

# Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

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Warrens Emerald Biogas Limited

Emerald Biogas Energy Park  
Hurworth Road  
Aycliffe Industrial Estate  
Newton Aycliffe  
County Durham  
DL5 6UD

**Variation application number**

EPR/BP3133TC/V006

**Permit number**

EPR/BP3133TC

# Emerald Biogas Energy Park

## Permit number EPR/BP3133TC

### Introductory note

#### This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. Only the variations specified in schedule 1 are subject to a right of appeal.

This variation is for the following changes:

- A second biogas upgrading unit will be installed of the same type as the existing one. The abatement equipment will be amended so that the bioscrubber will be used in combination with carbon filters for odour control on the gas upgrade units.
- The current permit authorises the use of 4 digesters. However the 3<sup>rd</sup> and 4<sup>th</sup> will now be built in a different location which requires an extension of the installation boundary.
- Addition of a gas re-fuelling station.
- Increase in throughput from 102,400 to 150,000 tonnes per year.

The schedules specify the changes made to the permit.

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

Status log of the permit		
Description	Date	Comments
Application received	Duly made 31/03/10	Application for an anaerobic digestion and biogas combustion facility.
Additional information received	11/10/10	Requested 13/09/10.
Additional information received	06/12/10	Requested 10/11/10.
Permit determined EPR/BP3133TC	17/02/11	Permit issued to Emerald Biogas Limited.
Agency variation determined EPR/BP3133TC/V002	04/04/13	Agency variation to introduce the changes introduced by the Industrial Emissions Directive (IED).
Variation application EPR/BP3133TC/V003	Duly made 15/08/13	Application to add waste codes.
Additional information received	24/09/13	Clarification of point source emission to surface water and sewer.
Additional information received	01/10/13	Thermal input of CHP engines.
Variation determined EPR/BP3133TC	04/10/13	Varied permit issued and updated to modern conditions.
Variation application EPR/BP3133TC/V004	Duly made 18/06/15	Application to add waste code 16 10 02.
Variation determined EPR/BP3133TC	16/07/15	Varied notice issued.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application EPR/BP3133TC/V005 (variation and consolidation)	Duly made 13/06/16	Application to add biogas upgrading plant, replace biofilter with odour abatement unit, install a second digester, add additional emission points to air, remove emission point to sewer and amend current permit restrictions.
Additional information received	17/10/16	Response to Schedule 5 notice dated 09/09/16.
Additional information received	07/11/16	Revised site plan with emission points.
Variation determined EPR/BP3133TC	10/11/16	Varied and consolidated permit issued.
Variation application EPR/BP3133TC/V006	Duly made 09/09/19	New upgrading plant, refuelling unit, extend boundary to site already permitted tanks
Addition information	Requested on 08/10/19 Responses on 11/10/19 and 22/10/19	Containment and accident risk measures
Addition information	Requested on 14/10/19 response on 18/10/19	Odour control strategy
Variation determined EPR/BP3133TC	13/11/19	

End of introductory note

# Notice of variation and consolidation

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

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

### Permit number

EPR/BP3133TC

### Issued to

**Warrens Emerald Biogas Limited** (“the operator”)

whose registered office is

**Preston Road  
Aycliffe Business Park  
Newton Aycliffe  
County Durham  
DL5 6AB**

company registration number **06887312**

to operate a regulated facility at

**Emerald Biogas Energy Park  
Hurworth Road  
Aycliffe Industrial Estate  
Newton Aycliffe  
County Durham  
DL5 6UD**

to the extent set out in the schedules.

The notice shall take effect from 13/11/2019

<b>Name</b>	<b>Date</b>
<b>Philip Lamb</b>	<b>13/11/2019</b>

Authorised on behalf of the Environment Agency

## **Schedule 1**

The following conditions were varied as a result of the application made by the operator:

Tables S1.1, S1.2, S1.3, S1.4, S3.1, S4.1 and schedule 7

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

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

### Permit number

**EPR/BP3133TC**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BP3133TC/V006 authorising,

**Warrens Emerald Biogas Limited** (“the operator”),

whose registered office is

**Preston Road  
Aycliffe Business Park  
Newton Aycliffe  
County Durham  
DL5 6AB**

company registration number **06887312**

to operate a regulated facility at

**Emerald Biogas Energy Park  
Hurworth Road  
Aycliffe Industrial Estate  
Newton Aycliffe  
County Durham  
DL5 6UD**

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

Name	Date
Philip Lamb	13/11/2019

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 For the following activities referenced in schedule 1, table S1.1 A1 to A10, waste authorised by this permit shall be clearly distinguished from any other waste on the site.

### **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 tables S2.2 and S2.3; and
  - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 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.



## **2.4 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.

## **2.5 Pre-operational conditions**

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

# **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 tables S3.1 and S3.2.
- 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.

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

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) 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.

## **3.3 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.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

### **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.
- 3.4.2 The operator shall:
  - (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
  - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

### **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 S3.2;
  - (b) process monitoring specified in table S3.3
- 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 tables S3.1 and S3.2 unless otherwise agreed in writing by the Environment Agency.

### **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) 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;
  - (b) 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.

### 4.2 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 For the following activities referenced in schedule 1, table S1.1 A1 to A10, 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.

## 4.3 Notifications

- 4.3.1 For the following activities referenced in schedule 1, table S1.1, A1 to A10, 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 For the following activities referenced in schedule 1, table S1.1, A11, the Environment Agency shall be notified without delay following the detection of:
- (a) 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) the breach of a limit specified in the permit; or
  - (c) any significant adverse environmental effects.
- 4.3.4 Any information provided under condition 4.3.3 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.5 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.
- 4.3.6 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:
- (c) any change in the operator's name or address; and
  - (d) any steps taken with a view to the dissolution of the operator.
- In any other case:

- (e) the death of any of the named operators (where the operator consists of more than one named individual);
- (f) any change in the operator's name(s) or address(es); and
- (g) 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.

4.3.7 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.

4.3.8 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 For the following activities referenced in schedule 1, table S1.1, A1 to A10, 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.

4.4.3 For the following activities referenced in schedule 1, table S1.1, A11, in this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

# Schedule 1 – Operations

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
A1	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	From receipt of waste through to digestion and recovery of by-products (digestate).  Anaerobic digestion of waste in four digesters and two post digesters followed by burning of biogas produced from the process.  Waste types suitable for acceptance are limited to those specified in Table S2.2.
<b>Directly Associated Activity</b>			
A2	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)	Undertaken in relation to Activity A1.  From the receipt of permitted waste to pre-treatment and despatch for anaerobic digestion on site.  Storage of residual wastes from pre-treatment to despatch off-site for recovery or disposal.  Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with a sealed drainage system.  Waste types suitable for acceptance are limited to those specified in Table S2.2
A3	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	Undertaken in relation to Activity A1.  From the receipt of waste to despatch for anaerobic

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
			<p>digestion or despatch off site for recovery.</p> <p>Pre-treatment of waste in enclosed building and on an impermeable surface with a sealed drainage system including shredding, sorting, screening, compaction, baling, mixing and maceration.</p> <p>Post-treatment of digestate in an enclosed building and on an impermeable surface with a sealed drainage system, including screening to remove contraries, centrifuge or pressing and addition of thickening agents (polymers) or drying for use as a fertiliser or soil conditioner (drying for the purpose of use as a fuel is not permitted).</p> <p>Heat treatment (pasteurisation) of waste in six tanks for the purpose of recovery.</p> <p>Biogas cleaning by biological or chemical scrubbing.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
A4	Steam and electrical power supply	R1:Use principally as a fuel to generate energy	<p>Undertaken in relation to Activity A1.</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 two combined heat and</p>

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
			power (CHP) engines with an aggregated thermal input of 5.9 MW.
A5	Emergency flare operation	D10: Incineration on land	<p>Undertaken in relation to Activity A1.</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 two auxiliary flares required only during periods of breakdown or maintenance of the CHP engines and biogas upgrading plant.</p>
A6	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 Grid.	<p>Undertaken in relation to Activity A1.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National Grid. This includes return of off-specification biogas for combustion to the on-site CHP engines and/or emergency flares.</p>
A7	Raw material storage	Storage of raw materials including lubrication oil, antifreeze, propane, odorant, ferric chloride, activated carbon and diesel.	<p>Undertaken in relation to Activity A1.</p> <p>From the receipt of raw materials to despatch for use within the facility.</p>
A8	Gas storage	R13: Storage of waste pending any of the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)	<p>Undertaken in relation to Activity A1.</p> <p>Storage of biogas produced from on-site anaerobic digestion of permitted waste in roof space of post digesters.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process</p>



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
			and propane to despatch for use within the facility.
A9	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 A1.  Storage of whole digestate in one storage tank.  From the receipt of digestate produced from the on-site anaerobic digestion process to despatch for use off-site.
A10	Storage and conditioning of biogas for re-fuelling vehicles		From receipt of biogas to transfer to vehicle. Re-fuelling plant comprises a compressor, buffer storage and a fuel dispenser
Activity reference	Description of activities for waste operations	Limits of activities	
A11	<u>Waste treatment and transfer operation</u>  R3: Recycling/reclamation of organic substances which are not used as solvents  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)	Pre-treatment of waste in enclosed building and on an impermeable surface with a sealed drainage system prior to transfer off-site for further recovery. Treatment operations shall be limited to: <ul style="list-style-type: none"> <li>Physical treatment including shredding, sorting, screening, compaction, baling, mixing and maceration for the purpose of recovery.</li> <li>Heat treatment of waste for the purpose of recovery.</li> </ul> Waste types suitable for acceptance are limited to those specified in Table 2.3.	

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/BP3133TC/A001	The response to questions in the following parts of the application:  Operating techniques J04- sections: 3.1, 3.2, 3.3, 4.1.2, 4.1.3, 4.1.5 to 4.1.8 inclusive, 4.2.1-4.2.3 inclusive, 5.1-5.8 inclusive, 6.1-6.2 inclusive, 8.1-8.5 inclusive	31/03/10
Response to Schedule 5 Notice Request for Information dated 13/09/10	Response to question 8 Odour control: 8.1.2, 8.1.3, 8.1.4, 8.1.5 and 8.1.6. Response to question 7 Gas cleaning; 7.1.1-7.1.3 inclusive and 7.1.7. Response to question 4 pasteurisation: 4.1.2, 4.1.4-4.1.6 inclusive.	October 2010, Job No NT10635

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Response to Schedule 5 Notice Request for Information dated 10/11/10	Response to information regarding site environmental management system.	December 2010, Job No NT10798
Variation application EPR/BP3133TC/V003	Clarification of point source emission to surface water and sewer.	24/09/13
	Confirmation of thermal input of CHP engines.	01/10/13
Variation application EPR/BP3133TC/V005	Document reference WIB15642.100.R.1.1.2.KH (dated June 2016) in response to section 3a, Parts C3 and B4 of the application form; details of the odour abatement plant.	13/06/16
Response to Schedule 5 Notice Request for Information dated 09/09/16	Response detailing upgrading of biogas, secondary containment, bespoke waste operation and raw materials usage.	17/10/16
Additional information	Number of site infrastructure and thermal input of current CHP engines. Revised site plan with emission points	07/11/16
Variation application EPR/BP3133TC/V006	Response to question 3 of application form C3 Variation supporting document sections: <ul style="list-style-type: none"> <li>• 1, 2 and 3</li> </ul>	09/09/19
Additional information to EPR/BP3133TC/V006	All sections	11/10/19
	All sections	22/10/19
	All sections	18/10/19

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	<p>The operator shall undertake a noise survey in accordance with the procedures given in BS4142:1997 (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 verify the assessment provided in their application. The assessment shall include, but not 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> </ul> <p>The noise survey shall cover normal day operations, weekend operations and night time operations.</p>	Complete
IC2	<p>The operator shall undertake air emission monitoring from emission points A2, A3, A4 and A5 for total volatile organic compounds and where possible the individual species including methane and non-methane volatile organic compounds for a suitable trial period as agreed with the Agency. The operator shall ensure that the organisation undertaking the monitoring is MCERTS accredited. The monitoring shall provide data on the following:</p> <ol style="list-style-type: none"> <li>1. The level and variability of emissions.</li> <li>2. Propose limits based on the data.</li> <li>3. Propose monitoring arrangements.</li> </ol>	Complete

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	<p>4. Undertake an appropriate environmental impact assessment as a result of the measured emissions.</p> <p>The operator shall submit a written report to the Agency on its findings and the air emission monitoring report.</p>	
IC3	<p>Following commissioning of the plant, the operator shall supply a commissioning report detailing performance against the plan submitted in accordance with pre-operational condition P01. The report shall include, but not limited to:</p> <ul style="list-style-type: none"> <li>• Details of any modifications made to the process during commissioning that changes the details within the application EA/EPR/BP3133TC/A001 and Schedule 5 notices;</li> <li>• Any abnormal waste generated as a result of the commissioning;</li> <li>• Infrastructure and equipment leak / integrity testing; and</li> <li>• Odour control and abatement systems performance.</li> </ul>	Complete
IC4	<p>The operator shall carry out a waste minimisation audit of the anaerobic digestion facility. A written report shall be submitted to the Environment Agency detailing the findings of the audit and any improvements identified with a plan including timescales for their implementation.</p>	29/05/20
IC5	<p>The operator shall carry out an audit of water use of the anaerobic digestion facility. A written report shall be submitted to the Environment Agency detailing the findings of the audit and any improvements identified with a plan including timescales for their implementation.</p>	29/05/20
IC6	<p>The operator shall carry out an energy efficiency audit of the anaerobic digestion facility. The audit shall also include an evaluation of potential off-site utilisation by third parties of any excess / waste heat from the process. A written report shall be submitted to the Environment Agency detailing the findings of the audit and any improvements identified with a plan including timescales for their implementation.</p>	29/05/20
IC7	<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 A4 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 commencement of operations at 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>	Superseded by IC12
IC8	<p>Following the completion of IC7, the operator shall undertake an environmental impact assessment of all point source releases to air, using the information obtained through the emissions monitoring study. The environmental impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p> <p>The environmental impact assessment shall, as a minimum, include:</p>	Superseded by IC12

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<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 the Environment Agency Guidance on Air Quality Assessment.</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>	
IC9	The operator shall submit a revised odour management plan which includes the site changes authorised by this variation to the Environment Agency for written approval. The plan shall take into account the appropriate measures for odour control specified in the Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013). The plan shall also include all the required information as specified in the Environment Agency Horizontal Guidance H4 - Odour Management. The operator shall comply with the odour management plan as approved by the Environment Agency.	Complete
IC10	The operator shall submit a revised accident management plan to the Environment Agency for written approval. The accident management plan shall include the site changes authorised by this variation (biogas upgrading plant, storage of propane, new digester and odour abatement plant). The plan shall take into account the appropriate measures specified in the Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013). The plan shall also include all the required information as specified in the Environment Agency Guidance on Risk Assessment. The operator shall comply with the accident management plan as approved by the Environment Agency.	Complete
IC11	<p>The operator shall ensure that a review of the design, method of construction and integrity of the site secondary containment is carried out by a qualified civil or structural engineer. The review shall compare the constructed secondary containment against the standards set out in 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> <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>	Complete

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC12	The operator shall submit a report to the Environment Agency on the commissioning of the bioscrubber as described in variation application V006. The report shall confirm the efficiency of the bioscrubber and carbon filters in controlling odour levels. The report shall include a proposal, for approval by the Environment Agency, of whether scenario 1 or 2 (from section 3.3.1 of application V006) will be used. The report shall also include a proposal for approval by the Environment Agency of monitoring and emission limits that will be required from emission points A4, A7 and A8.	Within 6 months of completion of commissioning of the bioscrubber

<b>Table S1.4 Pre-operational measures for future development</b>		
<b>Reference</b>	<b>Operation</b>	<b>Pre-operational measures</b>
1	New digester tank	The operator shall confirm that the capacity of the secondary containment on site remains appropriate following construction of the second digester. Containment shall equate to 110% of the capacity of the largest tank or 25% of the total tank capacity, whichever is the greatest. Capacity calculations shall be provided. The second digester tank shall not be used for waste treatment until the Environment Agency has given written permission under this condition.
2	The following tanks associated with variation application V006: <ul style="list-style-type: none"> <li>• Third digester tank</li> <li>• New digestate storage tank</li> <li>• New post digester tank</li> </ul>	The operator shall confirm that the containment measures as described in the variation application V006 are in place, and to the standards specified, including impermeable surfacing and the extension of the earth bund. The tanks shall not be used for waste treatment until the Environment Agency has given written permission under this condition.

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

Raw materials and fuel description	Specification
Grass silage	Substantially free of non-vegetable matter
Caustic for scrubber	Mercury free
Fuel oil	Sulphur content not exceeding 0.1% by mass

<b>Maximum quantity</b>	<b>Annual throughput shall not exceed 150,000 tonnes.</b>
<b>Waste Code</b>	<b>Description</b>
<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 – food processing waste, food washing waste
02 01 02	animal-tissue waste – including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
02 01 03	plant-tissue waste – including husks, cereal dust, waste animal feeds, off-cuts from vegetable, fruit and other vegetable waste
02 01 06	animal faeces, urine, manure including spoiled straw)
02 01 07	wastes from forestry
02 01 99	residues from commercial mushroom cultivation
<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 – process water, food washing waste
02 02 02	animal-tissue waste – including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 02 99	sludges from gelatin production, animal gut contents
<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 02	wastes from preserving agents
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 03 99	sludge from production of edible fats and oils to include seasoning residues, molasses residues, residues from production of potato, corn or rice starch
<b>02 04</b>	<b>wastes from sugar processing</b>
02 04 03	sludges from on-site effluent treatment

<b>Table S2.2 Permitted waste types and quantities for storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products</b>	
<b>Maximum quantity</b>	<b>Annual throughput shall not exceed 150,000 tonnes.</b>
<b>Waste Code</b>	<b>Description</b>
02 04 99	other biodegradable wastes
<b>02 05</b>	<b>wastes from the dairy products industry</b>
02 05 01	materials unsuitable for consumption or processing including solid and liquid dairy products, milk, food processing wastes, yoghurt, whey
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 including condemned food, food processing wastes, biscuits, chocolate, yeast, bread, bakery wastes
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 including brewing waste, food processing waste, fermentation waste
02 07 02	wastes from spirits distillation including spent grains, fruit and potato pulp, sludge from distilleries
02 07 04	materials unsuitable for consumption or processing including brewing waste, food processing waste, fermentation waste, beer, alcoholic drinks, fruit juice
02 07 05	sludges from on-site effluent treatment
02 07 99	spent grains, hops and whisky filter sheets/cloths, yeast, yeast-like residues, sludge from production process
<b>03</b>	<b>Wastes from Wood Processing and the Production of Panels and Furniture, Pulp, Paper and Cardboard</b>
<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
03 03 02	green liquor sludge (from recovery of cooking oil)
03 03 08	wastes from sorting of paper and cardboard destined for recycling – not allowed if non biodegradable coating or preserving substance present
03 03 10	fibre rejects and sludges i.e. paper pulp (de-inked only), paper fibre
<b>04</b>	<b>Wastes from the Leather, Fur and Textile Industries</b>
<b>04 01</b>	<b>wastes from the leather and fur industry</b>
04 01 01	fleshings and lime split wastes
04 01 05	tanning liquor free of chromium
04 01 07	sludges not containing chromium
<b>04 02</b>	<b>waste from the textile industry</b>
04 02 10	organic matter from natural products (for example grease, wax)
<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 – not allowed if any non-biodegradable coating or preserving substance present. Excludes laminates such as Tetrapaks.
15 01 02	biodegradable plastic packaging – must be independently certified to BS EN 13432
15 01 03	untreated wooden packaging – not allowed if any non-biodegradable coating or preserving substance present

<b>Table S2.2 Permitted waste types and quantities for storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products</b>	
<b>Maximum quantity</b>	Annual throughput shall not exceed 150,000 tonnes.
<b>Waste Code</b>	<b>Description</b>
15 01 04	metallic packaging
15 01 05	composite packaging – must conform to BS EN 13432 and not allowed if any non-biodegradable coating or preserving substance 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	wash water containing animal by-products from the operator's Hamsterly site
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	waste types listed in this table (Table S2.2), that have been mixed together only
19 02 06	sludge types from waste listed in this table (Table S2.2), that have been heat treated only
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09 – glycerol
<b>19 05</b>	<b>wastes from aerobic treatment of solid wastes</b>
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost from source-segregated biodegradable waste
19 05 99	liquor/leachate from a composting process that accepts waste input types listed in this table only
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 03	liquor from anaerobic treatment of municipal waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 05	liquor from anaerobic treatment of animal and vegetable waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
<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 oils and fats
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
<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
<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 – not allowed if any non-biodegradable coating or preserving substance present. Excludes laminates such as Tetrapaks.
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 storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products</b>	
<b>Maximum quantity</b>	<b>Annual throughput shall not exceed 150,000 tonnes.</b>
<b>Waste Code</b>	<b>Description</b>
20 01 38	wood other than that mentioned in 20 01 37 – untreated wood where no non-biodegradable coating or preserving substance present
<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 – separately collected biowastes
20 03 02	waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables.

<b>Table S2.3 Permitted waste types and quantities for waste treatment &amp; transfer operation</b>	
<b>Maximum quantity</b>	<b>Annual throughput shall not exceed 27,375 tonnes.</b>
<b>Waste code</b>	<b>Description</b>
<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 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
<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 08	biodegradable kitchen and canteen waste

## 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
A1 [Point A1 on site plan in Schedule 7]	Jimco Unit	No parameter set	No limit set	--	--	As described in Application
A1a [Point A1a on site plan in Schedule 7]	Carbon filter	No parameter set	No limit set	--	--	As described in Application
A2 [Point A2 on site plan in Schedule 7]	CHP engine 1 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	350 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
A3 [Point A3 on site plan in schedule 7]	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	350 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
<b>Scenario 1 [Note 4]</b>						
A7	Biogas upgrading plant via bioscrubber	Odour [note 4]	[note 4]	--	Biannually for first year following commissioning of bioscrubber as described in variation V006 then annually if emissions are sufficiently stable as agreed with the	BS EN 13725

**Table S3.1 Point source emissions to air – emission limits and monitoring requirements**

<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
					Environment Agency.	
A4	Biogas upgrading plant via carbon filter in the event that biogas scrubber is not operational	Odour [note 4]	[note 4]	--	Biannually for first year following commissioning of bioscrubber as described in variation V006 then annually if emissions are sufficiently stable as agreed with the Environment Agency.	BS EN 13725
A8	Biogas upgrading plant via carbon filter in the event that biogas scrubber is not operational	Odour [note 4]	[note 4]	--	Biannually for first year following commissioning of bioscrubber as described in variation V006 then annually if emissions are sufficiently stable as agreed with the Environment Agency.	BS EN 13725
<b>Scenario 2 [Note 4]</b>						
A4	Biogas upgrading plant via bioscrubber and carbon filter	Odour [note 4]	[note 4]	--	Biannually for first year following commissioning of bioscrubber as described in variation V006 then annually if emissions are sufficiently stable as agreed with the Environment Agency.	BS EN 13725
A8	Biogas upgrading plant via bioscrubber and carbon filter	Odour [note 4]	[note 4]	--	Biannually for first year following commissioning	BS EN 13725

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
					of bioscrubber as described in variation V006 then annually if emissions are sufficiently stable as agreed with the Environment Agency.	
A7	Biogas upgrading plant via bioscrubber in the event that carbon filters are not available	Odour [note 4]	[note 4]	--	Biannually for first year following commissioning of bioscrubber as described in variation V006 then annually if emissions are sufficiently stable as agreed with the Environment Agency.	BS EN 13725
A5 [Point A5 on site plan in schedule 7]	Emergency flare stack 1 [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
A6 [Point A6 on site plan in schedule 7]	Emergency flare stack 2 [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
PRV1 to PRV8 on site plan in schedule 7	Pressure release valves (CHP 1, CHP 2, Digester 1, Digester 2, Post	No parameter set	No limit set	--	Record of operating hours	--

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
	Digester, Biogas upgrading plant)					
<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). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply.</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). The measurement uncertainty specified in LFTGN05 v2 2010 shall apply.</p> <p>Note 3 – Monitoring to be undertaken in the event the two emergency flares have been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted annually to the Environment Agency.</p> <p>Note 4 – Scenario 1 or 2, parameters, emission limits and monitoring frequency to be confirmed after completion of improvement condition IC12</p>						

<b>Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. unit)</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
W1 on site plan in schedule 7 emission to Demons Beck	Uncontaminated site surface water	No parameter set	No limit set	Spot sample	Weekly	Visual assessment – no visible oil, grease, fat, blood and food residues

<b>Table S3.3 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Biogas from Digesters and Storage tanks	Flow	Continuous	In accordance with EU weights and measures Regulations	--
Biogas from Digesters and Storage tanks	Methane	Continuous	None specified	Gas monitors to be calibrated every 6

<b>Table S3.3 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
				months or in accordance with the manufacturer's recommendations.
	Hydrogen sulphide	Daily	None specified	--
Waste reception building; Digesters and Storage tanks	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Carbon filtration system	As specified in the Application	In accordance with manufacturer's recommendations.	None specified	Odour abatement system shall be regularly checked and maintained to ensure appropriate temperature and moisture content.  Carbon filters to be replaced when saturated in accordance with manufacturer's recommendations.
Digestate monitoring	Salmonella E-coli	Monthly	[Note 1]	--
Digesters and Storage tanks	Integrity checks	Weekly	Visual assessment	--
Note 1 – Monitoring standard /method to be agreed with the Environment Agency in writing.				

## Schedule 4 – Reporting

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

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A2, A3, A5, A6, A4 A7, A8	Every 12 months	1 January
Emissions to water Parameters as required by condition 3.5.1	W1	Every 12 months	1 January

Parameter	Units
Electricity generated	MWh
Biomethane generated	tonnes or m <sup>3</sup>
Whole digestate	tonnes

Parameter	Frequency of assessment	Units
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Energy usage	Annually	MWh
Emergency flare operation	Annually	hours
Electricity exported	Annually	MWh
Water usage	Annually	tonnes or m <sup>3</sup>
Raw material usage	Annually	tonnes or m <sup>3</sup>
Biomethane exported	Annually	tonnes or m <sup>3</sup>

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	04/10/13
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	04/10/13
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	04/10/13
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	04/10/13
Waste returns	E-waste Return Form	--

# 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.

“ADQP” means Anaerobic Digestion Quality Protocol

“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.

“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.

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

“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 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“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

“Industry Standard Protocol” means “A standardised protocol for the monitoring of bioaerosols at open composting facilities” published by the Association for Organics Recycling and developed in conjunction with the Environment Agency.

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

“pests” means Birds, Vermin and Insects.

“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.

“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.

“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 varnish).

“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.

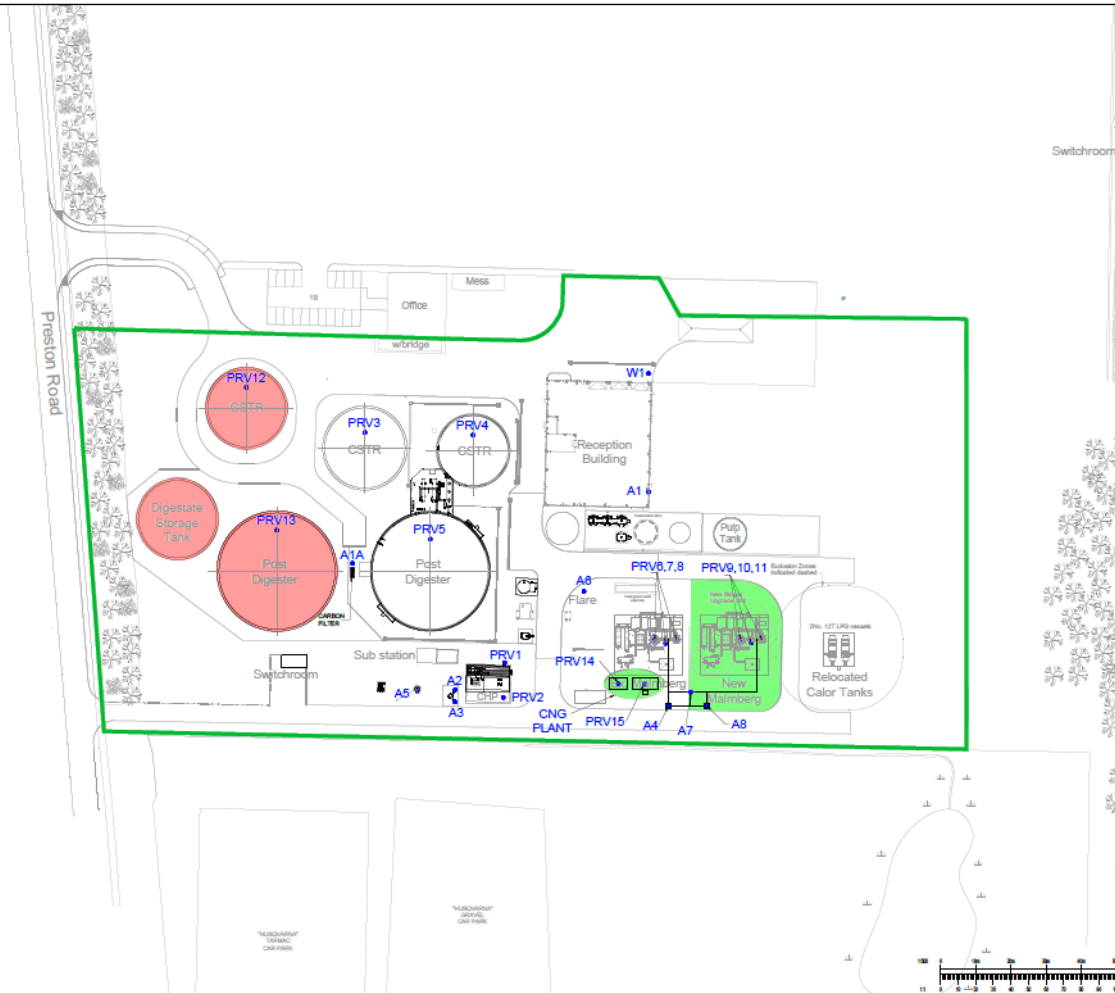
“year” means calendar year ending 31 December.

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 fuels, 3% or 5% for gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

# Schedule 7 – Site plan



END OF NOTICE