

# Permitting decisions

## Bespoke permit

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We have decided to grant the permit for New Hook Farm operated by Sheppey Energy Limited.

The permit number is EPR/CP3331YA.

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.

The plant design and operating procedures proposed by the Applicant have been compared with the relevant technical guidance and Best Available Techniques (BAT), which included:

- How to comply with your environmental permit: Additional Guidance for Anaerobic Digestion; and
- BAT Reference Document for Waste Treatment, European IPPC Bureau, 2018

Emissions from the installation will include:

- Combustion products via point source emissions to air from the CHP engine, boiler and emergency flare;
- Emissions to air from the biogas upgrading plant stack;

Impacts from emissions on human receptors have been are unlikely to be significant based on the proposed design and operations unless detailed below. We consider that the emission limits included in the installation permit reflect the BAT for the sector

## Key issues of the decision

### 1 Management of odour emissions

The Applicant (now the operator) submitted an OMP with the Application. The OMP includes information on odour sources, local sensitive receptors, system controls, the containment and abatement of any odorous emissions, appropriate measures for minimising annoyance at receptors and consideration of how odorous emissions might be affected by emergencies or incidents.

These matters are covered in detail in the OMP, we are satisfied that the Operator understands that it is a working document, which needs to be updated annually or in response to any complaints. The OMP includes procedures to deal with complaints from external parties and act upon them, as well as record keeping of any non-conformities, accidents and emergencies. The Operator will undertake daily monitoring of the site for odours.

This Odour Management Plan (OMP) has been produced in accordance with Environment Agency (EA) guidance on OMPs and EPR H4 Odour Management.<sup>1</sup> This OMP is aimed at assisting the Operator in effectively managing potential odour releases associated with the operations at the facility and minimisation of the risk of abnormal operational conditions, which could result in increased risk of odour generation at the site.

#### **Predicted Odour Concentrations**

The applicant's air quality assessment encompassed odour modelling. This assessment included emissions from relevant sources including:

- Exposed energy crops during cutting and transfer
- Exposed fruit and vegetables during delivery storage and transfer
- Exposed poultry manure during delivery, storage and transfer
- Exposed material within the feed hopper during operations
- Digestate lagoon vents, solid digestate management
- Silage clamps
- Digestate lagoon vents

We accepted the operators conclusions depicted in table 7.1 of the Air Quality Assessment.

## Waste types

The Application contains a list of wastes coded by the European Waste Catalogue (EWC), which the Operator will accept in the waste streams entering the plant and which the plant is capable of treating without causing significant pollution..

The application includes brewery waste and sludge's, these waste codes have been included to future proof the site. There are no contracts are in place at the time of writing. Once these are secured the EMS and relevant procedures shall be updated.

We have specified the permitted waste types, descriptions and quantities (53,500) which can be accepted at the facility in tables S2.2 and S2.3, of the permit.

The application details the source of waste streams to the proposed facility for biological treatment as the following:

7,000 tonnes Recirculated digestate

6,000 tonnes fruit and vegetable waste

6250 tonnes Straw Briquettes

13,000 tonnes Water (leachate and surface water from holding lagoon)

6,000 tonnes Chicken Manure

15,250 tonnes Whole plant silage

We are satisfied that the Operator can accept the wastes contained in tables S2.2, of the permit because:

- these wastes are categorised as non-hazardous in the European Waste Catalogue and are capable of being safely treated via anaerobic digestion at the facility;
- these wastes are allowed by the Anaerobic Digestate Quality Protocol (as revised in 2014); and
- these wastes are unlikely to contain harmful components that cannot be safely processed at the facility

We have set a pre-operational condition for future development. Additional wastes that are listed in table S2.3 cannot be accepted until the Operator has met the requirements of Pre-Op condition S1.4B in the permit.

The anaerobic digestion process treats biodegradable materials which have the potential to produce odour. An inventory has been provided of each material. The inventory provides an assessment of the odour potential of wastes that will be accepted for treatment which are;

Maize silage, whole crop rye and straw is secured through a feedstock supply contract with S.W. Attwood & Partners (SWA). Chicken manure is secured through a feedstock supply company. The feedstock supply contracts for fruit and vegetable wastes are to be confirmed. The AD facility will treat feedstock materials comprising; energy crops (maize, whole crop rye), straw, poultry manure, fruit and vegetable waste (supply contracts are to be confirmed) and dirty water

The application also includes brewery waste and sludge's; all under List of Wastes Chapter 2 (Wastes from agriculture, horticulture, forestry, hunting and fishing, food preparation and processing). These waste codes have been included to future proof the site. There are no contracts in place at the time of writing. Once these are secured the EMS and relevant procedures shall be updated. These wastes have been listed in Schedule 2 Table S2.3, however they cannot be accepted until the pre-operational condition 1 in table S1.4 has been satisfied. The condition requires the Operator to demonstrate that they have appropriate measures in place to minimise the risk of pollution from acceptance of these waste types..

The Operator has stated that they will continually analyse the AD plant performance and feedstock requirements to ensure that the required volumes of feedstock are available for the continued operation of the AD plant. On an annual basis the Operator will agree the feedstock order schedule with SWA. This will

include the projected quantity of orders for arable straw and purpose grown crops comprising whole crop rye and maize. The latter will be ordered based on tonnage required and typical yields (t/ha). On an annual basis the Operator will agree a feedstock plan.

Agreements will be established with waste suppliers to ensure that only source-segregated wastes suitable for treatment in the anaerobic digestion (AD) process are received at site. As part of establishing the supply contract, the Operator will obtain information about the nature of the process generating the waste and the composition of the waste. The Operator has provided pre-acceptance procedures in the Application that are in accordance with the Environment Agency's "How to comply with your environmental permit. Additional guidance for Anaerobic Digestion, Reference LIT 8737, Report version 1.0 and November 2013".

The Operator will reject non-conforming waste feedstock at any point in the acceptance process. The Operator may reject waste, if it is out of specification for pH, or if material delivered is not that which has been pre-assessed and/or agreed. All rejected loads will be recorded on the rejected loads register. If at any point during transfer of waste from the adjacent facility, the Operator suspects that the waste has characteristics that may adversely affect operations on site, the Operator will prevent further transfer pending additional assessment. Further analysis will then be carried out to confirm that the load should be rejected and the reasons for this, or whether the load is acceptable.

If the waste has not met the requirements of the feedstock agreement, the Operator will consider whether the feedstock supply agreement should be terminated or reviewed. The termination of the feedstock contract will be as a last resort. If all protective measures fail and materials enter the tank that cannot be processed or blended, the tank will be quarantined and its contents removed from site within 48 hours. The decision to quarantine and reject wastes will be based on sample analysis results and the ability to achieve a blend of wastes that can be passed through to the process.

### Material Reception and storage

The Fruit/vegetable waste will be received in whole and un-degraded form in accordance with written acceptance criteria specified in the contract. If it does not meet these it will be rejected. The Operator will purchase the fruit feedstock with clauses in the supplier contract guaranteeing the quality and resultant gas yield. The fruit/ vegetable waste will not be accepted in degraded form. Deliveries are anticipated to be made between 5 to 6 times per week subject to short holding times (48 hours) and first-in first-out (FIFO) management. . Solid fruit and vegetable waste will be tipped into one of two segregated areas of the external dedicated storage bunker located close to the solid's feeder. The bunkers have sealed drainage connected to the feed hopper for blending and input into the AD process.

The fruit/vegetable waste will only be delivered to the available empty bunker such that newer waste will be kept separate from older waste to ensure FIFO .The fruit waste bunkers will be numbered (Nos. 1 and 2). The date of waste receipt within each bunker shall be recorded. It will be the responsibility of the Shovel Loader Operator to check this prior to feeding to ensure the oldest waste is preferentially fed into the hopper. No waste will be tipped within the bunkers in the event that both are full.

Fruit/ vegetable waste is generally of low odour potential although biodegrades quickly hence short holding time on site. Waste within the bunkers will be covered with plastic sheeting, at times of the year when weather conditions exacerbate the risk of the fruit attracting pests. The sheeting will be cleaned as part of routine housekeeping procedures. Where there is an increased risk of odour e.g. if weather conditions are particularly hot such that degradation is likely to occur sooner and/or pest risk from the fruit waste the material will be preferentially fed into the hopper.

Poultry manure will be delivered directly from local farms and unloaded within a dedicated building. It is anticipated that there will be 5 to 6 deliveries of poultry manure per week. The duration of the unloading is anticipated to take approximately 10 minutes (maximum). Once complete the door will be closed. The doorway will include plastic curtains to assist with odour containment when open. Manure Storage Building bays will be cleaned with water at least once weekly. Wastewater will be contained and transported to AD process via vacuum tanker.

The building will have fast-acting roller shutter doors. The doors will be kept shut except during feed hopper loading periods. Clear plastic strip curtains will be installed across the access door to assist in reducing fugitive odour release whilst the door is open. It is anticipated that there will be two loading events per day in the morning and the afternoon. Approximately 16 tonnes of manure will be loaded per day; 8 tonnes during each loading phase. The duration of each feeding event is anticipated to take between 15 to 30 minutes (maximum).

Poultry manure may be stored for up to three days (accounting for weekends) before entering the process. The design incorporates contingency volume e.g. the maximum storage quantity of chicken manure will be 120t at any one time, but the available capacity is 432m<sup>3</sup>. All feedstock is subject to feedstock acceptance procedures and will undergo a visual inspection to check for any contrary materials to ensure consistency. If the load is contaminated it goes into Quarantine and is removed within five days.

Maize and whole crop rye is received freshly cut and loaded into the silage clamps, each with a capacity of 6,750 tonnes (based on 0.7m<sup>3</sup> compaction). The silage clamps remain covered and sheeted at all times. The clamps will be inspected daily to ensure the sheeting is intact and providing effective coverage of the feedstock material.

Straw is stored by the Operator under sheeting in a field heap (outside the permitted area). Straw is brought onto site and on an as required basis and will then be transferred directly to the straw briquetting machine for processing. The straw storage heap may hold between 7 to 10 tonnes of straw at any one time depending on whether the straw is loose or baled. The straw will stay in the heap for no more than 12 days at maximum but is continuously replenished

#### Digestate Separation and storage area

Following digestion, the resulting whole digestate is pasteurised and then separated into a solid fibre digestate and liquor digestate. The digestion process minimises the residual gas content and thus reduces the residual odour potential of the end solid and liquid digestate.

There is potential for release of odours following separation and storing of digestate fibre. In order to reduce the potential odour generated, the bay itself or the trailer collecting the digestate fibre will be sheeted. Any associated odours from this process is likely to be low as the digestate material will be fully stabilised. We are satisfied that the proposals are appropriate

#### Containment and abatement of odorous emissions

We accept that even though appropriate management of the AD plant will minimise the potential for odour, containment and abatement of odour is still required. Fugitive emissions to air are expected to occur at the AD plant from waste acceptance, storage in the process building,

During the anaerobic digestion process, the Operator proposes to monitor the following parameters as a measure of digestion process stability – alkalinity, pH, temperature, gas pressure, ammonia, hydrogen sulphide, organic loading rate, concentration of volatile fatty acids (VFA), C:N ratio and biogas production rates.

Following digestion, the digestate will be pumped to a covered lagoon via pipeline. Loading of digestate will take place in a purpose-built impermeable area adjacent to the lagoon. Spill kits and wheel washing facilities will be available in this area to aid immediate cleaning following any small spills. A purpose-built pit will be provided for containment of digestate residual in the tanker pipe. This pit will be checked daily.

#### Our assessment

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 odour and to prevent pollution from odour.

We have reviewed and approved the OMP version 3 in its current format with the additional information submitted during the determination. We consider that the OMP complies with the requirements of our Technical Guidance H4 – Odour Management. 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. The permit contains a standard condition controlling odour – condition 3.3.

Though we are satisfied that appropriate measures will be in place to prevent odour we have included an Improvement condition in the permit in table S1.3 ( IP3 ) requiring the operator to submit a report reviewing the effectiveness of odour management techniques undertaken at the installation. This will need to be submitted after 12 months of operation.

## 2 Emissions to air

The Applicant's assessment of the impact of site activities on air quality is set out in the Application. This section of the decision document deals primarily with the dispersion modelling of emissions to air from point sources. These assessments predict the potential effects on local air quality using the ADMS (version 5.2) dispersion model, which is a commonly used computer model for regulatory dispersion modelling. The assessment comprises the dispersion modelling of emissions to air from point source combustion from the CHP, the flare, and the natural gas boiler, and also considers the emissions from the biogas upgrading system stack. The permit conditions ensure compliance with relevant BREFs and BAT Conclusions for this equipment, and ELVs deliver compliance with BAT-AELs.

The Applicant's assessment drew the following conclusions:

- The plant is not likely to lead to a significant contribution to any exceedances of the Environmental Standard (ES) at sensitive human receptors when considering NO<sub>2</sub> (nitrogen dioxide), SO<sub>2</sub> (sulphur dioxide), CO (carbon monoxide), PM<sub>10</sub> (particulate matter 10 micrometers in size) or VOCs (as 100% benzene).
- At ecological receptors, the process contributions (PCs) are likely to be insignificant compared to the critical levels and loads. The proposed techniques/ emission levels for these emissions are in line with the techniques and benchmark levels contained in the technical guidance and we consider them to represent appropriate techniques for the facility.

An audit of the Applicant's air quality assessment was undertaken by Environment Agency air quality specialists, who agreed with the assessment's conclusions.

### Ecological Receptors

In line with Environment Agency guidance document AQTAG14, as the thermal input capacity of the combustion plant (1.86 MWth) is less than 5 MWth then no habitats assessment is required due to the size of the combustion unit.

### Emission limits and monitoring requirements

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 CHP engine and emergency flare will be undertaken by MCERTS accredited personnel using MCERTS approved methods. We have specified that monitoring of the CHP engine and emergency flare should be carried out in accordance with the monitoring requirements of M2 - *Technical Guidance Note, Monitoring of stack emissions to air*.

We have set the emission limits for the gas engine (see Table 1 below) in accordance with the Medium Combustion Plant Directive (NO<sub>x</sub> and SO<sub>2</sub>) and the Landfill Guidance LFTGN 08 - *Guidance for monitoring landfill gas engine emissions* (CO and Total VOCs).

**Table 1 – Summary of emissions testing requirements for the CHP engine**

<b>Parameter</b>	<b>Emission standard (mg/m<sup>3</sup>)</b>
Nitrogen oxides	500
Sulphur dioxide	350
Carbon monoxide	1400
Total volatile organic compounds	1000

We have set the emission limits for the emergency flare (see Table 2 below) in accordance with the Landfill Guidance LFTGN 05 - Guidance for monitoring enclosed landfill gas flares.

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).

**Table 2 – Summary of emissions testing requirements for the emergency flare**

<b>Parameter</b>	<b>Emission standard (mg/m<sup>3</sup>)</b>
Oxides of nitrogen as NO <sub>2</sub>	150
Carbon monoxide	50
Total volatile organic compounds	10

### Process monitoring

We have specified process monitoring of the AD biological treatment as a whole (see Table S3.2 in the permit). This includes monitoring of key digestion parameters, daily olfactory checks and structural integrity checks of the digesters and storage tanks, reception building and storage areas. These monitoring checks are set to ensure that any malfunction of plant /equipment on site is detected early to reduce significant pollution.

### Biogas upgrading plant

Biogas will be upgraded to biomethane using appropriate upgrading technology such as the Pentair Haffmans Biogas Upgrading Solution. The containerised biogas upgrading and control system is required to produce gas of sufficient quality for the national gas network. Biogas is transported to the Pentair Biogas Upgrading plant which uses membrane technology to separate the CH<sub>4</sub> and CO<sub>2</sub>. The CH<sub>4</sub> is upgraded to biomethane and injected into the gas grid if quality standards are met. Carbon dioxide (CO<sub>2</sub>) emissions are vented to atmosphere.

The AD process will incorporate a two-stage desulphurisation process. A carbon filtration unit is fitted before the Pentair gas upgrade plant. Concentrations of CH<sub>4</sub>, CO<sub>2</sub>, H<sub>2</sub>S and O<sub>2</sub> in the biogas input will be constantly monitored. The 'Biogas Entry' consists of a biogas water scrubber, fan blower and activated carbon filter. This system will remove CO<sub>2</sub>, VOCs and H<sub>2</sub>S from the biogas prior to the membranes. Biogas is then upgraded using membrane separation technology (Pressure Swing Adsorption) based on the difference

in permeation rates of the different gas molecules through the polymer membrane. The three-stage membrane system is designed to recover 99.5% of the methane and at the same time recover CO<sub>2</sub> and moisture (H<sub>2</sub>O) from the biogas. The potential for any residual odorous compounds such as VOCs and specifically H<sub>2</sub>S, to be released in the off-gas will therefore be negligible.

#### Assessment of impact on air quality – biogas upgrading plant

The Applicant submitted an H1 assessment to consider the impact of air emissions from the biogas upgrading plant. The emissions of hydrogen sulphide and volatile organic compounds (VOCs) were screened out as insignificant, in that process contributions were <1% of the long term Environmental Standard and <10% of the short term ES. We conclude that emissions of hydrogen sulphide and VOCs are unlikely to have a significant impact on human health.

The emissions data (H<sub>2</sub>S and VOCs) from the biogas upgrading plant were obtained from the manufacturer and not based on real-time operational monitoring data. We consider it appropriate to set an Improvement Condition (IC1) which 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.

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 A6. We have used this approach for biowaste treatment facilities proposing to install biogas upgrading plants across England.

#### Emergencies and incidents

The Applicant has considered the impact of emergencies and incidents on odour emissions. We are satisfied that contingency actions will be taken should there be any site incident and/or emergency. We are satisfied with the timescales that the Operator has proposed for plant or parts repair or replacement. The Operator commits to cease waste acceptance in the event of plant breakdown.

#### Fugitive emissions to air, land and water

The Industrial Emissions Directive specifies that Installations must be able to demonstrate that they are designed in such a way as to prevent the unauthorised and accidental release of polluting substances into soil, surface water and groundwater. In addition, storage requirements for waste and for contaminated water must be arranged.

Activities on site will be operated in accordance with the site's management systems. The Operator reports that road surfaces are concrete, so there is a low likelihood of generation of litter, mud and dust. If the road surface becomes dry and more dust is being created, the road surface will be dampened down to minimise dust. Roads and concrete reception/yard areas will be swept and kept clean on a regular basis. An inspection will be made of all vehicles entering the site at the weigh bridge, and any concerns over mud on the wheels of incoming vehicles will be recorded and addressed with the supplier/hauler in question.

Whole digestate will be transferred to a covered lagoon by a closed pipe system thereby reducing any associated odours. All digestate will be removed from the digestate lagoon by a third party land spreading contractor. All loading operations will be supervised by site staff. Loading of digestate will take place in a purpose built impermeable area adjacent to the lagoon. Spill kits and wheel washing facilities will be available in this area to aid immediate cleaning following any small spills. A purpose-built pit will be provided for containment of digestate residual in the tanker pipe. This pit will be checked daily.

The waste treatment operations will benefit from a number of process control features and prevent the development of abnormal operating conditions. Operations will be controlled and monitored using the



SCADA system which creates documentation that can be accessed in remote locations. The system will provide a range of control and monitoring functions that automate and monitor actions throughout the plant. These procedures are designed to ensure the integrity of the plant throughout the life of the facility.

The Operator reports that all areas within the waste reception and treatment areas will benefit from an impermeable surface which will prevent the release of potentially polluting liquids to surface water and groundwater. The AD tanks are constructed from robust steel, which are located on an engineered concrete base.

The tanks are monitored constantly by computerised system, and a series of alarms are operable to alert staff of malfunction in different areas. Tanks are subject to daily visual checks for leaks. All pipework within the bund is above ground and so can be inspected/monitored for state of repair. Any breach of containment of tanks would be contained within the bund.

#### Straw Processing Emissions

The straw briquetting process will have associated point source emissions to air of particulate matter released at height via a stack/ vent (emission point A7). The ventilation system will be fitted with a reverse jet filter supplied by Danish supplier, Simatek, which will limit the concentration of particulate matter emissions to 5mg/m<sup>3</sup> that is within the industry standard of 20mg/m<sup>3</sup>. We have included this limit in the permit.

#### Secondary Containment

The site will be contained within a profiled and landscaped screening bund formed from earth. The AD tanks will be sited within a secondary containment bund designed to meet the requirements of CIRIA C736. To comply with the secondary containment of the tanks, all the storage tanks concrete bases are constructed on top of the concrete containment base. This allows a more accurate visual integrity inspection of the digester tanks. The containment capacity was designed in accordance with CIRIA C736 and it was calculated that 110% of the largest tank volume was a greater volume than 25% of the combined volume. The proposed footprint of the containment area allowed for the walls to be constructed to a minimum height of 1.8m, which included 250mm freeboard capacity, as per CIRIA C736. The containment bund is designed to contain all liquids within it. There is 1 drainage sump located inside the bund. The liquid within the drainage sump is checked daily and if there is no evidence of spillages it is actively pumped out to the water storage lagoon located to south of the bund for storage and use within the AD process. All walls are designed to water retaining concrete specification in accordance with CIRIA C736 and are designed to withstand the hydraulic load from a catastrophic tank failure.

The Applicant provided pre-commissioning certificates and additional information to confirm that the construction and integrity of the site secondary containment is fit for purpose and in accordance with industry standards. The secondary containment has been constructed and designed to reduce the risks of accidents and their consequences.

Overall, the Environment Agency considers that the Applicant has proposed appropriate measures to minimise any impact of fugitive emissions on nearby sensitive receptors. The permit conditions (3.2.1 to 3.2.3) are sufficient to ensure that emissions of substances not controlled by emission limits do not cause pollution.

Based upon the information provided in the Application, we are satisfied that appropriate measures are in place to prevent fugitive emissions to air, land and water.

### **3. Environmental management system (EMS)**

A formal EMS will be developed to ensure that:

- environmental risks and impacts are managed proactively;
- all legislative requirements are complied with; and
- procedures are in place to enable timely and effective response to environmental incidents should they occur.

The Operator will ensure that the site is attended for the required number of hours by a technically competent manager (TCM) with the relevant waste qualifications. Cover arrangements will also be

established to ensure that the necessary attendance takes place during staff holiday and sick periods. The site staff team will consist of an operations manager, a technician, and two site operatives.

The EMS will include procedures for reporting, documenting and investigating incidents, near misses, complaints and non-compliances. The management system will include procedures for regular maintenance checks on plant machinery and infrastructure to control identified high risk activities and external and internal audit systems. The site will also carry a supply of critical spares to enable timely response to breakdown and the need for repair.

The Operator has collated a raw materials inventory detailing tonnage of raw materials used on an annual basis. The nature and volumes of materials used on site will be reviewed on an ongoing basis and where possible efficiencies will be made, or changes will be made in the selection of materials used to ensure that low impact options are used wherever possible. Similarly monitoring and review of wastes produced, water usage and energy usage will be carried out in order to identify areas where efficiencies can be made.

The Operator will develop a site Closure and Decommissioning Programme outlining the measures that will be carried out in the event of site closure to ensure that the site is left in a state that addresses any subsequent risk to the environment arising from this process.

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.

# Decision checklist

Aspect considered	Decision
<b>Receipt of application</b>	
Confidential information	A claim for commercial or industrial confidentiality has been not been made.
<b>Consultation</b>	
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"> <li>• Kent Council (Environmental Health Department)</li> <li>• Kent Council (Planning Authority)</li> <li>• Public Health England</li> <li>• Health &amp; Safety Executive</li> <li>• National Grid</li> <li>• Animal &amp; Plant Health Agency</li> </ul> <p>The comments and our responses are summarised in the <a href="#">consultation section</a>.</p>
<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 RGN 2 'Understanding the meaning of regulated facility' and Appendix 2 of RGN 2 'Defining the scope of the installation'. 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.
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	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.

Aspect considered	Decision
conservation	<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. 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. The Operator's risk assessment is satisfactory. The assessment shows that, applying the conservative criteria in our guidance on environmental risk assessment, all emissions may be categorised as environmentally insignificant. See 'key issues' section above for further information.</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 including – Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and H4 – Odour Management and we consider them to represent appropriate techniques for the facility. 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, total volatile organic compounds and carbon monoxide have been screened out as insignificant, and so we agree that the Applicant's proposed techniques are BAT for the installation. 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. We consider that the odour management plan is satisfactory (see <a href="#">Key issues</a>).</p>
<b>Permit conditions</b>	
Use of conditions other than those from the template	<p>Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template.</p>
Raw materials	<p>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).</p>
Waste types	<p>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 these wastes because they have the necessary infrastructure, operating systems and technical capability to manage these wastes in an appropriate manner. The waste types can be treated via anaerobic digestion as they are included in the revised Anaerobic Digestate</p>

Aspect considered	Decision
	Quality Protocol (ADQP) and the Environment Agency biowaste treatment permit templates.
Pre-operational conditions	Based on the information in the application, we consider that we need to impose pre-operational conditions (see <a href="#">Key issues</a> ).
Improvement programme	Based on the information on the application, we consider that we need to impose an improvement programme (see <a href="#">Key issues</a> ).
Emission limits	<p>We have decided that emission limits should be set for the parameters listed in the permit (see <a href="#">Key issues</a>).</p> <p>The following pollutants (nitrogen oxides, sulphur dioxide, carbon monoxide, total VOCs) 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 these pollutants with respect to air (see <a href="#">Key issues</a>).</p> <p>We have set the emission limits for the gas engine (see Table 1 below) in accordance with the Medium Combustion Plant Directive (NO<sub>x</sub> and SO<sub>2</sub>) and the Landfill Guidance LFTGN 08 - <i>Guidance for monitoring landfill gas engine emissions</i> (CO and Total VOCs</p> <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>
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 (see <a href="#">Key issues</a>).</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.</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	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 the Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013).
<b>Operator competence</b>	
Management system	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. The decision was taken in accordance with the guidance on Operator competence and how to develop a management system for environmental permits.
Technical competence	Technical competence is required for activities permitted. The Operator is a

Aspect considered	Decision
	member of an agreed scheme. We are satisfied that the operator is technically competent.
Relevant convictions	The Case Management System and National Enforcement Database have been checked to ensure that all relevant convictions have been declared. No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.
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 Public Health England</b>
<b>Brief summary of issues raised</b>
<ul style="list-style-type: none"> <li>Overall, the air quality assessment does not appear to include modelling of particulate emissions from any of the combustion activities proposed for the installation. Therefore, PHE is unable to assess the impact of particulate emissions at receptor locations.</li> <li>•The worse-case scenario identified for air quality assessment modelling does not include a situation whereby the back-up diesel generator is in use and therefore contributing to both gaseous and particulate emissions. Therefore, PHE is unable to assess the full impact of gaseous and particulate emissions at receptor locations.</li> <li>In terms of the straw briquetting process, it is noted that a qualitative assessment has been undertaken in terms of particulate emissions. In the absence of a quantitative assessment and associated modelling, PHE is unable to assess the impact of particulate emissions at receptor locations.</li> </ul> <p>Any information arising from these recommendations should be sent to PHE for consideration when it becomes available. Such information could affect the comments made in this response.</p>
<b>Summary of actions taken or show how this has been covered</b>
<ul style="list-style-type: none"> <li>The Applicants submitted a full Air Quality Assessment that was assessed by Environment Agency air quality specialists and we agreed with the Applicants conclusions that there will be no exceedances of air quality standards at human receptors.</li> <li>The backup diesel generator was included in the Applicants modelling.</li> <li>The briquetting process is considered in the Key Issues section.</li> </ul>

<b>Response received Member of the public</b>
<b>Brief summary of issues raised</b>
Concern raised about pollution caused at an AD installation in West Sussex'
<b>Summary of actions taken or show how this has been covered</b>
These comments are about a different facility at a different location and so cannot be considered in this decision so no action necessary. In any case we are satisfied that this Installation will not cause significant pollution, see key issues for details of our assessment.