

Permitting decisions

Bespoke permit

We have decided to grant the permit for Hitch Street AD Plant operated by ReFood UK Limited.

The permit number is [EPR/QP3735DL/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.

And

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.

The main features of the permit are as follows:

This permit is for a Section 6.8 Part A (1) (c) activity. The site is located at London Sustainable Industries Park, Dagenham. The surrounding area is mainly industrial, the north of the site is bordered by railway sidings and the south by Choats Road. The facility will consist of an anaerobic digestion (AD) plant, designed to process 160,000 tonnes of biomass per annum, creating biogas. The biogas produced at the plant will be treated to meet the requirements of the national grid specification and injected directly into the grid, producing 2,000m³hr⁻¹ of biomethane.

The proposed plant will principally comprise:

- Waste reception and de-packing hall
- Biological treatment and recovery
- Biomethane to grid cleaning process
- Product storage

The principal releases to air from the site will be products of combustion (NO_x and CO) from the 2 x 1.5MWth input gas boilers and H₂S, VOC's and CO₂ from the gas upgrade process. The gas upgrade process also includes a 2 stage gas cleaning process which includes a wash water plant and biological scrubber. There will also be emergency and standby gas flares on site. Digestate will be removed from site. Under normal circumstances there will be no emissions of water from the site as any dirty water will

be directed to an underground dirty water storage tank and any surface waters will be directed to an underground clean water tank. Both dirty and clean water will be used within the digestion process on site, in the case of excessive rainfall/flood emergencies the operator has a discharge consent with Thames Water and water will be directed to the public sewer on Choats Road.

There is one Special Area of Conservation, Epping Forest within the 10 km distance criteria and 18 Non Statutory sites within the 2 km distance criteria from the site. Assessment by the Environment Agency shows that emissions from the operations at the facility are unlikely to have a significant impact on the habitat sites. .

The site is a new build and the operator has stated they will produce an EMS in line with ISO14001.

In addition, the facility will transfer category 3 Animal By-Products (ABP) meat and bone by-products, which is not regulated under this permit.

Key issues of the decision

Odour

As odour emissions are an inherent risk at Anaerobic Digester Plants, an Odour Management Plan (OMP) was submitted with the application. As this was not entirely satisfactory, the Applicant submitted an amended copy dated 24/04/2017, which was based on version 3 of the Applicant's Widnes Plant OMP dated 08/09/2016. Since this version has been implemented at the Widnes site, there have been no odour complaints or concerns.

The Dagenham site will incorporate the same process, and will also employ an ionisation odour treatment system which is defined as an emerging technique within BREF, and as such is not an appropriate measure as identified within H4 guidance. The Applicant states that the ionisation treatment system is designed to a technical specification of a 90% reduction in odour concentration within the buildings from baseline levels, and no odour outside of the site boundary. Emissions from the activities shall therefore be free from odour outside of the installation boundary. The deployment of the technology to a specification that will reduce odour levels to 0ouE/m³ at the site boundary is considered BAT for this specific technology and is therefore an appropriate method for odour control. The Terminodour™ positive pressure ionised air odour control system supplied and installed at the ReFood site is designed to reduce/neutralise the internal odorous air and improve the internal air quality within the De-Packaging Building. The Terminodour™ units are externally located. Ambient air is drawn through the inlet louvre and filtered via disposable / washable filters. Treated air is vented from the building during periods where doors are open. The filtered air then passes across the ionisation unit into a common fan chamber containing a duty only 7.5kw supply fan. The ionised air is then drawn through the operational fan and into the supply ductwork. A Differential Pressure Switch (DPS) monitors the differential pressure across the fan. The system is designed to operate in automatic mode continuously.

Three GMS Terminodour™ Air Handling Units (AHU) will be supplied for the main de-packaging area incorporating the clean bin area. A further small separate GMS Terminodour™ AHU unit will be supplied for the digestate pump room. The units will be suitable for external location immediately adjacent to the buildings.

The Terminodour™ system design has been prepared based on reducing the organic odours present in specific areas of the building. The odours and levels are as identified in the design data section of the proposal. From experience, the Terminodour™ system can reduce organic odour loads of greater than 80% from baseline data within 1.5 metres of the odour source and greater than 90% within 3 metres. The technology suppliers provide the units with a 99% abatement warranty when comparing source odour to external.

The system has achieved >99% reduction on previous contracts and the plant has been designed by CSO Technik to achieve 99% odour reduction externally based on the specific criteria presented at the Dagenham site.

The system has previously been used on the same application in Northamptonshire which was supplied and installed by CSO Technik, and numerous other projects in Scandinavia supplied by CSO's partners. An experienced CSO engineer visited the ReFood site at Dagenham to review the process and determine the level and nature of the odour challenge prior to determining the system design to be used. The engineer completed the baseline data report and determined that the raw material type and odour nature input was similar to that at Kettering, although the food reception pits at the Kettering site were not covered as they are at Dagenham, and therefore presented a greater odour challenge.

The initial system design is calculated utilising a number of factors to determine air change rates and ionisation capacity required based on the type of process, nature and concentration of the odour, building volume, vehicle entry points and vehicle movements. The data is fed into a calculation sheet which determines the model size and ionisation capacity. During commissioning, the ionisation capacity is checked utilising a hand held ion concentration monitor to ensure that the system output matches the design ion concentration level. The system performance can be periodically monitored thereafter by checking the ion level using the monitor. This is normally carried out monthly after commissioning to determine the service intervals as ion output will fall if the ionisation tubes are dirty and require cleaning.

The Ionisation system includes a control panel with undercurrent monitors to detect a tube failure on the ionisation module. There are airflow sensors to detect a failure in the air supply fan. Both give warning lights on the odour control panel.

During commissioning, the overall airflow is balanced utilising the dampers installed in the ductwork distribution system to ensure that the design volume and velocities are achieved. Ion output is then measured at pre-set points and matched against the design levels. The Terminodour™ units have passed the commissioning phase as signed off by the technology provider CSO Technik Ltd (CSO).

The Operator also employs the following abatement measures:

- Fast acting roller doors on the reception hall entrances
- Waste will be tipped and stored within an enclosed building
- Air naturally vented from receiving tanks will be treated through a carbon filter odour abatement systems
- Waste handling areas will be subject to regular cleaning
- All waste movements into and out of the facility will be within covered vehicles.

Along with the above, the permit limits the operator to using only those European Waste Code (EWC) wastes specified in Table 2.2 and an annual throughput shall not exceed 160,000 tonnes. The operator has a predefined waste acceptance criteria and systems in place to refuse or quarantine any out of specification deliveries. The operator also has operations and maintenance procedures for the control of operations, emissions monitoring and plant maintenance to mitigate/control any potential adverse impact on the environment. Along with planned preventative maintenance regimes on all relevant plant items, and in particular those items whose failure could lead to impact on the environment. The operator also has an Accident Management Plan, to deal with emergencies and incidents.

With the above, we believe that emissions from the activities shall be free from odour at levels likely to cause pollution outside the site.

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"> • Foods Standards Agency • Thames Water Sewage Authority • London Fire and Rescue Services • Health and Safety Executive • Director of Public Health • Public Health England • Local Authority Planning and Environmental Health, Barking and Dagenham <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	The operator has provided plans which we consider are satisfactory, showing the extent of

Aspect considered	Decision
facility	the site of the facility The plan is included in the permit.
Site condition report	The operator has provided a description of the condition of the site, which we consider is not wholly satisfactory. For this reason we have employed a number of pre-operational conditions within the permit. 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>
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>
Operating techniques	
General operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes (Environment Agency's Draft Technical Guidance Note for Anaerobic Digestion, Reference LIT 8737) 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 NO_x, CO 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	<p>We have reviewed the odour management plan in accordance with our guidance on odour management.</p> <p>We consider that the odour management plan is satisfactory. See key issues.</p>
Noise management	<p>We have reviewed the applicants techniques for noise management in accordance with BAT for AD plants and we consider that the controls on site will be satisfactory, these include:-</p>

Aspect considered	Decision
	<ul style="list-style-type: none"> • Installation of a screening bund surrounding the site. • Use of low noise signature equipment where appropriate. • Use of cladding with appropriate attenuation properties as appropriate. • Switching plant off when not in use. • Maintenance of plant to minimise the risk for vibration & increased noise due to deterioration. • Enclosure of main plant processes inside enclosed treatment building. • Upgrading plant with compressor is enclosed within an attenuated process container. <p>We consider that the activities carried out at the site have the potential to cause noise and/or vibration that might cause pollution outside the installation boundary.</p>
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 not specified limits and controls on the use of raw materials and fuels.
Waste types relevant waste operations and installations	<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. • all wastes are compliant with the Anaerobic Digestate Quality Protocol (PAS 110) <p>We have restricted the following wastes for the following reasons:</p> <p>02 01 99, 02 02 99, 02 03 99, 02 04 99 and 02 07 99, these restrictions have been placed to ensure the digestate meets the AD Quality Protocol.</p>
Pre-operational conditions	<p>Based on the information in the application, we consider that we need to impose pre-operational conditions.</p> <p>Pre-operational conditions 1-4 are standard for this industry to ensure the operation of the plant ensures (PO1) a review of the design, method of construction and integrity of the proposed site secondary containment is carried out by a qualified structural engineer. (PO2) submit a written copy of the site Environmental Management System (EMS) and make available for inspection all documents and procedures which form part of the site EMS. (PO3) provide a written commissioning plan (including timescales for completion). (PO4) provide written evidence to the Environment Agency of the Technically Competent Manager (TCM) at the proposed installation.</p>
Improvement programme	Based on the information in the application, we consider that we need to impose an improvement programme as the operator has only considered CO ₂ as an emission on the assumption that H ₂ S and VOC's with regard to the biogas upgrade plant will be scrubbed clean and therefore not have an impact on the environment.

Aspect considered	Decision
	<p>We have imposed an improvement programme to ensure that:</p> <p>IC1 The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the releases of pollutants to air. IC2 Following the completion of IC1, the operator shall undertake an environmental impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The environmental impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p>
Emission limits	<p>We have decided that emission limits for the emergency flare and standby flare operations are required in the permit. We have not set any emission limits on the boilers (2 x 1.5MWth input gas boilers)</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 the plant is being run efficiently.</p> <p>We made these decisions in accordance with AD Technical Guidance Note Nov 2013 V1.</p>
Reporting	<p>We have specified reporting in the permit.</p> <p>The reporting frequencies are to record the use of the emergency flare and ensure the plant is being run efficiently.</p> <p>We made these decisions in accordance with the Environment Agency's Draft Technical Guidance Note for Anaerobic Digestion, Reference LIT 8737.</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 asked via PO4</p> <p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of commissioning of the installation, the operator shall provide written evidence to the Environment Agency of the Technically Competent Manager (TCM) at the proposed installation. The report shall confirm that the person(s):</p> <ul style="list-style-type: none"> • hold the relevant qualifications under the CIWM/WAMITAB scheme or other equivalent for the operation of the anaerobic digestion plant, and • have appropriate competence in operating the biogas upgrading plant (including the injection of biomethane into the Gas Grid). <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p> <p>On completion of the above PO condition we will be satisfied that the operator is technically</p>

Aspect considered	Decision
	competent.
Relevant convictions	<p>The Case Management System and National Enforcement Database 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	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.
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

Responses from organisations listed in the consultation section

Response received from
Public Health England
Brief summary of issues raised
<p>We recommend that any Environmental Permit issued for this site should contain conditions to ensure that the following potential emissions do not impact upon public health: Particulate matter, nitrogen dioxide and sulphur dioxide from the anaerobic digestion process.</p> <p>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.</p>
Summary of actions taken or show how this has been covered
We have assessed the application and we are satisfied that the Applicant has proposed appropriate measures in accordance with our technical guidance note. We have added conditions in the permit to ensure that this is the case. .