

# Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

**Biogas Meden Limited** 

Welbeck Anaerobic Digestion Facility Elkesley Road Medan Vale Mansfield Nottinghamshire NG20 9PU

#### Variation application number

EPR/KP3631AK/V002

Permit number EPR/KP3631AK

## Welbeck Anaerobic Digestion Facility Permit number EPR/KP3631AK

## 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 proposed facility undertakes a Schedule 1, 5.4 Part A (1)(b)(i) activity and will process organic materials from the local agricultural sector to generate biogas, a gas rich in methane and hence a renewable source of energy.

The facility will process a total of approximately 43,000 tonnes of materials each year, comprising mainly locally grown maize (30,000t/year) and sugar beet (3,500 t/year) with smaller quantities of waste vegetables (2,500 t/year) and farm yard manure (7,000 t/year). Although only 9,500 tonnes of the materials are classed as waste, when mixed with non waste material, the resulting material is a waste and therefore meets the threshold of the listed activity.

The biogas produced by the Anaerobic Digestion (AD) system will be processed to remove trace gases and increase its heat value by removing CO<sub>2</sub>. The majority of the resulting 'biomethane' will then be injected into the national gas grid. Some of the biogas will be burnt in a combined heat and power (CHP) unit on the site to generate heat and electricity to operate the AD process.

The AD process will also produce solid and liquid 'digestate'. This is a nutrient-rich organic fertiliser which will be used by farmers in the local area, reducing the need for imported inorganic fertilisers and also creating a 'closed loop' of organic materials in the local economy.

The facility will comprise the following main components:

• an access road with a weighbridge which will be used to weigh the quantity of feedstock materials being brought to the site by delivery vehicles;

- two silage clamps to store and prepare the maize and sugar beet, with a capacity of 33,500 tonnes and vegetable waste, with a capacity of 2,500 tonnes.;
- three feed hoppers for feeding materials into the AD process, including a sealed unit for the farmyard manure;
- two sealed 4,888 cubic metres fermenter tanks (net volume) where the AD process will take place;
- three sealed pasteurisation tanks for treating the fermented materials to remove pathogenic substances and seeds which could affect the quality of the digestate;
- two sealed 7,697 cubic metres tanks (net volume) for storing the liquid digestate from the AD process with gas holders installed on top;
- solid digestate storage of a maximum of 5,000 m<sup>3</sup> in a separated designated area of the silage clamps;
- a gas up-grade and injection unit to remove trace gases from the biogas and make it suitable for injection into the national gas grid, including Liquid Petroleum Gas (LPG) injection for enrichment of the calorific value of the biomethane. The LPG is stored in three tanks;
- a CHP unit rated at 360 kW electrical output for generating heat and electricity for operating the AD process;
- Biogas fired stand-by boiler rated at 560 kW thermal input, to provide heat to the process if the CHP unit is not available;
- an emergency flare to burn the biogas on failure of the CHP or biogas upgrade units; and
- a site office housing process controls systems and welfare facilities.

Emissions to air include the exhaust from the CHP engine, the gas flare used in emergency when the CHP unit or the biogas upgrade unit are unavailable. In addition there are releases from the biogas upgrade unit and the stand-by boiler.

The CHP unit and the biogas upgrade unit compressors are installed in sound attenuating enclosures.

The site's immediate surroundings comprise the former Welbeck Colliery site which ceased operation in 2010. The site has been cleared of the buildings and infrastructure associated with the Colliery and is currently being restored in preparation for development as a mixed commercial/industrial use. The area beyond the former Colliery's boundaries is predominantly rural in nature, comprising woodland to the north and agricultural land to the east and west. The edge of the village of Meden Vale is located approximately 120m to the south east. A recreation ground is located approximately 100m to the south of the site.

The application is within the relevant distance criteria sites of heritage, landscape or nature conservation . Birklands and Bilhaugh SAC is 3 km to the SE, Welbeck Lake SSSI is 1.9 km to the N, The Carrs LNR is 2 km to the SW and the Bottoms LNR is 560m to the S

A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the sites.

As the installation is a new facility, a bespoke Environmental Management System (EMS) is being developed for the plant. The EMS will be finalized before operation begins.

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

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                                       | Status log of the permit                     |  |  |  |  |
|--|--|--|--|--|--|
| Description  | Date   | Comments   |  |  |  |
| Application EPR/KP3631AK/A001                                  | Duly made<br>14/01/2016                      | Application for an anaerobic digestion facility with<br>combustion of biogas and delivery of the<br>upgraded biogas to the grid. The application was<br>duly made on receipt of further information. |  |  |  |
| Additional information received                                | 03/03/2016                                   | Partial response to Schedule 5 notice dated 09/02/2016   |  |  |  |
| Additional information received                                | 15/03/2016                                   | Complete response to Schedule 5 notice dated 09/03/2016  |  |  |  |
| Additional information received                                | 18/03/2016                                   | Confirmation of arrangements for storage of solid digestate in separation area.  |  |  |  |
| Additional information received                                | 04/05/2016                                   | Details of ammonia scrubber included in biogas upgrade unit.   |  |  |  |
| Additional information received                                | 13/06/2016                                   | Revised details of surface water storage and drainage.   |  |  |  |
| Permit determined  | 20/06/2016                                   | Permit issued to Biogas Meden Ltd.   |  |  |  |
| Regulation 61 Notice sent to<br>Operator                       | 22/06/2020                                   | Regulation 61 Notice requiring information for statutory review of permit.   |  |  |  |
| Regulation 61 Notice response                                  | 15/02/2021                                   | Response received from the operator.   |  |  |  |
| Application EPR/KP3631AK/V002<br>(variation and consolidation) | Environment<br>Agency Initiated<br>Variation | Statutory review of permit occasioned by<br>Waste Treatment BAT Conclusions published on<br>17 August 2018.  |  |  |  |
| Environment Agency Biowaste<br>Treatment Sector Review         | 30/08/2023                                   | Varied and consolidated permit issued.   |  |  |  |
| Permit reviewed  |  |  |  |  |  |
| Variation determined<br>EPR/KP3631AK                           |  |  |  |  |  |
| (Billing Ref: KP3631AK)  |  |  |  |  |  |

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/KP3631AK

#### Issued to

Biogas Meden Limited ("the operator")

whose registered office is

150 Aldersgate Street London EC1A 4AB

company registration number 092241453

to operate a regulated facility at

Welbeck Anaerobic Digestion Facility Elkesley Road Medan Vale Mansfield Nottinghamshire NG20 9PU

to the extent set out in the schedules.

The notice shall take effect from 30/08/2023

| Name          | Date       |
|---------------|------------|
| Daniel Timney | 30/08/2023 |
|               |            |

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/KP3631AK

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/KP3631AK/V002 authorising,

Biogas Meden Limited ("the operator"),

whose registered office is

#### 150 Aldersgate Street London EC1A 4AB

company registration number 092241453 delete if not applicable

to operate an installation at

Welbeck Anaerobic Digestion Facility Elkesley Road Medan Vale Mansfield Nottinghamshire NG20 9PU

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

| Name          | Date       |
|---------------|------------|
| Daniel Timney | 30/08/2023 |

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.
- 2.1.4 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 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.

#### 2.4 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 tables S3.1and 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.
- 3.2.4 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.

#### 3.3.2 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 S3.1and 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) 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.
- 3.7.3 The operator shall undertake a DSEAR assessment and maintain an accident management plan.

## 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.
- 4.2.7 The operator shall submit an annual report detailing the efficiency of removal of non-compostable and non-digestible materials from feedstock prior to processing and the level of contamination in the final recovered digestate and/or compost.

#### 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.

#### 4.4 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

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

| Activity<br>reference | Activity listed in Schedule<br>1 of the EP Regulations | Description of specified<br>activity and WFD Annex I<br>and II operations | Limits of specified<br>activity and waste types   |  |
|-----------------------|--|---|---|--|
|                       |  |   | Post-treatment of digestate<br>on an impermeable surface<br>with a sealed drainage<br>system, including screening<br>to remove contraries,<br>centrifuge or pressing and<br>addition of thickening<br>agents (polymers) or drying<br>for use as a fertiliser or soil<br>conditioner (drying for the<br>purpose of use as a fuel is<br>not permitted). |  |
|                       |  |   | Heat treatment<br>(pasteurisation) of waste in<br>three tanks for the purpose<br>of recovery.   |  |
|                       |  |   | Gas cleaning by biological<br>or physical (carbon<br>filtration) or chemical<br>scrubbing.  |  |
|                       |  |   | Waste types suitable for acceptance are limited to those specified in Table S2.2.   |  |
| AR4                   | Steam and electrical power supply                      | R1:Use principally as a fuel to generate energy                           | From the receipt of biogas<br>produced at the on-site<br>anaerobic digestion process<br>to combustion with the<br>release of combustion<br>gases.   |  |
|                       |  |   | Combustion of biogas in<br>one combined heat and<br>power (CHP) engine with<br>an aggregated thermal<br>input of 0.8MWth.   |  |
|                       |  |   | Combustion of biogas in<br>one auxiliary boiler with an<br>aggregated thermal input or<br>0.56MWth.   |  |
| AR5                   | Emergency flare operation                              | D10: Incineration on land   | From the receipt of biogas<br>produced at the on-site<br>anaerobic digestion proces<br>to incineration with the<br>release of combustion<br>gases.  |  |

| Table S1.1 activities |  |   |   |  |  |
|-----------------------|--|---|---|--|--|
| Activity<br>reference | Activity listed in Schedule<br>1 of the EP Regulations | Description of specified<br>activity and WFD Annex I<br>and II operations   | Limits of specified<br>activity and waste types   |  |  |
|                       |  |   | Use of one auxiliary flare<br>required only during periods<br>of breakdown or<br>maintenance of the CHP<br>engine, biogas upgrading<br>plant and/or auxiliary boiler.   |  |  |
| AR6                   | Gas upgrading  | Upgrading of biogas to<br>biomethane (including the<br>removal of moisture and<br>other substances such as<br>carbon dioxide, hydrogen<br>sulphide and Volatile<br>organic compounds) for<br>injection into the National<br>Grid. | From the receipt of biogas<br>produced at the on-site<br>anaerobic digestion process<br>to injection into the National<br>Grid. This includes return of<br>off-specification biogas for<br>combustion to the on-site<br>CHP engine, auxiliary boiler<br>and/or emergency flare. |  |  |
| AR7                   | Raw material storage                                   | Storage of raw materials<br>including lubrication oil,<br>antifreeze, propane, ferric<br>chloride, activated carbon,<br>diesel.   | From the receipt of raw materials to despatch for use within the facility.  |  |  |
| AR8                   | Gas storage  | R13: Storage of waste<br>pending any of the<br>operations numbered R1 to<br>R12 (excluding temporary<br>storage, pending collection,<br>on the site where it is<br>produced)  | Storage of biogas produced<br>from on-site anaerobic<br>digestion of permitted waste<br>in roof space of digesters.<br>From the receipt of biogas<br>produced at the on-site<br>anaerobic digestion process<br>to despatch for use within<br>the facility.                      |  |  |
| AR9                   | Digestate storage                                      | R13: Storage of waste<br>pending any of the<br>operations numbered R1 to<br>R12 (excluding temporary<br>storage, pending collection,<br>on the site where it is<br>produced)  | From the receipt of<br>processed digestate<br>produced from the on-site<br>anaerobic digestion process<br>to despatch for use off-site.<br>Storage of processed liquid<br>digestate in two storage<br>tanks.  |  |  |
|                       |  |   | Storage of processed solid<br>digestate in a covered bay<br>on an impermeable surface<br>with a sealed drainage<br>system.  |  |  |
| AR11                  | Surface water collection and storage                   | Collection and storage of<br>uncontaminated roof and<br>site surface water in two<br>storage tanks.   | From the collection of<br>uncontaminated roof and<br>site surface water from non-<br>operational areas only to re-  |  |  |

| Table S1.1 activities |  |   |  |  |
|-----------------------|--|---|--|--|
| Activity<br>reference | Activity listed in Schedule<br>1 of the EP Regulations | Description of specified<br>activity and WFD Annex I<br>and II operations | Limits of specified activity and waste types   |  |
|                       |  |   | use within the facility or discharge off-site. |  |

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| Table S1.2 Operating tec                                | chniques  | 1                      |  |  |  |
|---|---|------------------------|--|--|--|
| Description   | Parts   | Date Received          |  |  |  |
| Application   | Sections 1, 2, 3, 4, 5, 6 and 8 of the application document in response to section 3a – technical standards, Part B of the application form, excluding the last paragraph of section 2.3 describing the arrangements for acceptance and loading of farmyard manure. | 14/01/2016             |  |  |  |
|   | Appendices A, B, C, D, E, F, G and H excluding section 1.6.3 of appendix G describing the arrangements for acceptance and storage of farmyard manure.   |                        |  |  |  |
| Response to Schedule 5                                  | Response to question 1 confirming the activity schedule.  | 15/03/2016             |  |  |  |
| Notice dated 09/02/2016                                 | Response to question 2 confirming that farmyard manure will be delivered directly into the sealed feed hoppers.   |                        |  |  |  |
|   | Response to questions 3, 4 and 5, clarifying the odour assessment.  |                        |  |  |  |
|   | Response to question 6 confirming the use of ferric chloride as the dosing agent.   |                        |  |  |  |
|   | Response to question 7 providing a Sankey diagram.  |                        |  |  |  |
|   | Response to question 8 providing details of the stand-by boiler.  |                        |  |  |  |
|   | Response to question 9 clarifying the air impact assessment   |                        |  |  |  |
|   | Supplementary information, to clarify Schedule 5 response   |                        |  |  |  |
|   | Response to question 1, 2 and 3, clarifying solid digestate storage arrangements.   |                        |  |  |  |
| Additional information                                  | Confirmation of arrangements for storage and handling of solid digestate in separation area.  | 18/03/2016             |  |  |  |
| Additional information                                  | Details of ammonia scrubber included in biogas upgrade unit.  | 04/05/2016             |  |  |  |
| Additional information                                  | Revised details of surface water storage and drainage.  | 13/06/2016             |  |  |  |
| Response to Regulation<br>61 Notice dated<br>22/06/2020 | • 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.  | Received<br>15/02/2021 |  |  |  |

| Reference  | Requirement  | Date   |
|------------|--|--|
| IC1        | On completion of the construction phase the operator shall update the Site Condition Report to include the results of the additional ground investigation carried out during construction.   | Completed  |
| IC2        | The operator shall carry out a monitoring study to verify the assumptions<br>made in the application in relation to the releases of pollutants to air. The<br>study shall include the monitoring of point source releases to air from the<br>biogas upgrading plant emission point A4 during normal operation,<br>having regard to the Environment Agency technical guidance M2 and to<br>MCERTS standards. As a minimum, two separate monitoring campaigns<br>in a year shall be completed (one monitoring survey six months following<br>commissioning of the biogas upgrading plant).<br>The pollutants to be monitored shall include:<br>• total volatile organic compounds; and<br>hydrogen sulphide  |  |
| IC3        | <ul> <li>Following the completion of IC2, the operator shall undertake an environmental impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The environmental impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</li> <li>The environmental impact assessment shall, as a minimum, include: <ul> <li>reports showing details of the monitoring undertaken and the results obtained;</li> <li>results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance on Air Quality Risk Assessment; and</li> <li>a completed H1 assessment software tool</li> </ul> </li> <li>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.</li> </ul> | Completed  |
| Improvemen | t condition for assessment of methane slip   |  |
| IC4        | The operator shall establish the methane emissions in the exhaust gas<br>from engines burning biogas and compare these to the manufacturer's<br>specification and benchmark levels agreed in writing with the<br>Environment Agency. The operator shall, as part of the methane leak<br>detection and repair (LDAR) programme, develop proposals to assess<br>the potential for methane slip and take corrective actions where<br>emissions above the manufacturer's specification or appropriate<br>benchmark levels are identified.  | 30/08/2024 or<br>other date as<br>agreed in writing<br>with the<br>Environment<br>Agency |

# Schedule 2 – Waste types, raw materials and fuels

| Table S2.1 Raw materials and fuels    |  |  |
|---------------------------------------|--|--|
| Raw materials and fuel description    | Specification                              |  |
| Maize crop 30,000 tonnes per year     | Substantially free of non vegetable matter |  |
| Sugar beet crop 3,500 tonnes per year | Substantially free of non vegetable matter |  |

| Table S2.2 Permittee | Table S2.2 Permitted waste types and quantities for anaerobic digestion  |  |  |  |  |
|----------------------|--|--|--|--|--|
| Maximum quantity     | Annual throughput shall not exceed 9,500 tonnes  |  |  |  |  |
| Exclusions           | Wastes having any of the following characteristics shall not be accepted:  |  |  |  |  |
|                      | <ul> <li>biodegradable wastes that is significantly contaminated with non-<br/>compostable or digestible contaminants, in particular plastic and litter shall<br/>be no more than 5% w/w and shall be as low as reasonably practicable by<br/>31 December 2025.</li> </ul>   |  |  |  |  |
|                      | <ul> <li>wastes containing wood-preserving agents or other biocides and post-<br/>consumer wood</li> </ul>   |  |  |  |  |
|                      | <ul> <li>wastes containing Japanese Knotweed or other invasive plant species listed<br/>in the Invasive Species (Amendment etc.) (EU Exit) Regulations 2019</li> <li>manures, slurries and spoiled bedding and straw from farms where animals<br/>have notifiable diseases as stipulated in the Animal By-Products<br/>(Enforcement) (England) Regulations 2013.</li> <li>pest infested waste</li> </ul> |  |  |  |  |
| Waste code           | Description  |  |  |  |  |
| 02                   | Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing   |  |  |  |  |
| 02 01                | wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing  |  |  |  |  |
| 02 01 01             | sludges from washing and cleaning – vegetables, fruit and other crops  |  |  |  |  |
| 02 01 03             | plant tissue waste   |  |  |  |  |
| 02 01 06             | animal faeces, urine and manure (including spoiled fully biodegradable animal bedding)   |  |  |  |  |

## Schedule 3 – Emissions and monitoring

| Emission<br>point ref.<br>& location                 | Source                               | Parameter   | Limit<br>(including<br>unit) | Reference<br>period                                    | Monitoring<br>frequency                                  | Monitoring<br>standard<br>or method |
|--|--------------------------------------|---|------------------------------|--|--|-------------------------------------|
| A1 [Point<br>A1 on site<br>plan in<br>Schedule<br>7] | CHP engine stack<br>[note 1]         | Oxides of<br>Nitrogen<br>(NO and NO <sub>2</sub><br>expressed as<br>NO <sub>2</sub> ) | 500 mg/m <sup>3</sup>        | Hourly<br>average                                      | Annual   | BS EN<br>14792                      |
|  |                                      | Sulphur<br>dioxide  | 350 mg/m <sup>3</sup>        |  |  | BS EN<br>14791                      |
|  |                                      | Carbon<br>monoxide  | 300 mg/m <sup>3</sup>        |  |  | BS EN<br>15058                      |
|  |                                      | Total VOCs  | 1000<br>mg/m <sup>3</sup>    |  |  | BS EN<br>12619:2013                 |
| A2 [Point<br>A2 on site<br>plan in<br>schedule 7]    | Emergency flare<br>stack<br>[note 2] | Oxides of<br>Nitrogen<br>(NO and NO <sub>2</sub><br>expressed as<br>NO <sub>2</sub> ) | 150 mg/m <sup>3</sup>        | Average over<br>sample<br>period                       | [note 3]   | BS EN<br>14792                      |
|  |                                      | Carbon<br>monoxide  | 50 mg/m <sup>3</sup>         |  |  | BS EN<br>15058                      |
|  |                                      | Total VOCs  | 10 mg/m <sup>3</sup>         |  |  | BS EN<br>12619                      |
| A3 [Point<br>A3 on site<br>plan in<br>Schedule<br>7] | Boiler 1 stack                       | No<br>parameter<br>set  | No limit<br>set              |  |  |                                     |
| A4 [Point<br>43 on site<br>plan in<br>schedule 7]    | Biogas upgrading<br>plant stack      | VOCs<br>including<br>methane  | No limit<br>set              | Leak<br>detection<br>and repair<br>(LDAR)<br>programme | In<br>accordance<br>with written<br>management<br>system | BS<br>EN15446                       |
| Pressure<br>relief<br>valves                         | Digesters/Digestate<br>storage tanks | Biogas<br>release and<br>operational<br>events  | No limit<br>set              | Recorded<br>duration and<br>frequency                  | Daily<br>inspection                                      |                                     |
| Vents from tanks                                     | Oil/Fuel Storage<br>tanks            | No<br>parameter<br>set  | No limit<br>set              |  |  |                                     |

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).

Note 2 – These emission limits are based on normal operating conditions and load - temperature 0°C (273K); pressure 101.3 kPa and oxygen 3%.

Note 3 – 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.

| Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and | l |
|--|---|
| monitoring requirements  |   |

| Emission<br>point ref. &<br>location  | Source   | Parameter         | Limit<br>(incl.<br>unit)       | Reference<br>Period | Monitoring<br>frequency | Monitoring<br>standard or<br>method |
|---|--|-------------------|--------------------------------|---------------------|-------------------------|-------------------------------------|
| W1 on site<br>plan in<br>schedule 7<br>release to<br>offsite surface<br>drainage<br>system. | Uncontaminated<br>site surface water<br>from roofs and<br>non-operational<br>areas | Oil and<br>grease | No visible<br>oil or<br>grease |                     | Weekly                  | Visual<br>assessment                |

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| Table S3.3 Process monitoring requirements   |   |                         |  |  |
|--|---|-------------------------|--|--|
| Emission point<br>reference or source or<br>description of point of<br>measurement | Parameter   | Monitoring<br>frequency | Monitoring<br>standard or<br>method                                | Other<br>specifications  |
| Digester feed  | рН  | As described in         | As described in site   | Process  |
| (digestion process)  | gestion process) Alkalinity site operating techniques |                         | operating  | monitoring to be<br>recorded using a<br>SCADA system<br>where relevant.            |
|  | Temperature   |                         | techniques   |  |
|  | Hydraulic loading rate                                |                         |  |  |
|  | Organic loading rate                                  |                         |  |  |
|  | Volatile fatty acids<br>concentration<br>Ammonia      |                         |  |  |
|  |   |                         |  |  |
|  | Liquid /foam level                                    |                         |  |  |
| Biogas in digesters  | Flow  | Continuous              | In accordance<br>with EU<br>weights and<br>measures<br>Regulations | Process<br>monitoring to be<br>recorded using a<br>SCADA system<br>where relevant. |
|  | Methane   | Continuous              | None<br>specified  |  |

|   | CO2<br>O2<br>Hydrogen sulphide<br>Pressure       | Continuous<br>Continuous<br>Daily<br>Continuous   | None<br>specified<br>None<br>specified<br>None<br>specified<br>None<br>specified  | Gas monitors to<br>be calibrated<br>every 6 months or<br>in accordance<br>with the<br>manufacturer's<br>recommendations |
|---|--|---|---|---|
| Digestate batch   | Volatile fatty acids<br>concentration<br>Ammonia | One sample at<br>the end of each<br>batch (hydraulic<br>retention time)<br>cycle.       | As described<br>in site<br>operating<br>techniques  |   |
| Digesters and storage tanks   | Integrity checks                                 | Weekly  | Visual<br>assessment  | In accordance<br>with design<br>specification and<br>tank integrity<br>checks.  |
| Digesters   | Agitation /mixing                                | Continuous  | Systems<br>controls   | Records<br>maintained in<br>daily operational<br>records.   |
|   | Tank capacity and<br>sediment<br>assessment      | Once every 5<br>years from date<br>of commission  | Non-<br>destructive<br>pressure<br>testing<br>integrity<br>assessment<br>every 5 years<br>or as specified<br>by<br>manufacturers<br>technical<br>specification. | In accordance<br>with design<br>specification and<br>tank integrity<br>checks.  |
| Waste reception<br>building or area;<br>Digesters and storage<br>tanks                                      | Odour  | Daily   | Olfactory<br>monitoring   | Odour detection<br>at the site<br>boundary.   |
| Diffuse emissions from<br>all sources identified in<br>the Leak Detection and<br>Repair (LDAR)<br>programme | VOCs including<br>methane                        | Every 6 months<br>or otherwise<br>agreed in<br>accordance with<br>the LDAR<br>programme | BS EN 15446<br>In accordance<br>with the LDAR<br>programme  | Monitoring points<br>as specified in a<br>DSEAR risk<br>assessment and<br>LDAR<br>programme.                            |

| r                            |   |            |   |  |
|------------------------------|---|------------|---|--|
|                              |   |            |   | Limit as agreed<br>with the<br>Environment<br>Agency as a<br>percentage of the<br>overall gas<br>production.   |
| CHP engine stack             | VOCs including<br>methane                         | Annually   | BS EN 12619                                       | Total annual<br>VOCs emissions<br>from the CHP<br>engine(s) to be<br>calculated and<br>submitted to the<br>Environment<br>Agency.  |
|                              | Exhaust gas<br>temperature                        |            | Traceable to<br>National<br>Standards             |  |
|                              | Exhaust gas<br>pressure                           |            | Traceable to<br>National<br>Standards             |  |
|                              | Exhaust gas water<br>vapour content               |            | BS EN 14790-<br>1                                 | Unless gas is<br>dried before<br>analysis of<br>emissions.   |
|                              | Exhaust gas oxygen                                |            | BS EN 14789                                       |  |
|                              | Exhaust gas flow                                  |            | BS EN 16911-<br>1                                 |  |
| Meteorological<br>conditions | Wind speed, air<br>temperature, wind<br>direction | Continuous | Method as<br>specified in<br>management<br>system | Conditions to be<br>recorded in<br>operational diary<br>and records.   |
|                              |   |            |   | Equipment shall<br>be calibrated on a<br>4 monthly basis,<br>in accordance<br>with<br>manufacturer's<br>recommendations<br>or as agreed in<br>writing by the<br>Environment<br>Agency. |

| Emergency flare                           | Operating hours<br>Quantity of gas sent<br>to emergency flare        | Continuous   | Recorded<br>duration and<br>frequency.<br>Recording<br>using a<br>SCADA<br>system or<br>similar system | Date, time and<br>duration of use of<br>auxiliary flare<br>shall be recorded.<br>Quantity can be<br>estimated from<br>gas flow<br>composition, heat<br>content, ratio of<br>assistance,<br>velocity, purge<br>gas flow rate,<br>pollutant<br>emissions.   |
|---|--|--|--|---|
| Pressure relief valves and vacuum systems | Gas pressure   | Continuous   | Recording<br>using a<br>SCADA<br>system  | Continuous gas<br>pressure shall be<br>monitored.   |
|   | Re-seating   | Weekly<br>inspection   | Visual   | Operator must<br>ensure that valves<br>are re-seated<br>after release in<br>accordance with<br>the<br>manufacturer's<br>design.   |
|   | Inspection,<br>maintenance,<br>calibration, repair<br>and validation | Following<br>foaming or<br>overtopping or at<br>3 yearly intervals<br>whichever is<br>sooner | Written<br>scheme of<br>examination in<br>accordance<br>with condition<br>1.1.1                        | After a foaming<br>event or sticking,<br>build-up of debris,<br>obstructions or<br>damage, operator<br>must ensure that<br>pressure relief<br>valve function<br>remains within<br>designed gas<br>pressure in<br>accordance with<br>the<br>manufacturer's<br>design by suitably<br>trained and<br>qualified<br>personnel. |
|   | Inspection,<br>calibration and<br>validation report                  | In accordance<br>with design and<br>construction   | Written<br>scheme of<br>examination in   | Operator must<br>ensure that valves<br>are re-seated  |

|               |        | specifications or<br>after over topping<br>or foaming event | accordance<br>with condition<br>1.1.1  | after release, after<br>a foaming event<br>or sticking, build-<br>up of debris,<br>obstructions or<br>damage.  |
|---------------|--------|---|--|--|
|               |        |   |  | Operator must<br>ensure that PRV<br>function remains<br>within designed<br>operation gas<br>pressure in<br>accordance with<br>the<br>manufacturer's<br>design by suitably<br>trained/qualified<br>personnel. |
|               |        |   |  | Inspection,<br>calibration and<br>validation report.<br>In accordance<br>with industry<br>Approved Code of<br>Practice   |
| storage tanks | Volume | Daily   | Visual or flow<br>metre<br>measurement | Records of volume must be maintained.  |

# 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 engine<br>Parameters as required by<br>condition 3.5.1.  | A1                                     | Every 12 months   | 1 January, 1 April,<br>1 July, 1 October |
| Emissions to water and land<br>Parameters as required by<br>condition 3.5.1  | W1                                     | Every 12 months   | 1 January                                |
| Process monitoring – digester tank<br>integrity<br>Parameters as required by<br>condition 3.5.1  | As specified in schedule 3 table S3.3  | Every 5 years<br>from the date of<br>commissioning or<br>as per the<br>manufacturer's<br>recommendation,<br>whichever is<br>sooner    | 1 January                                |
| Process monitoring – under and<br>over pressure relief systems<br>Parameters as required by<br>condition 3.5.1                                 | As specified in schedule 3 table S3.3  | Every 12 months<br>Yearly summary<br>report of over-<br>pressure and<br>under-pressure<br>events detailing<br>mass balance<br>release | 1 January                                |
| Process monitoring – leak detection<br>and repair (inspection, calibration<br>and maintenance)<br>Parameters as required by<br>condition 3.5.1 | As specified in schedule 3 table S3.3  | Every 3 years   | 1 January                                |
| Process monitoring – use of<br>emergency flare<br>Parameters as required by<br>condition 3.5.1   | As specified in schedule 3 table S3.3  | Every 12 months   | 1 January                                |

| Table S4.2 Annual production/treatment |                          |  |
|--|--------------------------|--|
| 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                   |  |
| Recovered outputs                      | tonnes                   |  |

| Table S4.3 Performance parameters |                         |                          |  |
|-----------------------------------|-------------------------|--------------------------|--|
| 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                      |  |
| Biomethane exported               | Annually                | tonnes or m <sup>3</sup> |  |
| CHP engine usage                  | Annually                | hours                    |  |
| CHP engine efficiency             | Annually                | %                        |  |
| Auxiliary boiler usage            | Annually                | hours                    |  |

| Table S4.4 Reporting forms   |  |              |  |
|------------------------------|--|--------------|--|
| Media/parameter              | Reporting format   | Date of form |  |
| Air                          | Form air 1 or other form as agreed in writing by the Environment Agency          | 30/08/2023   |  |
| Process monitoring           | Form process 1 or other form as agreed in writing by the Environment Agency      | 30/08/2023   |  |
| Water                        | Form water 1 or other form as agreed in writing by the Environment Agency        | 30/08/2023   |  |
| Water usage                  | Form water usage 1 or other form as agreed in writing by the Environment Agency  | 30/08/2023   |  |
| Energy usage                 | Form energy 1 or other form as agreed in writing by the Environment Agency       | 30/08/2023   |  |
| Other performance indicators | Form performance 1 or other form as agreed in writing by the Environment Agency  | 30/08/2023   |  |
| 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 |  |

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

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

| Time periods for notification following detection of a breach of a limit |                     |
|--|---------------------|
| Parameter  | Notification period |
|  |                     |
|  |                     |
|  |                     |

| (c) Notification requirements for the detection of any significant adverse environmental effect |  |  |
|---|--|--|
| To be notified within 24 hours of detection   |  |  |
| 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,<br>limit or prevent any pollution of the environment<br>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 methanerich 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. Further guidance '<u>RGN2: Understanding the meaning of regulated facility Definition of regulated facility</u>' is available.

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

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

"competent persons and resources" means that a technically competent person accredited to a relevant scheme must attend site and record their attendance, and that all roles and responsibilities are clearly stated in the management systems along with records of operatives' training. See the guidance on the <u>level of competence and duration of attendance</u>

"compost" means solid particulate material that is the result of composting, which has been sanitised and stabilised, and which confers beneficial effects when added to soil, used as a component of growing media or used in another way in conjunction with plants.

'compostable plastics' means waste containing packaging or non-packaging items (or both) with a valid certificate of conformity to EN 13432 or an equivalent standard for compostable and digestible items, the certificate issued by an independent certification body capable of fully biodegrading by a biological process to create compost or digest.

"composting" means the managed biological decomposition of biodegradable waste organic materials, under conditions that are predominantly aerobic and that allow the development of thermophilic temperatures as a result of biologically produced heat and that result in compost.

"composting batch" means an identifiable quantity of material that progresses through the composting system and when fully processed has similar characteristics throughout. For composting systems that operate on a continuous- or plug-flow basis, batches will be taken to mean a series of "portions of production".

'direct discharge' means discharge to a receiving water body

"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.

"maturation" means optional period of treatment or storage of separated fibre digestate under predominantly aerobic conditions.

"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.

"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 adequate 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. The operator also needs to meet ABPR requirements.

"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:

- a) no liquids will run off the surface otherwise than via the system
- b) 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.

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

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

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

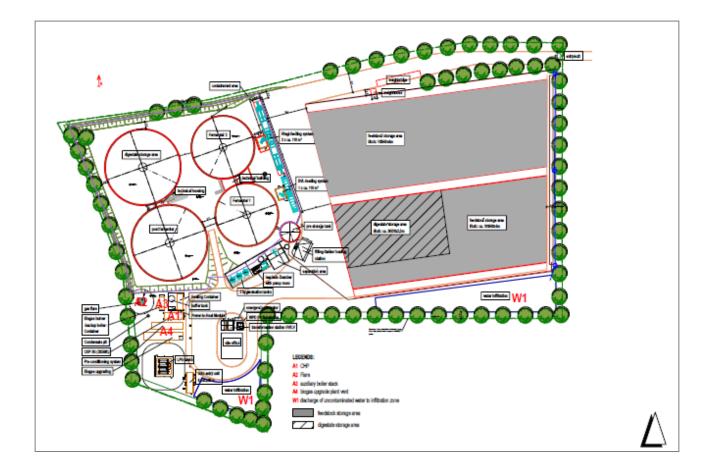
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

- a) 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
- b) 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



END OF PERMIT