of the short term ES or the predicted environmental concentrations (PEC) calculated from the process contributions was <70% of the ES.

As the emissions data was based on information from the plant manufacturer and not based on real-time operational monitoring data at the site, we consider it appropriate to set an Improvement Condition (IC1). Improvement condition 1 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 A5. We have used this approach for biowaste treatment facilities proposing to install biogas upgrading plants across England.

Assessments of emissions on habitats

The one element of the air emissions that did not screen out was the impact of ammonia emissions on ecological receptors. The process contribution (PC) of ammonia on ecological receptors was 2.2% of the long term ES. As this was above 1% of the critical level used for screening the impact of ammonia emissions on ecological receptors, it required further assessment. Due to the high concentration of ammonia at the receptor location, it could not be screened out on the predicted environmental concentration (PEC) either. As the site is 7 km away from the ecological receptor concerned (the Lower Derwent Valley SAC/SPA/Ramsar), the applicant concluded dispersion would likely mean the impact was insignificant. In order to check this assumption, we requested the attributes of the stack and emissions to run through our modelling screening tool. The screening tool found that the PC for ammonia from the site was far below 1% of the critical level at the locations of the designated sites at 0.00093% and therefore insignificant.

The applicant has used the [APIS](#) database to assess the impact of the facility's emissions on the Lower Derwent Valley Ramsar Site/SAC/SPA. Considering the impact of NO₂, the assessment found that the maximum modelled PCs were below 1% of the long term critical level and below 10% of the short term critical level. Considering SO₂, the assessment found it was below 1% of the long term critical level. For both nutrient nitrogen and acid deposition, the assessment found that emissions do not exceed 1% of the long term critical loads. The emissions can therefore be considered as insignificant.

The impact on three local wildlife sites within 2 km of the site was also assessed. It was found that the predicted emissions were insignificant as they were below the relevant critical levels for NO₂, SO₂, and below the relevant critical loads for nutrient nitrogen and acid deposition.

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

Emission limits

We have specified that monitoring should be carried out for the parameters listed in Schedule 3 in the permit, using the methods and to the frequencies in those tables. These monitoring requirements have been imposed in order to demonstrate compliance with emission limit values (where specified).

Emissions to air

Annual monitoring of emissions (Table S3.1 in the permit) from the two CHP engines, boilers and emergency flare will be undertaken by MCERTS accredited personnel using MCERTS approved methods. The Environment Agency has specified that monitoring of the boilers and CHP engines should be carried out in accordance with emission standards specified in the Medium Combustion Plant Directive and the Environment Agency biowaste treatment permit template. Monitoring requirements are to be undertaken in accordance with M2 – Monitoring of stack emissions to air and M5 – *Technical Guidance Note, Monitoring of stack gas emissions from medium combustion plants and specified generators*.

Table 1 – Summary of emissions testing requirements for the CHP engines

Parameter	Emission standard (mg/m³)
Nitrogen oxides	500
Sulphur dioxide	107
Carbon monoxide	1,400
Total volatile organic compounds	1,000

Table 2 - Summary of emissions testing requirements for the boilers

Parameter	Emission standard (mg/m³)
Nitrogen oxides	200
Sulphur dioxide	100

We have also specified in the permit that monitoring of the emergency flare should be undertaken 12 months following commissioning and then in the event the flare have been operational for over 10% of the year (876 hours). Guidance for monitoring enclosed landfill gas flares (LFTGN 05) sets out the emission and monitoring standards for enclosed gas flares (see Table 3 below).

Table 3 – Summary of emissions testing requirements for the emergency flare

Parameter	Emission standard (mg/m³)
Oxides of nitrogen as NO ₂	150
Carbon monoxide	50
Total volatile organic compounds	10

Odour

As the applicant (now the operator) proposes to accept and treat potentially odorous wastes, an odour management plan was required to be submitted as part of the application to ensure that odour emissions are not causing pollution at the surrounding sensitive receptors. The nearest residential receptor is approximately 320 metres to the south.

Potential odour source inventory

- Waste feedstock and digestate in the reception, hydrolysis and digester tanks
- Waste feedstock in pasteuriser
- Digestate in lagoon
- Storage of non-conforming waste screened from digestate in lidded container
- Pressure relief valves
- Gas storage tank
- Flare
- Spillages
- Gas odorant

Measures taken to manage odour and mitigating factors

- The site meets BAT requirements for the pre-acceptance of waste ensuring waste types arriving at the site are suitable for the process and will not lead to odour issues.
- Under normal operations, the digestate will be kept in airtight tanks and pipes throughout the digestion process, removing the opportunity for gas to be released to air.
- Olfactory monitoring will be undertaken around the site boundary at 6 points daily. If an issue is detected, procedures are in place for investigation and remediation. Monitoring frequency will be increased to four times a day until the issue is resolved.
- Odorous compounds and gases within the biogas are removed in the gas upgrading unit or destroyed during burning in the CHP and/or emergency flare.
- All plant are inspected and if necessary serviced at least weekly.
- Digestate lagoon will be covered and constructed to CIRIA 759 standards.
- The prevailing wind direction blows away from sensitive receptors.
- If a pressure relief valve is required to be opened in an emergency situation, the operator will cease waste acceptance while the issue is resolved.
- Spill remediation procedures are in place to prevent and clean up spills if necessary.

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.

Decision checklist

Aspect considered	Decision
Receipt of application	
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.
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"> Fire and Rescue Director of Public Health Public Health England Health and Safety Executive Local Authority Environmental Health. Local planning authority National Grid <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. 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 on habitats regulations assessments.</p>
Environmental risk assessment	
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>
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 screen out as insignificant	<p>Emissions of nitrogen oxides, sulphur dioxide, 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>Ammonia could not be screened out initially. See key issues section for more information.</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.

Aspect considered	Decision
Permit conditions	
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"> • they are suitable for the proposed activities • the proposed infrastructure is appropriate • the environmental risk assessment is acceptable. <p>We made these decisions with respect to waste types in accordance with our permit templates for anaerobic digestion and our Framework Guidance Note, Framework for assessing suitability of wastes going to anaerobic digestion, composting and biological treatment July 2013.</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 streams, EWC 03 03 02, 03 03 08 and 03 03 10 are 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, Framework for assessing suitability of wastes going to anaerobic digestion, composting and biological treatment July 2013.</p> <p>We have excluded EWC 02 01 99, 02 02 99, 02 03 99, 02 04 99, 02 07 99, 04 01 01, 04 01 05, 04 01 07, 07 02 13 and 20 01 38 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 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><u>CHP engines (Medium combustion plants)</u></p> <p>Oxides of nitrogen – 500 mg/m³</p> <p>Sulphur dioxide – 107 mg/m³</p> <p>Carbon Monoxide – 1,400 mg/m³</p> <p>Total VOCs – 1,000 mg/m³</p>

Aspect considered	Decision
	<p><u>Boilers (Medium combustion plants)</u></p> <p>Oxides of Nitrogen – 200 mg/m³</p> <p>Sulphur Dioxide – 100 mg/m³</p> <p><u>Emergency flare</u></p> <p>Oxides of nitrogen – 150 mg/m³</p> <p>Sulphur dioxide – 50 mg/m³</p> <p>Total VOCs – 10 mg/m³</p> <p>Annual monitoring of emissions will be carried out to MCERTS standards. The Environment Agency has specified that monitoring of the CHP engines should be carried out in accordance with the monitoring requirements of M2 – Monitoring of stack emissions to air and 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: Guidance for monitoring enclosed landfill gas flares.</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>
Operator competence	
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>

Aspect considered	Decision
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 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, newspaper advertising, 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 asked that any permissions granted to the applicant include conditions to control point source and fugitive emissions.</p> <p>They also stated that <i>'Based solely on the information contained in the application provided, PHE has no significant concerns regarding risk to health of the local population from this proposed activity, providing that the applicant takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice.'</i></p> <p>PHE also recommended consultation with:</p> <ul style="list-style-type: none">• <i>the local authority for matters relating to impact upon human health of contaminated land; noise, odour, dust and other nuisance emissions;</i>• <i>the Food Standards Agency, where there is the potential for deposition on land used for the growing of food crops or animal rearing;</i>• <i>the Director of Public Health for matters relating to wider public health impacts.</i>
Summary of actions taken or show how this has been covered
<p>Direct emissions to air and fugitive emissions from waste handling have been considered in the determination of this permit application and have associated conditions within the permit. The applicant has proposed operating techniques in line with best available techniques ensuring sufficient controls are in place.</p> <p>All relevant organisations in line with our process and ways of working agreements have been consulted during this determination.</p>

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