



# Notice of variation and consolidation with introductory note

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

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Shropshire Energy (UK) Limited  
May Farm Anaerobic Digestion Plant  
White House Road  
Burnt Fen  
Littleport  
Cambridgeshire  
CB7 4TF

**Variation application number**

EPR/MB3533AK/V005

**Permit number**

EPR/MB3533AK

# May Farm Anaerobic Digestion Plant

## Permit number EPR/MB3533AK

### 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. All the conditions of the permit have been varied and are subject to the right of appeal.

#### **Changes introduced by this variation notice/statutory review**

The Industrial Emissions Directive (IED) came into force on 7 January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. Article 21(3) of the IED requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions. The BAT Conclusions for Waste Treatment (the BREF) was published on 17 August 2018 following a European Union wide review of BAT, implementing decision (EU) 2018/1147 of 10 August 2018.

The scope of the permit review also covers the assessment of:

- the bioaerosols monitoring and compliance with M9 bioaerosols monitoring requirements;
- the design and construction of secondary containment and storage lagoons;
- the available storage facilities and measures to reduce ammonia emissions from storage; and
- information on existing medium combustion plant and/or specified generators on site.

This variation has been issued to update some of the conditions following a statutory review of the permits in the industry sector for biowaste treatment. The opportunity has also been taken to consolidate the original permit and subsequent variations.

#### **Brief Description of the process**

The facility is located in a rural area of Cambridgeshire at grid reference TL 59740 87419. It is 600 metres west of White House Road, approximately 3 kilometres north east of the village of Littleport. The AD facility covers about 6.4 hectares and is bound to the north, east and south by agricultural land; to the west by a mushroom farm. The south-western site boundary is delineated by a private road that connects White House Road (west) and Lynn Road (east). Mildenhall Road is located approximately 600 metres from the south-western site boundary.

The facility is designed to process up to 25,000 tonnes per annum of vegetable waste and 75,000 tonnes of energy crops. The facility comprises of the following operations:

- Anaerobic digestion (AD) plant
- Combustion plant – consisting of three combined heat and power (CHP) engines, two auxiliary boilers and an emergency flare
- Storage areas (silage clamps and lagoons)

Under the Environmental Permitting Regulations, the installation activity is defined as Section 5.4 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.*

Deliveries of energy crops and vegetable waste are stored in the existing silage clamps located close to the tank farm. Energy crops and vegetable waste are loaded onto feeding units (or hoppers) to ensure the optimum particle size is achieved prior to digestion. The macerated feedstock is delivered from the feeding units to the primary and secondary digesters (via a conveyor) where it undergoes digestion at 40°C for 70 to 80 days.

Biogas drawn off from the digesters is used to generate electricity and heat from three CHP engines with an aggregated thermal input of 7.1 MW. The auxiliary boilers (with an aggregated thermal input of 3.9 MW) are used only when the CHP engines are off-line. The heat produced from the engines is recovered and integrated in the process heating requirements including pasteurisation of waste as required by the Animal By-Products Regulations. The by-product from the process (whole digestate) is separated in an enclosed system fitted with a carbon filter. The liquid fraction is stored in a digestate tank and in alligator bags (in covered clay-lined storage lagoons) prior to despatch off-site as a soil conditioner. The solid fraction is removed from the facility for use off-site. The spreading of digestate on land and operation of the mushroom farm are not included or authorised by this Environmental Permit.

Main releases to the environment are to air via combustion of biogas in the CHP engines, auxiliary boilers and emergency flare. Biogas is burnt in the emergency flare in the event of breakdown and/or maintenance of the CHP engines and auxiliary boilers. Uncontaminated site surface water is directed to a clean water lagoon and used for irrigating neighbouring farmland after testing for contamination. Effluent from the silage clamps is stored in a leachate tank and re-circulated within the AD process. Contaminated site surface water from the silage clamps and areas used by commercial traffic are directed to the "dirty" water lagoon and disposed or recovered off-site at an authorised facility.

There are two European habitat sites (*Breckland SPA* and *Ouse Washes SPA, Ramsar, SAC*) within 10 km from the Installation. A local wildlife site (*River Great Ouse*) is located within 2 km of the Installation. Assessment by the Environment Agency shows that emissions from activities undertaken at the Installation are unlikely to have a significant impact on the habitat sites.

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.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application EAWML 104914 (EPR/MB3533AK/A001)	Issued 12/02/2013	Application for an on-farm anaerobic digestion plant with combustion of biogas. Permit issued to Shropshire Energy (UK) Limited.
Application EPR/MB3533AK/V002 (variation and consolidation)	Duly made 24/10/2013	Application to vary and consolidate the permit from a standard rules facility to an IED installation.
Additional information received	27/12/2013	Response to Schedule 5 notice.
Additional information received	04/01/2014	Additional information regarding odour abatement.
Additional information received	23/01/2014	Revised information regarding dewatering of digestate, pasteurisation units and odour abatement.
Additional information received	24/01/2014	Plant general layout plan and clean water lagoon monitoring procedure.
Additional information received	27/01/2014	Information regarding thermal rating of CHP engines and auxiliary boilers.
Additional information received	29/01/2014	Revised odour management plan, revised site plan and confirmation of AD facility location characteristics.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Variation determined EPR/MB3533AK	30/01/2014	Varied and consolidated permit issued.
Application EPR/MB3533AK/V003 (variation)	Duly made 28/09/2015	Variation to add waste code 02 01 06 and alter reference from 'maize silage' to 'energy crop'.
Variation determined EPR/MB3533AK	14/10/2015	Varied permit issued.
Application EPR/MB3533AK/V004 (variation)	Duly made 15/03/2016	Application to add a CHP engine, 5 Organic Rankine Cycles, increase waste and raw material throughput, increase the permit boundary and construct a second dirty water lagoon.
Additional information received	18/05/2016	Schedule 5 response including an amended odour management plan and details on lagoon construction.
Variation determined EPR/MB3533AK	26/05/2016	Varied permit issued.
Regulation 61 Notice sent to Operator	21/10/2019	Regulation 61 Notice requiring information for statutory review of permit.
Regulation 61 Notice response	21/04/2020	Response received from the operator.
Application EPR/MB3533AK/V005 (variation and consolidation)	Environment Agency Initiated Variation	Statutory review of permit occasioned by Waste Treatment BAT Conclusions published on 17 August 2018.
Environment Agency Biowaste Treatment Sector Review Permit reviewed Variation determined EPR/MB3533AK (Billing Ref: VP3536RD)	20/10/2021	Varied and consolidated permit issued.

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 and consolidates

### Permit number

EPR/MB3533AK

### Issued to

**Shropshire Energy (UK) Limited** (“the operator”)

whose registered office is

**Hailey Farm  
Barway Road  
Soham  
Cambridgeshire  
CB7 5TZ**

company registration number 08055470

to operate a regulated facility at

**May Farm Anaerobic Digestion Plant  
White House Road  
Burnt Fen  
Littleport  
Cambridgeshire  
CB7 4TF**

to the extent set out in the schedules.

The notice shall take effect from 20 October 2021.

Name	Date
Maxine Evans	20/10/2021

Authorised on behalf of the Environment Agency

## **Schedule 1**

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

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

### Permit number

**EPR/MB3533AK**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/MB3533AK/V005 authorising,

**Shropshire Energy (UK) Limited** (“the operator”),

whose registered office is

**Hainey Farm  
Barway Road  
Soham  
Cambridgeshire  
CB7 5TZ**

company registration number 08055470

to operate an installation at

**May Farm Anaerobic Digestion Plant  
White House Road  
Burnt Fen  
Littleport  
Cambridgeshire  
CB7 4TF**

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

<b>Name</b>	<b>Date</b>
<b>Maxine Evans</b>	<b>20/10/2021</b>

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; and
  - (b) it conforms to the description in the documentation supplied by the producer and holder.
  - (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.

2.3.8 For the following activities referenced in schedule 1, table S1.1 (AR4):

- (a) each MCP must be operated in accordance with the manufacturer's instructions and records must be made and retained to demonstrate this.
- (b) the operator must keep periods of start-up and shut-down of each MCP as short as possible.
- (c) there must be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993.

## **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.

### **3.2 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.

3.2.4 The operator shall implement a leak detection and repair (LDAR) programme to detect and mitigate the release of volatile organic compounds, including methane from diffuse sources.

### **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.

3.4.2 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 table 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 In the case of 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.

3.5.6 Monitoring shall not take place during periods of start-up or shut-down.

### **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.

### **3.7 Fire prevention**

3.7.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.7.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
- (b) implement the fire prevention 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 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 reoccurrence 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.
- 4.3.8 The operator shall notify the Environment Agency as soon as is practicable, in writing of any change of the medium combustion plant.

## **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

<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>
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 the receipt of energy crops and wastes through to its digestion and recovery of by-products (digestate) from the installation.</p> <p>Anaerobic digestion of waste in four 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>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>Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with sealed drainage.</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	From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery.

<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>Pre-treatment of energy crops and wastes prior to digestion. Pre-treatment shall include shredding and maceration via the feeding units (hoppers).</p> <p>Post-treatment of digestate including screening to remove plastic residues, centrifuge or pressing, addition of thickening agents (polymers) or drying.</p> <p>De-watering of whole digestate shall be carried out in the specified site area and equipped with suitable odour abatement.</p> <p>Heat treatment (pasteurisation) of waste in three tanks for the purpose of recovery.</p> <p>Gas cleaning by biological or physical (carbon filtration) or chemical scrubbing.</p> <p>Raw materials specified in table S2.1. Energy crops shall be stored in covered silage clamps specified in the site plan (schedule 7).</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p>
AR4	Steam and electrical power supply	R1:Use principally as a fuel to generate energy	<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 three combined heat and power (CHP) engines with an aggregated thermal input of 7.1 MW.</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>
			<p>Combustion of biogas in two auxiliary boilers with an aggregated thermal input of 3.9 MW.</p> <p>Recovery of heat to generate electricity using five Organic Rankine Cycle turbines.</p>
AR5	Emergency flare operation	D10: Incineration on land	<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 one auxiliary flare required only during periods of breakdown or maintenance of the CHP engines or auxiliary boilers.</p>
AR6	Raw material storage	Storage of raw materials including energy crops, lubrication oil, antifreeze, propane, ferric chloride, activated carbon, diesel.	From the receipt of raw materials to despatch for use within the facility.
AR7	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)	<p>Storage of biogas produced from on-site anaerobic digestion of permitted waste in one stand-alone tank or roof space of digesters.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.</p>
AR8	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)	<p>From the receipt of processed uncertified digestate produced from the on-site anaerobic digestion process to despatch for use off-site.</p> <p>Storage of processed uncertified liquid digestate in one storage tank or one lagoon.</p>
AR9	Surface water collection and storage	Collection and storage of uncontaminated roof and	From the collection of uncontaminated roof and

<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>
		site surface water in the "clean water" lagoon.	site surface water from non-operational areas only to re-use within the facility or discharge off-site.
	Process and contaminated water collection and storage	Collection and storage of silage liquor and contaminated site surface water	<p>From collection of effluent from silage clamp in the leachate tank to despatch for use in the anaerobic digestion process or to storage in two "dirty water" lagoons and disposal or recovery off-site.</p> <p>From collection of contaminated water from the silage clamp areas and from site areas used by commercial vehicles to storage in two "dirty water" lagoons and disposal or recovery off-site.</p>

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Variation application EPR/MB3533AK/V002	Pre-acceptance of wastes procedure, EPR-02 – Pathway-Receptor Risk Assessment, EPR-06 – Waste Acceptance, EPR-10 – Inspections and Maintenance, WAMITAB certificates, Outline of Control Philosophy (Revision 002) – May Farm Project, Odour and Air Quality Assessment (Volume 2) dated May 2011 (excluding reference to biomass boilers), Noise and Vibration Assessment RP01-11226, Drainage strategy report (excluding reference to discharge to watercourses), Waste Contractors Competency Questionnaire, Noise Assessment Record, Incident Response Plan, Waste Storage & Feeding, Screening tool data requirements, CHP and Boiler specification, List of Wastes, EPO-02 – Waste Management, EPO-03 – Dangerous Substances and Explosive Atmospheres, EPO-04 – Anaerobic Digestion Facility Management, EPO-06 – Operating Techniques, Site Condition Report, Environmental Risk Assessments, EPO-01 – Environmental Management System, All Drawings.	24/10/2013
Response to request for additional information dated 22/11/2013	Response to Schedule 5 notice questions 1 to 10, Revised accident management plan and non-technical summary, CHP 1 and 2 monitoring data.	27/12/2013
Additional information received	<ul style="list-style-type: none"> <li>Revised information regarding dewatering of whole digestate, pasteurisation units and odour abatement;</li> <li>Additional information regarding the handling of contaminated site surface water from silage clamps and areas used by commercial traffic.</li> </ul>	23/01/2014

Table S1.2 Operating techniques		
Description	Parts	Date Received
Additional information received	Plant general layout plan and “clean water” lagoon monitoring procedure.	24/01/2014
Additional information received	Information regarding CHP engine and boiler thermal rating.	27/01/2014
Additional information received	Revised odour management plan, revised site plan and confirmation of location characteristics of AD facility.	29/01/2014
Variation application EPR/MB3533AK/V004	Responses to Part C2 and C3 of the application form, referenced supporting documentation and responses from additional information requests prior to duly making the application.	15/03/2016
Additional information received	Updated site layout plans and drainage plans.	26/04/2016
Response to request for additional information dated 04/05/2016	Response to Schedule 5 notice providing a revised odour management plan and information regarding the construction of the new dirty water lagoon.	18/05/2016
Additional information received	Email response providing clarification of odour contingency measures for solid digestate.	24/05/2016
Response to Regulation 61 Notice dated 21/10/2019	<ul style="list-style-type: none"> <li>• Annex 1 Returns Spreadsheet</li> <li>• Compliance and operating techniques identified in response to BAT Conclusions 1 to 8, 10 to 24 and 33 to 38 in the Waste Treatment BREF published on 17 August 2018.</li> </ul>	Received 21/04/2020

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
<b>Improvement condition for progress report to achieve BAT-AELs</b>		
IC1	<p>The operator shall submit, for approval by the Environment Agency, a report setting out progress to achieving the Best Available Techniques Conclusion Associated Emission Levels (BAT-AELs) where BAT is currently not achieved, but will be achieved before 17 August 2022. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> <li>1) Current performance against the BAT-AELs.</li> <li>2) Methodology for reaching the BAT-AELs.</li> <li>3) Associated targets /timelines for reaching compliance by 17 August 2022.</li> <li>4) Any alterations to the initial plan (in progress reports).</li> </ol> <p>The report shall address the BAT Conclusions for Waste Treatment with respect to the following:</p> <ul style="list-style-type: none"> <li>• <b>BAT 34 Table 6.7</b> (compliance with BAT-AELs for channelled NH<sub>3</sub>, odour, dust and TVOC emissions to air from the biological treatment of waste)</li> </ul> <p>Refer to BAT conclusions as described in the Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 and published 17 August 2018, for a full description of BAT requirement.</p>	<p>Progress reports at three monthly intervals from date of permit issue:</p> <p>Initial Plan: 20/01/2022</p> <p>Progress report: 20/04/2022</p> <p>Progress report: 20/07/2022</p>

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
<b>Improvement condition for progress report to achieve Narrative BAT</b>		
IC2	<p>The operator shall submit, for approval by Environment Agency, a report setting out progress to achieving the 'Narrative' BAT where BAT is currently not achieved, but will be achieved before 17 August 2022. The report shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> <li>1) Methodology for achieving BAT</li> <li>2) Associated targets /timelines for reaching compliance by 17 August 2022</li> <li>3) Any alterations to the initial plan (in progress reports).</li> </ol> <p>The report shall address the BAT Conclusions for Waste Treatment with respect to BAT 1, 2, 3, 4, 5, 8, 10, 12, 13, 14, 21, 23, 33 and 34. Refer to BAT conclusions as described in the Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 and published 17 August 2018, for a full description of BAT requirement.</p>	<p>Progress reports at three monthly intervals from date of permit issue:</p> <p>Initial Plan: 20/01/2022</p> <p>Progress report: 20/04/2022</p> <p>Progress report: 20/07/2022</p>
<b>Improvement condition for primary containment</b>		
IC3	<p>The operator shall submit a written 'primary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a qualified engineer, and shall assess the extent design specification and condition of primary containment systems where polluting liquids and solids are being stored, treated, and/or handled.</p> <p>The plan shall include:</p> <ul style="list-style-type: none"> <li>• an assessment of the physical condition of all primary containment systems (storage and treatment vessels) using a Written Scheme of Examination and their suitability for providing primary containment when subjected to the dynamic and static loads caused by catastrophic tank failure;</li> <li>• a program of works with timescales for the implementation of individual improvement measures necessary to demonstrate that the primary containment is fit for purpose or alternative appropriate measures to ensure all polluting materials will be contained on site; and</li> <li>• a preventative maintenance and inspection regime</li> </ul> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	<p>20 October 2022 or other date as agreed in writing with the Environment Agency</p>
<b>Improvement condition for secondary containment design</b>		
IC4	<p>The operator shall submit a written 'secondary and tertiary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a competent structural engineer, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of secondary and tertiary containment systems where all polluting liquids and solids are being stored, treated, and/or handled.</p>	<p>20 October 2022 or other date as agreed in writing with the Environment Agency</p>

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	<p>The inspection shall consider, but not be limited to, the storage vessels, bunds, loading and unloading areas, transfer pipework/pumps, temporary storage areas, and liners underlying the site.</p> <p>The plan shall include:</p> <ul style="list-style-type: none"> <li>• an assessment of the physical condition of all secondary and/or tertiary containment systems, using a Written Scheme of Examination and their suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure;</li> <li>• a program of works with timescales for the implementation of individual improvement measures necessary for the secondary and/or tertiary containment systems to comply with CIRIA C736 (2014) guidance, or equivalent.</li> <li>• a preventative maintenance and inspection regime</li> </ul> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	
<b>Improvement condition for storage lagoon design</b>		
IC5	<p>The operator shall submit a written 'storage lagoon plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by a competent structural engineer, in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance, of the condition and extent of the site lagoon(s) where digestate or compost leachate are being stored, treated, and/or handled.</p> <p>The inspection shall consider, but not be limited to, the transfer pipework/pumps, and liners underlying the storage lagoon.</p> <p>The plan shall include:</p> <ul style="list-style-type: none"> <li>• an assessment of the physical condition of the storage lagoon, using a Written Scheme of Examination and the suitability for providing containment when subjected to the dynamic and static loads caused by the digestate or compost leachate;</li> <li>• a program of works with timescales for the implementation of individual improvement measures necessary for the storage lagoon to comply with CIRIA C736 (2014) guidance, or equivalent.</li> <li>• a preventative maintenance and inspection regime</li> </ul> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	20 October 2022 or other date as agreed in writing with the Environment Agency
<b>Improvement condition for review of effectiveness of abatement plant</b>		
IC6	<p>The operator shall carry out a review of the abatement plant on site, in order to determine whether the measures have been effective and adequate to prevent and where not possible minimise emissions released to air including but not limited to odour and ammonia.</p>	20 October 2022 or other date as agreed in writing with

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	<p>The operator shall submit a written report to the Environment Agency following this review for assessment and approval.</p> <p>The report shall include but not limited to the following aspects:</p> <ul style="list-style-type: none"> <li>• Full investigation and characterisation of the waste gas streams.</li> <li>• Abatement stack monitoring results (not limited to odour and ammonia)</li> <li>• Abatement process monitoring results (not limited to odour and ammonia)</li> <li>• Details of air quality quantitative impact assessment including modelling and a proposal for site-specific “action levels” (not limited to odour concentration, hydrogen sulphide and ammonia).</li> <li>• Odour monitoring results at the site boundary</li> <li>• Records of odour complaints and odour related incidents</li> <li>• Recommendations for improvement including the replacement or upgrading the abatement plant</li> <li>• Timescales for implementation of improvements to the abatement plant</li> </ul> <p>The operator shall implement the improvements in line with the timescales as approved by the Environment Agency.</p>	the Environment Agency
<b>Improvement condition for assessment of methane slip</b>		
IC7	<p>The operator shall establish the methane emissions in the exhaust gas from engines burning biogas and compare these to the manufacturer’s specification and benchmark levels agreed in writing with the Environment Agency. The operator shall, as part of the methane leak detection and repair (LDAR) programme, develop proposals to assess the potential for methane slip and take corrective actions where emissions above the manufacturer’s specification or appropriate benchmark levels are identified.</p>	20 October 2022 or other date as agreed in writing with the Environment Agency

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

Raw materials and fuel description	Specification
Vegetable matter (energy crops)	Substantially free of non-vegetable matter
Fuel Oil	Operational requirement only
Chemicals	Operational requirement only

Maximum quantity	Annual throughput shall not exceed 25,000 tonnes
<b>Exclusions</b>	<p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> <li>separately collected loads of plastic unless the whole load is certified compostable to BS EN13432</li> <li>co-mingled green and food waste containing more than 5% w/w plastic, unless the plastic is certified compostable to BS EN 13432</li> <li>food wastes containing more than 5% w/w plastic unless there is sufficient technology to remove non-compostable plastic prior to treatment from package food waste to a processing limit of 1% w/w or decreasing year on year by 2025.</li> <li>wastes containing wood-preserving agents or other biocides and post-consumer wood</li> <li>wastes containing 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 2013.</li> </ul>
<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 03	plant tissue waste
02 01 06	animal faeces, urine and manure (including spoiled straw) only

## 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>Existing medium combustion plant other than engines fuelled on biogas (1 MW to 5 MW)</b>						
A1 [Point A1 on site plan in Schedule 7]	Boiler 1 stack [burning biogas] [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	250 mg/m <sup>3</sup> [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	200 mg/m <sup>3</sup> [note 3]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
A2 [Point A2 on site plan in Schedule 7]	Boiler 2 stack [burning biogas] [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	250 mg/m <sup>3</sup> [note 3]	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	200 mg/m <sup>3</sup> [note 3]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
<b>Existing medium combustion plant which are engines fuelled on biogas (1 MW to 5 MW)</b>						
A3 [Point A3 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>	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m <sup>3</sup> [note 2]			BS EN 14791 or CEN TS 17021 or by calculation



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
						based on fuel sulphur
		Sulphur dioxide	162 mg/m <sup>3</sup> [note 3]			
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	No limit set	--	--	BS EN 12619
A4 [Point A4 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>	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m <sup>3</sup> [note 2]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
		Sulphur dioxide	162 mg/m <sup>3</sup> [note 3]			
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	No limit set	--	--	BS EN 12619
A5 [Point A5 on site plan in schedule 7]	Emergency flare stack [note 4]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	150 mg/m <sup>3</sup>	Average over sample period	[note 5]	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
A6 Carbon filter [Point A6 on site plan in schedule 7]	Channelled emissions	No parameter set	No limit set	--	--	--
Pressure relief valves [Point A7 on site plan in Schedule 7]	Digesters/Digestate storage tanks	Biogas release and operational events	No limit set	Recorded duration and frequency	Daily inspection	--

**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
Vents from tank(s) [Point A7 on site plan in Schedule 7]	Oil/Fuel Storage tank	No parameter set	No limit set	--	--	--
A8 [Point A8 on site plan in Schedule 7]	CHP engine 3 stack [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m <sup>3</sup> [note 2]			BS EN 14791 or CEN TS 17021 or by calculation based on fuel sulphur
		Sulphur dioxide	162 mg/m <sup>3</sup> [note 3]			
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	No limit set	--	--	BS EN 12619

Note 1 – These emission limits are based on normal operating conditions and load - temperature 0°C (273 K); pressure 101.3 kPa and oxygen 5% (for gas engines burning biogas) and oxygen 3% (for medium combustion plants other than engines and gas turbines burning biogas).

Note 2 – This emission limit applies until 31 December 2029, unless the gas engine is replaced.

Note 3 – This emission limit applies from 1 January 2030, unless otherwise advised by the Environment Agency.

Note 4 – These emission limits are based on normal operating conditions and load - temperature 0°C (273K); pressure 101.3 kPa and oxygen 3%.

Note 5 – Following commissioning, monitoring to be undertaken in the event the emergency flare has 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.

<b>Table S3.2 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>
Digester feed (digestion process)	pH	As described in site operating techniques	As described in site operating techniques	Process monitoring to be recorded using a SCADA system where relevant.
	Alkalinity			
	Temperature			
	Hydraulic loading rate			
	Organic loading rate			
	Volatile fatty acids concentration			
	Ammonia			
	Liquid /foam level			
Biogas in digester	Flow	Continuous	In accordance with EU weights and measures Regulations	Process monitoring to be recorded using a SCADA system where relevant.  Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	Methane	Continuous	None specified	
	CO <sub>2</sub>	Continuous	None specified	
	O <sub>2</sub>	Continuous	None specified	
	Hydrogen sulphide	Daily	None specified	
	Pressure	Continuous	None specified	
Digestate batch	Volatile fatty acids concentration	One sample at the end of each batch (hydraulic retention time) cycle.	As described in site operating techniques	--
	Ammonia			
Digesters and storage tanks	Integrity checks	Weekly	Visual assessment	--
Digesters	Agitation /mixing	Continuous	Systems controls.	Records maintained in daily operational records.
	Tank capacity and sediment assessment	Once every 5 years from date of commission	Non-destructive pressure testing integrity assessment every 5 years or as specified by manufacturers	In accordance with design specification and tank integrity checks.

<b>Table S3.2 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>
			technical specification	
Waste reception building or area; Digesters and storage tanks.	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Diffuse emissions from all sources identified in the Leak Detection and Repair (LDAR) programme	VOCs including methane	Every 6 months or otherwise agreed in accordance with the LDAR programme	In accordance with the LDAR programme	Leak detection and repair (LDAR) programme in accordance with permit condition 3.2.4.
CHP engine stacks	VOCs including methane	Annually	BS EN 12619	Total annual VOCs emissions from the CHP engines to be calculated and submitted to the Environment Agency.
	Exhaust gas temperature		Traceable to National Standards	
	Exhaust gas pressure		Traceable to National Standards	
	Exhaust gas water vapour content		BS EN 14790-1	Unless gas is dried before analysis of emissions.
	Exhaust gas oxygen		BS EN 14789	
	Exhaust gas flow		BS EN 16911-1	
Meteorological conditions	Wind speed, air temperature, wind direction	Continuous	Method as specified in management system	<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>

<b>Table S3.2 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>
Emergency flare	Operating hours	Continuous	Recorded duration and frequency. Recording using a SCADA system or similar system	Date, time and duration of use of auxiliary flare shall be recorded.
	Quantity of gas sent to emergency flare			Quantity can be estimated from gas flow composition, heat content, ratio of assistance, velocity, purge gas flow rate, pollutant emissions.
Pressure relief valves and vacuum systems	Re-seating	Weekly inspection	Visual and gas pressure	Continuous gas pressure shall be monitored. Operator must ensure that valves are re-seated after release in accordance with the manufacturer's design.
	Maintenance	Written scheme of examination in accordance with condition 1.1.1	Written scheme of examination in accordance with condition 1.1.1	Continuous gas pressure shall be monitored. Operator must ensure that valves are re-seated after release in accordance with the manufacturer's design.
	Inspection calibration and validation report	In accordance with design and construction specifications or after over topping or foaming event		Operator must ensure that valves are re-seated after release, after a foaming event or sticking, build-up of debris, obstructions or damage.  Operator must ensure that PRV function remains within designed operation gas pressure in accordance with the manufacturer's design by suitably trained/qualified personnel.

<b>Table S3.2 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>
				Inspection, calibration and validation report. In accordance with industry Approved Code of Practice
Storage lagoons and storage tanks	Volume	Daily	Visual or flow metre measurement	750 mm freeboard must be maintained for storage lagoons.

## 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 from CHP engines Parameters as required by condition 3.5.1.	Point A3, Point A4 and Point A8	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
Total annual VOCs emissions from gas engines (calculated)	As specified in schedule 3 table S3.2	Every 12 months	1 January

Parameter	Units
Electricity generated	MWh
Biomethane generated	tonnes or m <sup>3</sup>
Whole digestate	tonnes
Liquid digestate	tonnes or m <sup>3</sup>
Solid digestate	tonnes
Non-waste outputs	tonnes

Parameter	Frequency of assessment	Units
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
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	20 October 2021
Process monitoring	Form process 1 or other form as agreed in writing by the Environment Agency	20 October 2021

<b>Table S4.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	20 October 2021
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	20 October 2021
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	20 October 2021
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.

“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.

“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 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 a 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.

“compostable plastics” means plastics that are certified to meet the standards of EN 13432, EN 14995 or equivalent and is capable of breaking down by microbial digestion to create compost.

“diffuse emissions” mean non-channelled emissions (e.g. of dust, organic compounds, odour) which can result in ‘area’ sources (e.g. tanks) or ‘point’ sources (e.g. pipe flanges). This also includes emissions from open-air windrow composting.

“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.

“existing medium combustion plant” means an MCP which was put into operation before 20 December 2018.

“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, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“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 by 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, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

“new medium combustion plant” means an MCP which was put into operation after 20 December 2018. This includes replacement MCP and Generators.

“operational area” means any part of a facility used for the handling, storing and treatment of waste.

“operator” means in relation to a regulated facility:

- (a) the person who has control over the operation of the regulated facility,
- (b) if the regulated facility has not yet been put into operation, the person who will have control over the regulated facility when it is put into operation, or
- (c) if a regulated facility authorised by an environmental permit ceases to be in operation, the person who holds the environmental permit

“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 a 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.

“Representative internal” – means representative monitoring at a point internally of the windrows that will give a representative assessment of temperature. Note: Larger windrows will require more bespoke temperature equipment to adequately assess temperature profiles accurately.

“sanitisation” means the actively managed and intensive stage of composting, lasting for at least 5 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.

“specified generator” means a group of generators other than excluded between 1 and 50 megawatts or less than 50 megawatts as defined in Schedule 25B(2) of SI 2018 No.110 of the EPR.

“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).

“VOC” means Volatile organic compounds as defined in Article 3(45) of Directive 2010/75/EU – ‘volatile organic compound’ means any organic compound as well as the fraction of creosote, having at 293.15K a vapour pressure of 0.01 kPa or more, or having a corresponding volatility under the particular conditions of use.

“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, as read in accordance with Schedule 1A to the Environmental Permitting (England and Wales) Regulations 2016.

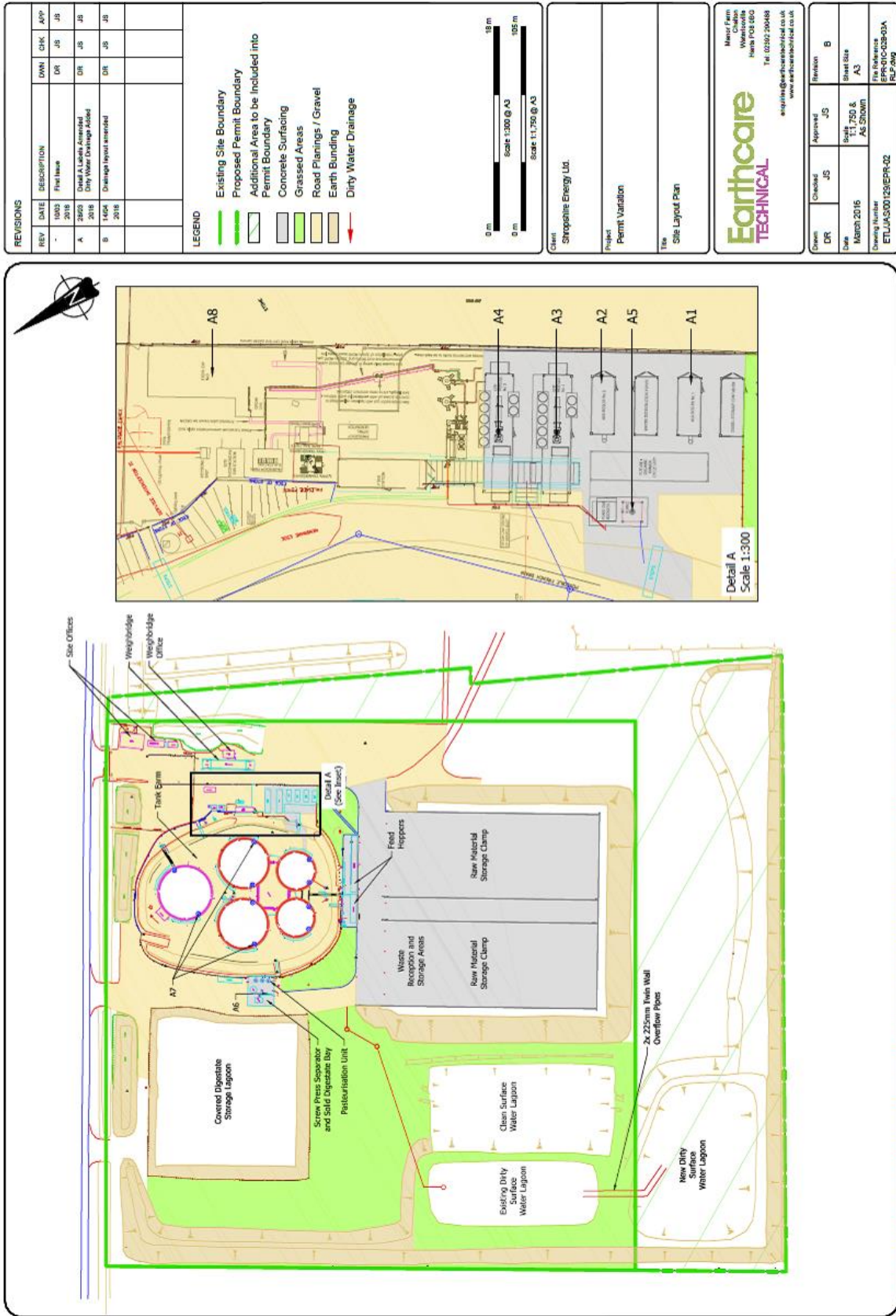
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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 and 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.

“year” means calendar year ending 31 December.

# Schedule 7 – Site plan



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# Annex 1 of MCP

<p><b>1. Rated thermal input (MW) of the medium combustion plant.</b></p>	<p>CHP 1 – 2.85 MWth          CHP 2 – 2.85 MWth          CHP 3 – 1.4 MWth</p>
<p><b>2. Type of the medium combustion plant (diesel engine, gas turbine, dual fuel engine, other engine or other medium combustion plant).</b></p>	<p>Combined heat &amp; power gas engine</p>
<p><b>3. Type and share of fuels used according to the fuel categories laid down in Annex II.</b></p>	<p>Biogas</p>
<p><b>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.</b></p>	<p>CHP 1 – 15/08/2013          CHP 2 – 15/08/2013          CHP 3 – 16/12/2015</p>
<p><b>5. Sector of activity of the medium combustion plant or the facility in which it is applied (NACE code).</b></p>	<p>D35.1.1</p>
<p><b>6. Expected number of annual operating hours of the medium combustion plant and average load in use.</b></p>	<p>8,760 hours</p>
<p><b>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.</b></p>	<p>--</p>
<p><b>8. Name and registered office of the operator and, in the case of stationary medium combustion plants, the address where the plant is located.</b></p>	<p><b>Operator Address</b></p> <p>Hailey Farm          Barway Road          Soham          Cambridgeshire          CB7 5TZ</p> <p><b>Site Address</b></p> <p>May Farm Anaerobic Digestion Plant          White House Road          Burnt Fen          Littleport          Cambridgeshire          CB7 4TF</p>

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