

Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Bygrave Lodge Anaerobic Digestion Plant operated by Biogen (UK) Limited.

The permit number is EPR/VP3932EG.

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:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

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

Structure of this document

- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Annex 1: decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/ notice.

Aspect considered	Justification / Detail	Criteria met
		Yes
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to consultation and web publicising	The web publicising and consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance.	✓
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 EPR RGN 1 Understanding the meaning of operator.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
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. A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.	✓
Site condition report	The operator has provided a description of the condition of the site. We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under IED–guidance and templates (H5).	✓
Biodiversity, Heritage, Landscape and Nature Conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We have not formally consulted on the application. The	✓

Aspect considered	Justification / Detail	Criteria met Yes
	<p>decision was taken in accordance with our guidance.</p> <p>There are no European habitat sites (Special Protection Areas, Special Areas of Conservation and Ramsar sites) within 10 km from the Installation. There are ten local wildlife sites and two Ancient Woodlands within 2 km of the installation. The operator has carried out atmospheric dispersion modelling on emissions from the Combined Heat and Power units (CHP) using ADMS software v5.1. The modelling assessed potential toxic contamination (NO₂ and SO₂), nutrient nitrogen enrichment and acid deposition at 10 Local Wildlife sites. The assessment compared process contributions with background (PEC) against relevant critical levels and loads. The predicted PECs were less than 100% of the relevant critical levels and loads. We have audited the operator's results and whereas some discrepancies were found we are confident that the contributions are not likely to be greater than those predicted by the operator. We consider that the application will not affect the features of the sites.</p>	
Environmental Risk Assessment and operating techniques		
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> <p>Emissions to air</p> <p>The operator carried out an atmospheric dispersion modelling on emissions from the Combined Heat and Power units (CHP) using ADMS software v5.1. The pollutants considered in the assessment are those associated with combustion activities, namely nitrogen dioxide (NO₂), sulphur dioxide (SO₂), carbon monoxide (CO) and total volatile organic compounds (VOCs). The operator calculated the peak ground level concentrations and modelled the concentration of key pollutants at the sensitive receptors located within the surrounding area. The impact of air emissions was modelled at the following human receptors:</p> <ul style="list-style-type: none"> - Bygrave Lodge farm - Building to north west - Radio Station <p>The predicted PECs were less than 70% of the relevant</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>EAL for long term emissions and less than 20% of the relevant EAL for short term emissions. We have audited operator's modelling results and despite some differences we are satisfied that contributions are not likely to be greater than those predicted by the operator. Our conclusion is that there will be no significant impact to human health caused by operation of the AD facility.</p> <p>Odour</p> <p>The operator submitted an Odour Management Plan to address odour emissions from the facility. The operator has risk assessed and mitigated the emissions of odour from activities on site. Odours from the reception building will be treated by two carbon filters, which will vent through a common stack to aid dispersion. The reception building will be kept under a negative pressure and benefits from a minimum 3 air changes per hour. Waste processing in the reception building will only take place with the roller shutter door closed. Digester tanks and gas tanks are gas tight vessels; all pipe work is sealed. The final screening stage is carried out in an enclosed area equipped with its own carbon filter to treat odours. The site has monitoring and maintenance plan in place to ensure there is no odour emissions escaping the site. We have reviewed the operator's Odour Management Plan and are satisfied that there are appropriate measures in place to effectively manage odour emissions from activities carried out on site.</p>	
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes:</p> <ul style="list-style-type: none"> • IPPC Sector Guidance Note EPR 1.01 – Combustion Activities; • IPPC Sector Guidance Note IPPC S5.06 – Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste; • How to Comply with Your Environmental Permit and • H4 – Odour Management. <p>The proposed techniques/emission levels for priorities for control are in line with the benchmark levels contained in the above technical guidance notes and we consider them to represent appropriate techniques for the facility. Key measures proposed by the operator include:</p> <ul style="list-style-type: none"> • pre-acceptance of waste procedures • acceptance of waste procedures • storage of waste 	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<ul style="list-style-type: none"> • treatment of waste • point source emissions to air • fugitive emissions to air, surface and ground water • odour • accidents 	
The permit conditions		
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 the permitted wastes because they have the necessary infrastructure, operating systems and technical capability to manage these wastes in an appropriate manner.	✓
Pre-operational conditions	<p>Based on the information in the application, we consider that we need to impose pre-operational conditions.</p> <p>We have inserted a pre-operational condition 1 (POC1) in the permit which requires the operator to submit a feedstock analysis procedure. This is to ensure that the procedure meets the criteria listed in our guidance.</p> <p>We have included a Pre-operational condition 2 (POC2) which requires the submission of a report confirming the construction and integrity of the proposed secondary containment is fit for purpose and in accordance with industry standards prior to commissioning. This condition relates to the AD facility and relevant Directly Associated Activities (DAAs) to ensure that the proposed secondary containment is properly designed to minimise risks to the environment and reduce the risks of accidents and their consequences.</p>	✓
Incorporating the application	<p>We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process.</p> <p>These descriptions are specified in the Operating Techniques table in the permit.</p>	✓
Emission limits	<p>We have decided that emission limits should be set for the parameters listed in the permit.</p> <p>The following substances (Nitrogen oxides, Sulphur dioxide, Carbon monoxide, Total Volatile Organic Compounds) have been identified as being emitted in significant quantities and ELVs [based on BAT] have been set for those substances. Emission limit values have been set for those substances with respect to air.</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>It is considered that the ELVs described above will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured.</p> <p>The substances above have been set at the benchmark levels quoted in <i>LFTGN 08: Guidance for monitoring landfill gas engine emissions</i> and <i>Guidance for monitoring enclosed landfill gas flares</i> (LFTGN 05). We consider that emissions will be insignificant.</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 for operations requiring the management of air emissions. We made these decisions in accordance with <i>LFTGN 08: Guidance for monitoring landfill gas engine emissions</i> and <i>Guidance for monitoring enclosed landfill gas flares</i> (LFTGN 05) which are considered the most appropriate TGN for this activity.</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. As the monitoring of point source emissions to air is only required annually, reporting is also required annually. Reporting forms have been prepared to facilitate reporting of data in a consistent format. These reporting requirements are deemed sufficient and proportional for the Installation. We made these decisions in accordance with our guidance <i>How to Comply with your Environmental Permit</i>.</p>	✓
Operator Competence		
Environment management system	<p>There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.</p>	✓
Technical competence	<p>Technical competency is required for activities permitted. The operator is a member of an agreed scheme.</p>	✓
Relevant convictions	<p>The National Enforcement Database has been checked to ensure that all relevant convictions have been declared.</p> <p>Relevant convictions were found and declared in the</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<p>application. A post conviction plan was submitted by the operator and assessed as satisfactory.</p> <p>The operator satisfies the criteria in RGN 5 on Operator Competence.</p>	
Financial provision	<p>There is no known reason to consider that the operator will not be financially able to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.</p>	✓

Annex 2: Consultation and web publicising responses

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process.

Response received from
Animal Health and Veterinary Laboratories Agency, dated 18/02/14
Brief summary of issues raised
No comments
Summary of actions taken or show how this has been covered
n/a

Response received from
Public Health England, dated 11/03/2014
Brief summary of issues raised
<ol style="list-style-type: none"> 1. PHE recommend that the environmental permit should contain conditions to ensure that the following potential emissions do not impact upon public health: emissions to air of nitrogen dioxide (NO₂), odour arising from biomass use and digestion on site. 2. PHE recommend clarifying the results contained in the submitted modelling reports. 3. PHE recommend checking whether the operator provided a suitable plan for fire prevention and control, given that diesel is stored on site and biogas is flammable. 4. PHE recommend that local authority, Food Standards Agency and the Director of Public Health should be consulted during the determination of the variation application 5. HPA concludes that based solely on the information contained in the application provided, there are no significant concerns.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. Emissions to air from the facility and their potential impacts are discussed in the above table (Annex 1). We also audited the operator's air quality impact assessment and agree that the conclusions drawn in the reports are acceptable, that there would be no significant impact to the environment or human health. Emission limits and monitoring conditions are specified in the permit which would enable compliance checks on emissions from the combustion of biogas when the site is fully operational. The operator has risk assessed and mitigated the emissions of odour from activities on site. We have reviewed the operator's Odour Management Plan and are satisfied that there are appropriate measures in place to effectively manage odour emissions from activities carried out on site. We have also included condition 3.3 addressing odour (3.3) in the permit. 2. The operator has submitted a reviewed air emissions modelling report after our initial checks. We have audited operator's modelling results and despite some differences we are satisfied that contributions are not likely

to be greater than those predicted by the operator. The contributions predicted by the operator do not exceed relevant EALs. Our conclusion is that there will be no significant impact to human health caused by operation of the AD facility.

3. The operator has assessed the risk from fire and explosion and the risk is low. The site benefits from a secondary containment and any firewater runoff would be contained within the bund and balancing pond.
4. We consulted the local planning authority, the local authority's environmental protection department, Animal Health, the Director of Public Health and members of the public during the determination of this application. A summary of the responses is provided in this decision document.
5. No action required.

Environmental Health and Planning Department of North Hertfordshire District Council, Health and Safety Executive, Food Standards Agency, National Grid and the Director of Public Health were consulted, no responses were received.

This proposal was also publicised on our website between 11/02/14 and 11/03/14 and no representations were received.