

# Permit with introductory note

## The Environmental Permitting (England & Wales) Regulations 2016

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Thornfield 001 Ltd  
Thornfield 001 Ltd  
Barnes Farm  
Rowton Junction to Hillcrest Junction  
Rowton  
Telford  
TF6 6QX

### Permit number

EPR/VP3506PE

# **Thornfield 001 Ltd**

## **Permit number EPR/VP3506PE**

### **Introductory note**

#### **This introductory note does not form a part of the permit**

The main features of the permit are as follows.

The installation is an anaerobic digestion facility (i.e. biological treatment facility) that has a capacity exceeding 100 tonnes per day. It therefore comes under a Section 5.4 (1)(b)(i) activity of the Environmental Permitting Regulations.

To support the main activity at the installation, the permit also allows several directly associated activities (DAAs) to take place on site, namely –

- (i) Storage of waste pending recovery or disposal
- (ii) Physical treatment of waste for the purpose of recycling
- (iii) Steam and electrical power supply
- (iv) Emergency flare operation
- (v) Gas upgrading
- (vi) Raw material storage
- (vii) Gas storage
- (viii) Digestate storage

The site is centred approximately at National Grid Reference SJ 6234 1949 on land at Barnes Farm House, Rowton, Telford. The facility is an anaerobic digester (AD) plant. It will treat up to 50,000 tonnes per annum of food and agricultural waste. The plant will process putrescible and biodegradable wastes using methanogenic bacteria to produce biogas and digestate as an end product. The resultant biogas will either be used in two 1.2 MWth combined heat and power (CHP) engines to produce heat, and electricity to be sold to the National Electricity Grid or will be upgraded via a biogas upgrading plant (BUP) to meet National Gas Grid criteria and injected into the gas grid. The digestate will be PAS 110 compliant and will be used for land improvement. Any digestate not meeting this quality standard will be considered waste and treated as such.

The CHP engines individually are defined as Medium Combustion Plant (MCP), under Schedule 25A of the EP regulations. This means that defined emission limit values (ELVs) apply.

All tanks have secondary containment in line with CIRIA 796 or equivalent, to provide protection in the event of spillage or tank failure.

The application details have been assessed against the relevant best available techniques (BAT) conclusions on waste treatment.

The facility is sited at Barnes Farm and is surrounded by agricultural land. The nearest human receptors are the farm cottages and farmhouse. There are no Sites of Special Scientific Interest or European Sites within 10 km of the site boundary.

The operator of the site has an Environmental Management System.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application EPR/VP3506PE/A001	Duly made 03/10/19	Application for an anaerobic digestion facility with combustion of biogas.
Schedule 5 information received	08/11/19	Documents provided with email dated 08/11/19
Schedule 5 information received	15/11/19	Noise Impact Assessment (ref: Barnes Farm Noise Impact Assessment V1.0 Nov 19) Noise Management Plan (ref: Barnes Farm Noise Management Plan V0.1 Nov 19)
Schedule 5 information received	02/12/19	Revised Noise Impact Assessment (ref: Barnes Farms Impact Assessment v1.1 Nov 19)
Permit determined	20/12/19	Permit issued to Thornfield 001 Ltd

End of introductory note

# Permit

## The Environmental Permitting (England and Wales) Regulations 2016

### Permit number

**EPR/VP3506PE**

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

**Thornfield 001 Ltd** ("the operator"),

whose registered office is

**Estate Office Northwick Estate**

**Upton Wold**

**Moreton-in-Marsh**

**Gloucestershire**

**GL56 9TR**

company registration number 09434307

to operate an installation at

**Thornfield 001 Ltd**

**Barnes Farm**

**Rowton Junction to Hillcrest Junction**

**Rowton**

**Telford**

**Gloucestershire**

**TF6 6QX**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Simon Hunt	20/12/2019

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
  - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

### 1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
  - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
  - (c) take any further appropriate measures identified by a review.

### 1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
  - (b) maintain records of raw materials and water used in the activities;
  - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
  - (d) take any further appropriate measures identified by a review.

### 1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
  - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
  - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 The activities shall be undertaken in accordance with best available techniques.
- 2.1.3 All process plant and equipment shall be commissioned, operated and maintained and shall be fully documented and recorded in accordance with the manufacturer’s recommendations.

### **2.2 The site**

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

### **2.3 Operating techniques**

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 table S2.2;
  - (b) it conforms to the description in the documentation supplied by the producer and holder; and
  - (c) the facility has sufficient free capacity to store and treat the waste.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
  - (b) the composition of the waste;
  - (c) the handling requirements of the waste;
  - (d) the hazardous property associated with the waste, if applicable; and
  - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.
- 2.3.7 Waste pre-acceptance and acceptance procedures shall be undertaken in accordance with best available techniques.

## **2.4 Improvement programme**

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

## **3 Emissions and monitoring**

### **3.1 Emissions to water, air or land**

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 table S3.1.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.
- 3.1.4 For the directly associated activity referenced in schedule 1, table S1.1 AR 4 the first monitoring measurements shall be carried out with four month of the issue date of the permit or the date when the MCP is first put into operation, whichever is the later.

### **3.2 Emissions of substances not controlled by emission limits**

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour, but including ammonia) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
  - (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.
- 3.2.4 The operator shall implement a leak detection and repair (LDAR) programme to detect and mitigate the release of volatile organic compounds.

### **3.3 Odour**

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

### **3.4 Noise and vibration**

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

### **3.5 Monitoring**

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1; and
  - (b) process monitoring specified in table S3.2.
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 table S3.1 unless otherwise agreed in writing by the Environment Agency.
- 3.5.5 For New Medium Combustion Plant, the first monitoring measurements shall be carried out within four months of the issue date of the permit or the date when the MCP is first put into operation, whichever is later.

### **3.6 Pests**

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.6.2 The operator shall:
- (a) only use approved products for pest control;
  - (b) treat pest infestations promptly;
  - (c) reject pest-infected incoming waste;
  - (d) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
  - (e) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.



## **4 Information**

### **4.1 Records**

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
  - (i) off-site environmental effects; and
  - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.1.3 The operator shall maintain a record of the type and quantity of fuel used and the total annual hours of operation of each MCP.

### **4.2 Reporting**

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production/treatment data set out in schedule 4 table S4.2; and
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.6 The operator shall keep records of non-waste materials leaving the site, including the type of material, the batch number, the date of export off-site and the tonnage exported on that date. These records shall be maintained for at least 2 years.

## 4.3 Notifications

### 4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
  - (i) inform the Environment Agency,
  - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
  - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
  - (i) inform the Environment Agency, and
  - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Following the detection of an issue listed in condition 4.3.1, the operator shall review and revise the management system and implement any changes as necessary to minimise the risk of re-occurrence of the issue.

4.3.4 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.5 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and
- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.6 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.7 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

## **4.4 Interpretation**

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

# Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
AR1	S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	R3: Recycling/reclamation of organic substances which are not used as solvents	<p>From receipt of waste through to digestion and recovery of by-products (digestate).</p> <p>Anaerobic digestion of waste in digester tanks followed by burning of biogas produced from the process.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
<b>Directly Associated Activity</b>			
AR2	Storage of waste pending recovery or disposal	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of permitted waste to pre-treatment and despatch for anaerobic digestion on site.</p> <p>Storage of residual wastes from pre-treatment to despatch off-site for recovery.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
AR3	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery.</p> <p>Pre-treatment of waste in enclosed tank including mixing and maceration.</p>

			<p>Heat treatment (pasteurisation) of waste in 3 tank(s) for the purpose of recovery.</p> <p>Gas cleaning by biological or chemical scrubbing.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
AR4	<p>Steam and electrical power supply</p> <p>(Two combined heat and power plant, defined individually as Medium Combustion Plant under Schedule 25A and as a Specified Generator under Schedule 25B of the EP regulations)</p>	R1: Use principally as a fuel to generate energy	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases.</p> <p>Combustion of biogas in 2 combined heat and power (CHP) engines with an aggregated thermal input of 5.766 MWth.</p> <p>Combustion of biogas or natural gas in 1 boiler with an aggregated thermal input of 1.2 MWth.</p>
AR5	Emergency flare operation	D10: Incineration on land	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases.</p> <p>Use of 1 auxiliary flare required only during periods of breakdown or maintenance of the CHP engines, biogas upgrading plant and/or auxiliary boiler.</p>
AR6	Gas upgrading	Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and volatile organic compounds) for injection into the National Gas Grid.	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National Gas Grid. This includes return of off-specification</p>

			biogas for combustion to the on-site CHP engines, auxiliary boiler and/or emergency flare.
AR7	Raw material storage	Storage of raw materials including lubrication oil, antifreeze, propane, ferric chloride, activated carbon, diesel.	Undertaken in relation to Activity AR1.  From the receipt of raw materials to despatch for use within the facility.
AR8	Gas storage	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken in relation to Activity AR1.  Storage of biogas produced from on-site anaerobic digestion of permitted waste in roof space of digesters.  From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.
AR9	Digestate storage	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Undertaken in relation to Activity AR1.  From the receipt of processed uncertified digestate produced from the on-site anaerobic digestion process to despatch for use off-site.  Storage of processed uncertified liquid digestate in 1 storage tank or 1 covered lagoon.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Sections 1.2, 1.4, 1.6 and 1.8 of the application document in response to section 3a – technical standards, Part B of the application form.  Best available techniques as described in BAT conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for waste treatment.	24/06/19
Application	Odour management plan (reference Barnes Farm AD Facility Odour Management Plan, v1.0 June 19) in response to section 5B, Table 3 – General Requirements, Part B of the application form.	24/06/19
Response to Schedule 5 Notice dated 28/10/19	Noise Management Plan (reference Barnes Farm AD Plant, Noise Management Plan, November 19 v0.1)	15/11/19

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IP1	<p>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. The study shall include the monitoring of point source releases to air from the biogas upgrading plant emission point A5 during normal operation, having regard to the Environment Agency technical guidance M2 and to MCERTS standards. As a minimum, two separate monitoring campaigns in a year shall be completed (one monitoring survey six months following commissioning of the biogas upgrading plant).</p> <p>The pollutants to be monitored shall include:</p> <ul style="list-style-type: none"> <li>• total volatile organic compounds; and</li> <li>• hydrogen sulphide</li> </ul>	30/09/20 or otherwise agreed in writing by the Environment Agency
IP2	<p>Following the completion of IP1, the operator shall undertake an emissions impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The emissions impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p> <p>The emissions impact assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> <li>• reports showing details of the monitoring undertaken and the results obtained;</li> <li>• results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance – Air emissions risk assessment for your environmental permit</li> <li>• a completed H1 assessment software tool</li> </ul> <p>If the H1 assessment shows potential long or short term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified.</p>	31/12/20 or otherwise agreed in writing by the Environment Agency
IP3	<p>The Operator shall undertake a noise assessment during normal operations in accordance with the procedures given in BS4142:2014 (Rating industrial noise affecting mixed residential and industrial areas) and BS7445: 2003 (Description and measurement of environmental noise) or other methodology as agreed with the Environment Agency - in order to validate the assessment provided within the application. The assessment shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• A review of the noise sources from the facility. Where any noise source(s) are identified as exhibiting tonal contributions, they shall be quantified by means of frequency analysis.</li> <li>• A review of noise levels from static plant.</li> <li>• Considerations of on-site vehicle movements.</li> </ul> <p>A report shall be provided to the Environment Agency detailing the findings of the assessment.</p>	30/05/20 or otherwise agreed in writing by the Environment Agency
IP4	<p>The operator shall ensure that a review of the design, method of construction and integrity of the proposed site secondary containment is carried out by a qualified structural engineer. The review shall compare the constructed secondary containment against the standards set out in section 7.9.1 of the Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and CIRIA C736 - Containment Systems for the Prevention of Pollution - secondary, tertiary and other measures for industrial and commercial premises or other relevant industry standard.</p> <p>The review shall include:</p>	28/02/20 or otherwise agreed in writing by the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<ul style="list-style-type: none"> <li>• physical condition of the secondary containment</li> <li>• the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure;</li> <li>• any work required to ensure compliance with the standards set out in CIRIA C736 or other relevant industry standard; and</li> <li>• a preventative maintenance and inspection regime</li> </ul> <p>A written report of the review shall be submitted to the Environment Agency detailing the review's findings and recommendations. Remedial action shall be taken to ensure that the secondary containment meets the standards set out in the technical guidance documents and implement the maintenance and inspection regime.</p>	



## Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
-	-

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 50,000 tonnes
Exclusions	<p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> <li>• waste that is not biodegradable;</li> <li>• biodegradable waste that is significantly contaminated with non-biodegradable contaminants like plastic and litter beyond incidental level of 0.5% by volume;</li> <li>• wastes containing treated wood and post-consumer wood, wood-preserving agents or other biocides, persistent organic pollutants;</li> <li>• wastes containing Japanese Knotweed or other invasive plant species listed in the Alien Invasive Species Regulations 2014;</li> <li>• manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011.</li> </ul>
Waste code	Description
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 01	sludges from washing and cleaning – vegetables, fruit and other crops
02 01 02	animal tissue waste
02 01 03	plant tissue waste
02 01 06	animal faeces, urine and manure (including spoiled straw) only
02 01 07	wastes from forestry
<b>02 02</b>	<b>wastes from the preparation and processing of meat, fish and other foods of animal origin</b>
02 02 01	sludges from washing and cleaning
02 02 02	animal tissue waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
<b>02 03</b>	<b>wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation</b>
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
<b>02 04</b>	<b>wastes from sugar processing</b>
02 04 03	sludges from on-site effluent treatment
<b>02 05</b>	<b>wastes from the dairy products industry</b>
02 05 01	materials unsuitable for consumption or processing

<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion</b>	
<b>Maximum quantity</b>	<b>Annual throughput shall not exceed 50,000 tonnes</b>
<b>Exclusions</b>	<p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> <li>• waste that is not biodegradable;</li> <li>• biodegradable waste that is significantly contaminated with non-biodegradable contaminants like plastic and litter beyond incidental level of 0.5% by volume;</li> <li>• wastes containing treated wood and post-consumer wood, wood-preserving agents or other biocides, persistent organic pollutants;</li> <li>• wastes containing Japanese Knotweed or other invasive plant species listed in the Alien Invasive Species Regulations 2014;</li> <li>• manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011.</li> </ul>
<b>Waste code</b>	<b>Description</b>
02 05 02	sludges from on-site effluent treatment
<b>02 06</b>	<b>wastes from the baking and confectionery industry</b>
02 06 01	materials unsuitable for consumption or processing
02 06 03	sludges from on-site effluent treatment
<b>02 07</b>	<b>wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)</b>
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
<b>04</b>	<b>Wastes from the leather, fur and textile industries</b>
<b>04 02</b>	<b>wastes from the textile industry</b>
04 02 10	organic matter from natural products, e.g. grease, wax
<b>07</b>	<b>Wastes from organic chemical processes</b>
<b>07 01</b>	<b>wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals</b>
07 01 08*	glycerol waste from bio-diesel manufacture from non-waste vegetable oils only
<b>15</b>	<b>Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 01	paper and cardboard packaging – excludes laminates such as Tetrapaks and must conform to BS EN 13432 and not allowed if any non biodegradable coating or preserving substance is present.
15 01 02	biodegradable plastic packaging – must be independently certified to BS EN 13432 and not allowed if any non-biodegradable coating or preserving substance is present.
15 01 03	untreated wooden packaging – not allowed if any nonbiodegradable coating or preserving substance is present
15 01 05	composite packaging – must conform to BS EN 13432 and not allowed if any non-biodegradable coating or preserving substance is present
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 10</b>	<b>aqueous liquid wastes destined for off-site treatment</b>
16 10 02	liquor/leachate from a composting process that accepts waste input types listed in this

<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion</b>	
<b>Maximum quantity</b>	<b>Annual throughput shall not exceed 50,000 tonnes</b>
<b>Exclusions</b>	<p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> <li>• waste that is not biodegradable;</li> <li>• biodegradable waste that is significantly contaminated with non-biodegradable contaminants like plastic and litter beyond incidental level of 0.5% by volume;</li> <li>• wastes containing treated wood and post-consumer wood, wood-preserving agents or other biocides, persistent organic pollutants;</li> <li>• wastes containing Japanese Knotweed or other invasive plant species listed in the Alien Invasive Species Regulations 2014;</li> <li>• manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011.</li> </ul>
<b>Waste code</b>	<b>Description</b>
	table only
<b>19</b>	<b>Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use</b>
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	waste types listed within this table, Table S2.2, that have been mixed together only
19 02 06	sludge types from waste listed within this table, Table S2.2, that have been heat treated only
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 03	liquor from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table only)
19 06 04	digestate from anaerobic treatment of source segregated biodegradable waste (from a process that treats wastes which are listed in this table only)
19 06 05	liquor from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
19 06 06	digestate from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 12	sludges from biological treatment of industrial waste water from a process that treats wastes listed in this table only
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 12	waste types listed in this table, Table S2.2, that have been subjected to mechanical treatment only (from a process that treats wastes listed in this table only)
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 01	paper and cardboard packaging – excludes laminates such as Tetrapaks and must conform to BS EN 13432 and not allowed if any non-biodegradable coating or preserving substance is present.
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat

<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion</b>	
<b>Maximum quantity</b>	<b>Annual throughput shall not exceed 50,000 tonnes</b>
<b>Exclusions</b>	<p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> <li>• waste that is not biodegradable;</li> <li>• biodegradable waste that is significantly contaminated with non-biodegradable contaminants like plastic and litter beyond incidental level of 0.5% by volume;</li> <li>• wastes containing treated wood and post-consumer wood, wood-preserving agents or other biocides, persistent organic pollutants;</li> <li>• wastes containing Japanese Knotweed or other invasive plant species listed in the Alien Invasive Species Regulations 2014;</li> <li>• manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011.</li> </ul>
<b>Waste code</b>	<b>Description</b>
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 01	biodegradable waste
<b>20 03</b>	<b>other municipal wastes</b>
20 03 01	mixed municipal waste – only separately collected biodegradable wastes of types listed within this table, Table S2.2
20 03 02	waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
<b>New medium combustion plant which are engines fuelled on biogas</b>						
A1 - CHP Unit 1 (Stack 1) NGR SJ 62199 19411	CHP engine 1 stack CHP engine 2 stack [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	107 mg/m <sup>3</sup>			BS EN 14791
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	1000 mg/m <sup>3</sup>			BS EN 12619:2013
A2 - CHP Unit 2 (Stack 2) NGR SJ 62216 19411						
<b>New medium combustion plant which are boilers fuelled on biogas</b>						
A3 - Boiler (Stack 3) NGR SJ 62218 19407	Boiler fuelled on biogas [note 2]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	200 mg/m <sup>3</sup>	Hourly average	Annual	In accordance with TGN M5
		Sulphur dioxide	100 mg/m <sup>3</sup>			
		Carbon monoxide	No limit set			
A4 - Flare (Stack 4) NGR SJ 62197 19391	Emergency flare stack [note 2]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	150 mg/m <sup>3</sup>	Hourly average	[note 3]	BS EN 14792
		Carbon monoxide	50 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	10 mg/m <sup>3</sup>			BS EN 12619:2013
A5 - Biogas upgrading plant (Stack 5) NGR 62166 19439	Biogas upgrading plant stack	VOCs	No limit set	--	Continuous	Leak detection and repair (LDAR) programme
Pressure relief	Digesters/Digestate storage tanks	Biogas release	No limit set	Recorded duration	Record of operational	--

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
valves		and operational events		and frequency	hours	
Vents from tank(s)	Oil/Fuel Storage tank(s)	No parameter set	No limit set	--	--	--
<p>Note 1 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas).</p> <p>Note 2 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 3 per cent (dry gas).</p> <p>Note 3 - Monitoring to be undertaken 12 months after commissioning of the emergency flare</p>						

Table S3.2 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Digester feed (digestion process)	pH	As described in the site operating techniques	As described in the site operating techniques	Process monitoring to be recorded using SCADA system
	Alkalinity			
	Temperature			
	Hydraulic loading rate			
	Organic loading rate			
	Volatile fatty acids concentration			
	Ammonia			
	Digester liquid level			
	Digester foam level			
Biogas production	Biogas flow	Continuous	As described in the site operating techniques	Process monitoring to be recorded using SCADA system.  Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	Methane	Continuous		
	CO <sub>2</sub>	Continuous		
	O <sub>2</sub>	Continuous		
	Pressure	Continuous		
	Hydrogen sulphide	Daily		
Digester operation	Agitation /mixing	Once a year	--	--
	Tank capacity and sediment assessment			
Digesters and storage tanks	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Biogas upgrading plant	VOCs including	Continuous	Fence line	Methane

Table S3.2 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	methane		sensors	monitoring points as specified in the DSEAR risk assessment and leak detection and repair programme
Diffuse emissions from Gas storage membrane /biogas upgrading plant /digestate storage lagoons	VOCs including methane	Every 6 months	M8 Monitoring Ambient Air	Leak detection and repair (LDAR) programme
	Odour			
	Ammonia			
Site meteorological conditions	Wind speed, wind direction, temperature	Continuous	As specified in the site operating techniques	<p>Conditions to be recorded in operational diary and records.</p> <p>Equipment shall be calibrated on a 4 monthly basis, in accordance with manufacturer's recommendations or as agreed in writing by the Environment Agency.</p>
Emergency flare	Operational hours	As required	Recording using a SCADA system	Date, time and duration of use of emergency flare shall be recorded.
Pressure relief valves	Biogas release	In accordance with manufacturer's recommendations	Daily visual inspection or remote monitoring	<p>Date, time and duration of use of pressure relief events shall be recorded. Annual mass release shall be calculated.</p> <p>Pressure relief valves to be re-seated after release.</p>
Digesters and storage tanks.	Integrity checks	Weekly	Visual assessment	--
Storage lagoons and storage tanks	Volume	Daily	Visual or flow metre measurement	750 mm freeboard must be maintained

## Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air from CHP engines and/or boilers Parameters as required by condition 3.5.1.	A1 - CHP Unit 1 A2 - CHP Unit 2 A3 - Boiler	Every 12 months	1 January
Process monitoring Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.2	Every 12 months	1 January

<b>Table S4.2 Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Electricity generated	MWh
Biomethane generated	tonnes or m <sup>3</sup>
Whole digestate	tonnes

<b>Table S4.3 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Water usage	Annually	tonnes or m <sup>3</sup>
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m <sup>3</sup>
Emergency flare operation	Annually	hours
Electricity exported	Annually	MWh
Biomethane exported	Annually	tonnes or m <sup>3</sup>
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours

<b>Table S4.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Air	Form air 1 or other form as agreed in writing by the Environment Agency	20/12/19
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	20/12/19
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	20/12/19
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--



## Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

### Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

<b>(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b>	
<b>To be notified within 24 hours of detection</b>	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Measures taken, or intended to be taken, to stop the emission	

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

## Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“accident management plan” means a plan that identifies risks and failures which can have an impact on the environment or have environmental consequences. The plan forms part of the management system. The plan must minimise the potential causes and consequences and identify clearly the roles, responsibilities and action to be taken to minimise the consequences of accidents. This includes measures to prevent and control fires on site, DSEAR assessment and clearly marked zones.

“anaerobic digestion” means a process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobes and facultative anaerobe bacteria species, which convert the inputs to a methane-rich biogas and whole digestate.

“animal waste” means any waste consisting of animal matter that has not been processed into food for human consumption. This does include blood, feathers, uncooked butchers waste and any other animal waste that is not catering waste or former foodstuffs. This does not include faecal matter from animals (e.g. chicken litter or farmyard manure).

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“best available techniques” means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole:

- a) ‘techniques’ includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;
- b) ‘available techniques’ means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and the advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator;
- c) ‘best’ means most effective in achieving high general level of protection of the environment as a whole.

“biodegradable” means a material is capable of undergoing biological anaerobic or aerobic degradation leading to the production of CO<sub>2</sub>, H<sub>2</sub>O, methane, biomass and mineral salts depending on the environmental conditions of the process.

“building” means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

“capacity” means the potential capacity and not historical or actual production levels or throughput. This means that the designed capacity is the maximum rate at which the site can operate. Biological treatment of waste usually takes place over more than one day, so the physical daily capacity can be calculated by dividing the maximum quantity of waste that could be subject to biological treatment at any one time by the minimum residence time. For in-vessel composting, the residence time for sanitisation should be calculated separately and then aggregated to the complete composting time.

“channelled emissions” means the emissions of pollutants into the environment through any kind of duct, pipe, stack, etc. This also includes emissions from open top biofilters.

“combined heat and power” (CHP) or Cogeneration means the simultaneous generation in one process of thermal energy and electrical or mechanical energy.

“competent persons and resources” means that a technically competent person accredited to a relevant scheme must attend site and record their attendance, and that all roles and responsibilities are clearly stated in the management systems along with records of operatives’ training.

“compostable plastics” means plastics that are certified to meet the standards of EN 13432, EN 14995 or equivalent.

“digestate” means material resulting from an anaerobic digestion process.

“disposal” means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“generator” means any combustion plant which is used to generate electricity, excluding mobile, unless it is connected to the national grid.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions.

“Leak detection and repair (LDAR) programme” means a structured approach to reduce fugitive emissions of organic compounds by detection and subsequent repair or replacement of leaking components. Currently, sniffing (described EN 15446) and optical gas imaging methods are available for the identification of leaks as set out in BAT 14 and section 6.6.2 of the Waste Treatment BAT Conclusions.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“medium combustion plant” or “MCP” means a combustion plant with a rated thermal input equal to or greater than 1 MW but less than 50 MW.

“Medium Combustion Plant Directive” or “MCPD” means Directive 2015/2193/EU of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from medium combustion plants.

“pests” means Birds, Vermin and Insects.

“pollution” means emissions as a result of human activity which may-

- (a) be harmful to human health or the quality of the environment,
- (b) cause offence to human sense.
- (c) result in damage to material property, or
- (d) impair or interfere with amenities and other legitimate uses of the environment.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“sanitisation stage” means the actively managed and intensive stage of composting lasting for at least five days, characterised by high oxygen demand and temperatures of over 55 °C, during which biological processes, together with conditions in the composting mass, eradicate human and animal pathogens or reduce them to acceptably low levels.

“sealed drainage system” in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- no liquids will run off the surface otherwise than via the system
- all liquids entering the system are collected in a sealed sump, except where liquids may be lawfully discharged to foul sewer.

“stable, stabilised” means the degree of processing and biodegradation at which the rate of biological activity has slowed to an acceptably low and consistent level and will not significantly increase under favourable, altered conditions.

“stabilisation stage” means the stage of composting following sanitisation, during which biological conditions in the composting mass, give rise to compost that is nominally stable.

“treated wood” means any wood that has been chemically treated (e.g. to enhance or alter the performance of the original wood). Treatments may include penetrating oils, tar oil preservatives, water-borne preservatives, organic-based preservatives, boron and organo-metallic based preservatives, boron and halogenated flame retardants and surface treatments (including paint and venner).

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels other than gas engines or gas turbines, 6% dry for solid fuels; and/or
- in relation to emissions from gas engines or gas turbines, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 15% dry for liquid and gaseous fuels ; and/or

“year” means calendar year ending 31 December.

## Schedule 7 – Site plan



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# Annex 1 of MCP

1. MCP unique identifier	Thorn 01	Thorn 02
1. Rated thermal input (MW) of the medium combustion plant.	2.883	2.883
2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).	Biogas spark ignition engine	Biogas spark ignition engine
3. Type and share of fuels used according to the fuel categories laid down in Annex II.	Biogas	Biogas
4. Date of the start of the operation of the medium combustion plant or, where the exact date of the start of the operation is unknown, proof of the fact that the operation started before 20 December 2018.	TBC	TBC
5. Sector of activity of the medium combustion plant or the facility in which it is applied (NACE code).	E38.3.2	E38.3.2
6. Expected number of annual operating hours of the medium combustion plant and average load in use.	8,640 98.6%	8,640 98.6%
7. Where the option of exemption under Article 6(3) or Article 6(8) is used, a declaration signed by the operator that the medium combustion plant will not be operated more than the number of hours referred to in those paragraphs.	NA	NA
8. Name and registered office of the operator and, in the case of stationary medium combustion plants, the address where the plant is located.	<u>Name and registered office:</u> Thornfield 001 Ltd Estate Office Northwick Estate Upton Wold Morton-in-Marsh Gloucestershire GL56 9TR	

	<u>Site address</u> <b>Thornfield 001 Ltd</b> <b>Barnes Farm AD facility</b> <b>Barnes Farm</b> <b>Rowton Junction to Hillcrest Junction</b> <b>Rowton</b> <b>Telford</b> <b>TF6 6 QX</b>
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END OF PERMIT



**Permit Number:** VP3506PE **Operator:** Thornfield 001 Ltd

**Facility:** Thornfield 001 Ltd **Form Number:** Air1 / 20/12/19

**Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY**

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
<b>New medium combustion plant which are engines fuelled on biogas</b>							
A1, A2	Oxides of nitrogen (NO and NO2 expressed as NO2)	500 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
A1, A2	Sulphur dioxide	107 mg/m <sup>3</sup>	1 hour period		BS EN 14791		
A1, A2	Carbon monoxide	1400 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
A1, A2	Total VOCs	1000 mg/m <sup>3</sup>	1 hour period		BS EN 12619:2013		
<b>New medium combustion plant other than engines and gas turbines fuelled on biogas</b>							
A3	Sulphur dioxide	100 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
A3	Oxides of nitrogen (NO and NO2 expressed as NO2)	200 mg/m <sup>3</sup>	1 hour period		BS EN 14791		
A3	Carbon monoxide	--	1 hour period		BS EN 15058		
<b>Emergency flare</b>							
A4	Oxides of nitrogen (NO and NO2)	150 mg/m <sup>3</sup>	1 hour period		BS EN 14792		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
	expressed as NO <sub>2</sub> )						
A4	Carbon monoxide	50 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
A4	Total VOCs	10 mg/m <sup>3</sup>	1 hour period		BS EN 12619:2013		

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed .....

Date.....

(Authorised to sign as representative of Operator)

**Permit Number:** VP3506PE      **Operator:** Thornfield 001 Ltd

**Facility:** Thornfield 001 Ltd      **Form Number:** Energy1 / 20/12/19

### Reporting of Energy Usage for the year

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	MWh		
Biogas	tonnes		
TOTAL	-		

\* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:
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Signed .....

Date.....

(Authorised to sign as representative of Operator)

**Permit Number: VP3506PE**

**Operator: Thornfield 001 Ltd**

**Facility: Thornfield 001 Ltd**

**Form Number: Performance1 / 20/12/19**

**Reporting of other performance indicators for the period DD/MM/YYYY to DD/MM/YYYY**

Parameter	Units
Total raw material used	tonnes
CHP engine usage	hours
CHP engine efficiency	%
Auxiliary boiler usage	hours
Emergency flare operation	hours
Electricity exported	MWh
Biomethane exported	tonnes or m3

Operator's comments:

Signed .....

Date.....

(Authorised to sign as representative of Operator)