

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Langage AD (UK) LLP

Langage Farm
Higher Challonsleigh
Smithhaleigh
Plymouth
PL7 5AY

Variation application number

EPR/VP3990VS/V003

Permit number

EPR/VP3990VS

Langage Farm

Permit number EPR/VP3990VS

Introductory note

This introductory note does not form a part of the notice

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

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

Changes introduced by this variation notice and permit review

This variation adds a waste transfer station activity. This will predominantly involve transfer of biodegradable waste independent of the existing Anaerobic Digestion (AD) activity, with bulked up waste being transferred to other AD facilities. The exception to this will be during unexpected transfer station breakdown where the operator may need to transfer the waste from the waste transfer station to the on-site AD activity. Any waste transferred into the on-site AD activity in this event will only occur providing there is the available daily treatment capacity to do so – meaning no more than 75 tonnes biological treatment per day, and any waste the on-site AD activity cannot accept will be diverted to other AD facilities. The maximum tonnage of waste to be accepted for the new transfer activity is 20,000 tonnes per annum. The permitted activities include the storage and transfer of wastes only within a building with associated negative air pressure system and biofilter.

We have also carried out a permit review as required by primary legislation to ensure that permit conditions deliver compliance with relevant legislative requirements and appropriate standards to protect the environment and human health.

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

- the requirement for bioaerosols monitoring and compliance with M9 bioaerosols monitoring requirements;
- the design and construction of primary and secondary containment;
- review of process monitoring requirements;
- review of waste types;
- register of combustion engines, boilers and generators;
- review of tonnages to ensure compliance with the Industrial Emissions Directive;
- review fugitive emissions loss; and
- review of permit conditions where required.

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 facility

This permit authorises the operator to:

- 1) operate an Anaerobic Digestion (AD) facility treating no more than 75 tonnes of waste per day of specified biodegradable wastes and accepting no more than 20,000 tonnes of waste per annum.

The permitted activities for the anaerobic digestion facility include the anaerobic digestion of wastes to produce electricity, biogas, heat and digestate. The combustion of the resultant biogas in gas engines has an aggregated total rated thermal input of 2.9 megawatts (two Medium Combustion Plant and

Specified Generator comprising a 1.3 MWth CHP and a 1.6 MWth back-up boiler fuelled on biogas). Electricity generated will supply the facility, adjacent food factory and the National Grid. Digestate will be used for agricultural benefit.

And;

- 2) operate a separate waste transfer facility accepting no more than 20,000 tonnes per annum of specified biodegradable wastes. Other details as specified above under 'Changes introduced by this variation notice'.

The maximum tonnage of waste to be accepted at the site is 40,000 tonnes in total combining the two activities.

There shall be no discharge of contaminated waters to surface waters or groundwater. Clean surface water from roofs, or areas of the site not being used in connection with storing and treating waste, shall be discharged via soakaway. All wastes are stored, transferred and treated within buildings with associated negative air pressure systems and bio-filters.

There are currently no sensitive receptors within 250 metres of the waste facility, but due to changes in operational hours at Langage Dairy Farm (150 metres away) expected shortly after permit issue, we have included bioaerosols conditions within the permit (see condition 3.5).

The schedules specify the changes made to the permit.

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

Status log of the permit		
Description	Date	Comments
Application EPR/GP3093VQ/A001	Duly made 13/04/2010	Application for an Anaerobic Digestion facility.
Permit determined EPR/GP3093VQ	18/08/2010	Permit issued to Langage Farm LLP.
Application EPR/VP3990VS/T001 (full transfer of permit EPR/GP3093VQ)	Duly made 26/04/2011	Application to transfer the permit from Langage Farm LLP to Langage AD (UK) LLP.
Transfer determined EPR/VP3990VS	06/05/2011	Transfer issued to Langage AD (UK) LLP.
Application EPR/VP3990VS/V002 (variation)	Duly made 10/06/2021	Application for variation to add a waste transfer activity.
Regulation 61 Notice sent to Operator	29/06/2021	Regulation 61 Notice requiring information for statutory review of permit.
Regulation 61 Notice response	27/09/2021 & 20/12/2021	Response received from the operator.
Additional information received	04/01/2022	Revised Odour Management Plan reference 'Odour Management Plan Langage Farm v6' submitted.
Additional information received	13/01/2022	Confirmation of Medium Combustion Plant and boiler locations.
Additional information received	10/02/2022	Revised site permit boundary/point source emissions plan received. Clarification on sensitive receptors received.
Application EPR/VP3990VS/V003 (variation and consolidation)	Environment Agency Initiated Variation	Statutory review of permit.

Status log of the permit		
Description	Date	Comments
Environment Agency Biowaste Treatment Sector Review Variation determined EPR/VP3990VS	16/03/2022	Varied and consolidated permit issued (Variation EPR/VP3990VS/V002 issued at the same time as variation EPR/VP3990VS/V003).

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/VP3990VS

Issued to

Langage AD (UK) LLP ("the operator")

whose registered office is

**Langage Farm
Higher Challonsleigh
Smithhaleigh
Plymouth
PL7 5AY**

limited liability partnership number OC361820

to operate regulated facilities at

**Langage Farm
Higher Challonsleigh
Smithhaleigh
Plymouth
PL7 5AY**

The notice shall take effect from 16/03/2022

Name	Date
Tracey Pollard	16/03/2022

Authorised on behalf of the Environment Agency

Schedule 1

Only conditions 1.2.1 (a) (b) (b); 1.2.2; 2.1.1; 2.1.2; 2.3.1; 2.3.2; 2.3.3 (a) (c) (d); 2.3.4; 2.3.5; 2.3.6 (a) (b) (c); 2.4.1; 2.4.2; 3.1.1; 3.1.2; 3.2.2 (a); 3.2.4; 3.4.2 (a); 3.5.1 (a) (b) (c); 3.5.3; 3.5.4; 3.5.5; 3.5.6; 3.6.1; 3.6.2 (a) (b) (c); 3.7.1; 3.7.2 (a) (b) (c) (d); 3.8.1; 3.8.2 (a) (b); 3.8.3; 4.2.2 (a) (b) (c); 4.2.3; 4.2.5; 4.2.6; 4.3.3; 4.3.7; 4.4.1 have been varied by the consolidated permit EPR/VP3990VS.

The following conditions were varied as a result of an Environment Agency initiated variation:

1.2.1 (a) (b) (c); 1.2.2; 2.1.1; 2.1.2; 2.3.1; 2.3.2; 2.3.3 (a) (c) (d); 2.3.4; 2.3.5; 2.3.6 (a) (b) (c); 2.4.1; 2.4.2; 3.1.1; 3.1.2; 3.2.2 (a); 3.2.4; 3.4.2 (a); 3.5.1 (a) (b) (c); 3.5.3; 3.5.4; 3.5.5; 3.5.6; 3.6.1; 3.6.2 (a) (b) (c); 3.7.1; 3.7.2 (a) (b) (c) (d); 3.8.1; 3.8.2 (a) (b); 3.8.3; 4.2.2 (a) (b) (c); 4.2.3; 4.2.5; 4.2.6; 4.3.3; 4.3.7; 4.4.1.

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

2.1.1; 2.3.1; 2.3.3 (a); 3.5.1 (b) (c); 4.2.2 (a) (b) (c); 4.2.5; 4.2.6; 4.4.1.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/VP3990VS

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

Langage AD (UK) LLP (“the operator”),

whose registered office is

Langage Farm

Higher Challonsleigh

Smithhaleigh

Plymouth

PL7 5AY

limited liability partnership number OC361820

to operate regulated facilities at

Langage Farm

Higher Challonsleigh

Smithhaleigh

Plymouth

PL7 5AY

to the extent set out in the schedules.

The notice shall take effect from 16/03/2022

Name	Date
Tracey Pollard	16/03/2022

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 Avoidance, recovery and disposal of wastes produced by the activities

- 1.2.1 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.
- 1.2.2 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 All process plant and equipment shall be commissioned, operated and maintained in accordance with the manufacturer’s recommendations and shall be fully documented and recorded.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in red 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 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2 and S2.3;
 - (b) it conforms to the description in the documentation supplied by the producer and holder
 - (c) it is biodegradable; and
 - (d) the facility has sufficient free capacity to store and treat waste.
- 2.3.4 Records demonstrating compliance with condition 2.3.3 shall be maintained.
- 2.3.5 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1 (A9):
- (a) Each combustion plant 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 combustion plant 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 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.

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 will implement a Leak detection and repair (LDAR) programme to detect and mitigate releases of volatile organic compounds.

3.3 Odour

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

3.4 Noise and vibration

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

3.4.2 The operator shall:

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

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1 and S3.2;
- (b) process monitoring specified in table S3.3;
- (c) bioaerosols monitoring specified in table S3.4.

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 this rule shall either have MCERTS certification or MCERTS accreditation (as appropriate), where available or have UKAS accreditation, 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.
- 3.5.5 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 Bioaerosols

- 3.6.1 The operator shall take all appropriate measures, to prevent or where that is not practicable to minimise the release of bioaerosols. Emissions of bioaerosols from the operational activities shall not exceed the emission action levels specified in table S3.4.
- 3.6.2 The operator shall where the emission action levels are exceeded:
- (a) notify the Environment Agency and investigate and take remedial action;
 - (b) submit to the Environment Agency for approval within the period specified, a bioaerosols management plan which identifies and minimises the risks of pollution from bioaerosols; and
 - (c) implement the bioaerosols management plan from the date of approval and revise the plan periodically, unless otherwise agreed in writing by the Environment Agency.

3.7 Pests

- 3.7.1 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.
- 3.7.2 The operator shall:
- (a) only use approved products for pest control;
 - (b) treat pest infestations promptly;
 - (c) 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;
 - (d) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.8 Fire prevention

- 3.8.1 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.
- 3.8.2 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.
- 3.8.3 The operator will undertake a DSEAR assessment and have a clear accident management and emergency 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 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 S4.2; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.3 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.

4.2.4 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.

4.2.5 The operator shall keep records of the material exported from the site as non-waste including the type of material, the tonnage of material, the batch number and the date of export. This information shall be reported to the Environment Agency within one month of the end of each quarter as specified in schedule 4 table S4.1 and the records shall be maintained for at least 2 years.

4.2.6 The operator shall submit an annual report as specified in schedule 4 table S4.1 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 The Environment Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Any information provided under condition 4.3.1 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 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 "without delay", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities		
Waste activities		
Activity reference	Description of activities for waste operations	Limits of activities
A1	Biological treatment by Anaerobic Digestion R3: Recycling/reclamation of organic substances which are not used as solvents	Treatment operations shall be limited to: • Biological treatment of waste by anaerobic digestion for the purpose of recovery (limited to capacity of digester no more than 75 tonnes per day including waste and non waste solids and liquids). • The treatment capacity of any plant shall not exceed 10 tonnes of animal waste per day • All bulking, transfer and pre-treatment of waste shall be carried out in an enclosed building fitted with appropriate odour abatement. Waste types as specified in Table S2.2.
A2	Physical and chemical treatment of waste (Anaerobic Digestion activity) R3: Recycling/reclamation of organic substances which are not used as solvents	• Physical treatment associated with the anaerobic digestion activity including depackaging, removal of plastic and contrary items, shredding, sorting, screening, compaction, baling, mixing, and maceration for the purpose of recovery. • Heat treatment (pastuerisation) of waste and chemical addition for the purpose of recovery • Digestate treatment (other than for the purpose of use as a fuel) including screening to remove plastic residues, separation, centrifuge or pressing, addition of thickening agents (polymers), cooling, pH adjustment and drying • Recovery of ammonia from digestate treatment.
A3	Gas combustion to produce heat and power (Anaerobic Digestion activity) R1: Use principally as a fuel or other means to generate energy	The combustion of biogas for the purpose of generation of electricity and heat for use within the facility and/or export to the grid. Combustion of biogas in 1 combined heat and power (CHP) engine with a thermal input of 1.3 MWth. Combustion of biogas in 1 auxiliary boiler with a thermal input of 1.6 MWth.
A4	Treating biogas and biomethane Under WFD Annex II operations (Anaerobic Digestion activity) R3 – recycling and reclaiming organic substances which are not used as solvents.	Gas storage and drying. Gas cleaning by biological or chemical scrubbing.

Table S1.1 activities					
Waste activities					
A5	Auxiliary standby flare (Anaerobic Digestion activity) D10: Incineration on land		Emissions of unburned biogas and the operation of the auxiliary flare shall be minimised. Any significant emissions of unburned biogas (including the operation of the pressure relief valves) and the operation of the auxiliary flare shall be recorded. All biogas condensate shall be discharged into a sealed drainage system or recirculated back to the digester.		
A6	Storage Under WFD Annex II operations (Anaerobic Digestion activity) 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)		This activity is limited to: - compatible waste prior to anaerobic digestion - liquid waste consisting of dirty water and, or liquor - non-digestible and quarantined waste - finished digestate, whole or liquid fraction of digestate in covered tanks or lagoons		
A7	Storing waste generated on site and raw materials		This activity is limited to safe storage of: - chemicals - lubrication oil - antifreeze - diesel - activated carbon spent and new		
A8	Waste Transfer Station activity 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)		Physical treatment including manual and mechanical sorting/separation of non-hazardous waste for recovery. Subject to any other requirements of this permit wastes shall be stored for no longer than 24 hours prior to recovery. Waste types as specified in Table S2.3.		
Medium Combustion Plant and Specified Generators activities					
Activity reference	National Grid Reference and or activity reference/ emission point	Activity listed in the EP Regulations	Description of MCP and/or specified generator	Fuel	Operating hours limit per year
A9	Plant 1 - Location 1 [1 on site plan in Schedule 7] Grid reference SX 59193 56056	Schedule 25A – MCP Schedule 25B – specified generator	1 x 1.3 MWth CHP engine	Biogas	Not restricted
	Plant 2 - Location 10 [10 on site plan in Schedule 7] Grid reference SX 59197 56047	Schedule 25A – MCP	1 x 1.6 MWth back up boiler	Biogas	50 hours only for testing and maintenance

Table S1.2 Operating techniques for waste activities		
Description	Parts	Date Received
Application	Sections 5a, 5b & 5d, of the application document in response to section 5a – technical standards, Part B of the application form.	19/03/2010
Response to Regulation 61 Notice dated 29/06/2021	Response to Regulation 61 Notice, with following document references: - Operational activities - Drainage plan	Received 27/09/2021
Response to Regulation 61 Notice dated 29/06/2021	Response to Regulation 61 Notice, with following document references: Regulation 61 checklist (revised)	Received 20/12/2021
Response to Schedule 5 Notice dated 08/10/2021	Odour Management Plan reference: Odour Management Plan Langage Farm v6 04/01/2022	04/01/2022

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
Improvement condition for primary and secondary containment infrastructure design		
Activity reference Anaerobic Digestion - IC1	Undertake an inspection and works programme to ensure that all primary and secondary containment is fit for purpose which shall include: (a) an assessment and inspection of all primary containment, using a Written Scheme of Examination devised and undertaken by an appropriately qualified engineer (b) an assessment and inspection of all secondary containment against the standards set out in CIRIA 736 shall be done by a competent structural engineer (c) written reports of the findings of a) and b) (improvement condition 1) shall be submitted to the Environment Agency. Where the reports do not demonstrate that critical primary and secondary containment is fit for purpose, the reports shall contain detailed proposals to bring the containment up to the required standards including timescales for the implementation of (individual measures or “the measures”) or shall propose alternative appropriate measures to ensure all polluting materials will be contained on site. (d) where it contains proposals for works, the report recommendations shall be implemented by the operator in accordance with the Environment Agency’s written approval.	16/03/2024 or other date as agreed in writing with the Environment Agency (2 years from permit issue)
Activity reference Anaerobic Digestion – IC2	The operator shall submit a written ‘primary and secondary containment plan’ to the Environment Agency for written approval. The plan shall contain the results of a review conducted by a competent person and shall assess the extent, design specification and condition of the primary and secondary containment systems for all areas where polluting liquids and solids are being stored, treated, and/or handled. The plan shall detail the storage vessels, bunds, loading and unloading areas, transfer pipework/pumps, temporary storage areas and liners underlying the site.	16/03/2024 or other date as agreed in writing with the Environment Agency (2 years from permit issue)

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
Improvement condition for operational storage capacity		
Activity reference Anaerobic Digestion – IC3	The operator shall review operational contingency storage arrangements for digestate and provide the Environment Agency with a copy of the operational contingency storage arrangements for the Environment Agency's written approval. When the demand for the digestate by end users is reduced, the operator shall have documented procedures, contingency plans in place and implement these to store and manage digestate. The operational plans and contingency storage procedures shall be implemented by the operator in accordance with the Environment Agency's written approval.	16/03/2024 or other date as agreed in writing with the Environment Agency (2 years from permit issue)
Improvement condition for review of abatement plant design		
Activity reference Anaerobic Digestion – IC4	The operator shall submit to the Environment Agency a written report that details the original design of the site ventilation system and abatement plant. The report shall include but not be limited to: - Original design specification of ventilation and abatement systems by suitably qualified named engineers detailing commission and sign-off. - Current ventilation design performance criteria for effective emission control including but not limited to odours. - A review of current ventilation, abstraction and treatment of foul air and emission ensuring the original design remains fit for purpose. - Design alarms and triggers for each relevant scenario to alert the operator to the malfunction of both ventilation and abatement systems. - The report should further list all relevant contingency mitigation actions to minimise risk of elevated odour pollution from the operation linked to each malfunction scenario and detail the actions to restore systems to normal operating conditions for effective odour control.	16/03/2024 or other date as agreed in writing with the Environment Agency (2 years from permit issue)
Improvement condition for review of effectiveness of abatement plant		
Activity reference Anaerobic Digestion – IC5	- Following completion of IC4, the operator shall carry out a review of the abatement plant on site, in order to determine that it remains fit for purpose and limits emissions and pollution including but not limited to odour. - The operator shall submit a written report to the Environment Agency following this review for assessment and approval. The report shall include but not limited to the following aspects: - A plan of the permitted area detailing all point source releases. - Full investigation and characterisation of the waste gas streams. - Abatement stack monitoring results (not limited to odour and ammonia)	16/03/2024 or other date as agreed in writing with the Environment Agency (2 years from permit issue)

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	- Abatement process monitoring results (not limited to odour and ammonia) - Odour monitoring results at the site boundary - Records of odour complaints and odour related incidents c) Review the Air Quality Quantitative Impact Assessment that was submitted in the original application to ensure that original assumptions made on application remain relevant. Where the original assumptions were incorrect or exceeded, the operator shall submit a new Air Quality Quantitative Impact Assessment. Including but not limited to modelling and a proposal for site-specific “emission limits” (not limited to odour concentration, hydrogen sulphide and ammonia). d) where a), b), and c) demonstrate the original emission assumptions were incorrect the operator shall submit for approval recommendations for improvement including the replacement or upgrading the abatement plant - Timescales for implementation of improvements to the abatement plant as approved by the Environment Agency.	
Improvement condition for assessment of methane slip from incomplete combustion of biogas		
Activity reference Anaerobic Digestion – IC6	a) The operator shall establish the methane emissions in the exhaust gas from engines burning biogas. b) The operator shall compare the findings for the methane emissions in the engines burning biogas against the manufacturer’s specification and expected performance levels and provide the Environment Agency with a copy of the findings, manufacturer’s specification and proposals to reduce methane slip for the Environment Agency’s written approval. c) The operator shall identify measures to reduce methane slip from engines, where practicable, and implement the measures in accordance with the Environment Agency’s written approval.	16/03/2024 or other date as agreed in writing with the Environment Agency (2 years from permit issue)

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Safe storage of activated carbon	As per manufacturer's instructions

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 20,000 tonnes. Daily capacity shall be compatible with the design of the plant.
Exclusions	Wastes having any of the following characteristics shall not be accepted: • biodegradable wastes that is significantly contaminated with non-compostable or digestible contaminants, in particular plastic and litter shall be no more than 5% w/w and shall be as low as reasonably practicable by 31 December 2025. • wastes containing wood-preserving agents or other biocides and post-consumer wood • wastes containing persistent organic pollutants • wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Alien Species (Enforcement and Permitting) Order 2019 (formerly the EU Invasive Alien Species legislation) • pest infested waste • 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.
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 02	animal tissue waste
02 01 03	plant tissue waste
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 01	sludges from washing and cleaning peeling, centrifuging and separation including wash waters and sludges from secondary food processing or the cook chill sector
02 02 02	animal tissue waste
02 02 03	materials unsuitable for consumption or processing- including animal gut contents
02 02 04	sludges from on-site effluent treatment including sludges from gelatine production
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation (including sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 20,000 tonnes. Daily capacity shall be compatible with the design of the plant.
Exclusions	Wastes having any of the following characteristics shall not be accepted: • biodegradable wastes that is significantly contaminated with non-compostable or digestible contaminants, in particular plastic and litter shall be no more than 5% w/w and shall be as low as reasonably practicable by 31 December 2025. • wastes containing wood-preserving agents or other biocides and post-consumer wood • wastes containing persistent organic pollutants • wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Alien Species (Enforcement and Permitting) Order 2019 (formerly the EU Invasive Alien Species legislation) • pest infested waste • 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.
Waste code	Description
02 03 04	materials unsuitable for consumption or processing (including waste from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 03 05	sludges from on-site effluent treatment (including sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 04	wastes from sugar processing
02 04 03	sludges from on-site effluent treatment
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing - biodegradable wastes derived from the processing of dairy products only
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing - biodegradable wastes from the processing of materials used in baking and confectionary
02 06 03	sludges from on-site effluent treatment - sludges from the processing of materials used in baking and confectionary
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning, and mechanical reduction of raw materials - biodegradable wastes from the processing of the raw materials used in the production of such beverages only (wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))
02 07 02	wastes from spirits distillation - malt husks, malt sprouts, yeast and yeast-like residues, sludge from production process, or malt husks, malt sprouts, yeasts and yeast-like residues only
02 07 04	materials unsuitable for consumption or processing biodegradable wastes from the processing of the raw materials used in the production of such beverages only (wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 20,000 tonnes. Daily capacity shall be compatible with the design of the plant.
Exclusions	Wastes having any of the following characteristics shall not be accepted: • biodegradable wastes that is significantly contaminated with non-compostable or digestible contaminants, in particular plastic and litter shall be no more than 5% w/w and shall be as low as reasonably practicable by 31 December 2025. • wastes containing wood-preserving agents or other biocides and post-consumer wood • wastes containing persistent organic pollutants • wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Alien Species (Enforcement and Permitting) Order 2019 (formerly the EU Invasive Alien Species legislation) • pest infested waste • 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.
Waste code	Description
02 07 05	sludges from on-site effluent treatment - sludges from the production of alcoholic and non- alcoholic beverages (except coffee, tea and cocoa)
16	Wastes not otherwise specified in the list
16 10	aqueous liquid wastes destined for off-site treatment
16 10 02	untreated wash waters from cleaning fruit and vegetables
16 10 02	milk and dairy waste from agricultural premises only
16 10 02	liquor and leachate from a composting process that accepts waste input types listed in this table only
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed waste types composed from waste listed in this table, Table S2.2, only
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 03	other municipal wastes
20 03 02	waste from markets - allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

Table S2.3 Permitted waste types and quantities for waste transfer station	
Maximum quantity	Annual throughput shall not exceed 20,000 tonnes.
Exclusions	Wastes having any of the following characteristics shall not be accepted: • biodegradable wastes that is significantly contaminated with non-compostable or digestible contaminants, in particular plastic and litter shall be no more than 5% w/w and shall be as low as reasonably practicable by 31 December 2025. • wastes containing wood-preserving agents or other biocides and post-consumer wood • wastes containing persistent organic pollutants • wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Alien Species (Enforcement and Permitting) Order 2019 (formerly the EU Invasive Alien Species legislation) • pest infested waste • 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.
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 02	animal tissue waste
02 01 03	plant tissue waste
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 01	sludges from washing and cleaning peeling, centrifuging and separation including wash waters and sludges from secondary food processing or the cook chill sector
02 02 02	animal tissue waste
02 02 03	materials unsuitable for consumption or processing - including animal gut contents
02 02 04	sludges from on-site effluent treatment including sludges from gelatine production
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation (including sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 03 04	materials unsuitable for consumption or processing (including waste from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 03 05	sludges from on-site effluent treatment (including sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only)
02 04	wastes from sugar processing
02 04 03	sludges from on-site effluent treatment
02 05	wastes from the dairy products industry

Table S2.3 Permitted waste types and quantities for waste transfer station	
Maximum quantity	Annual throughput shall not exceed 20,000 tonnes.
Exclusions	Wastes having any of the following characteristics shall not be accepted: • biodegradable wastes that is significantly contaminated with non-compostable or digestible contaminants, in particular plastic and litter shall be no more than 5% w/w and shall be as low as reasonably practicable by 31 December 2025. • wastes containing wood-preserving agents or other biocides and post-consumer wood • wastes containing persistent organic pollutants • wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Alien Species (Enforcement and Permitting) Order 2019 (formerly the EU Invasive Alien Species legislation) • pest infested waste • 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.
Waste code	Description
02 05 01	materials unsuitable for consumption or processing - biodegradable wastes derived from the processing of dairy products only
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing - biodegradable wastes from the processing of materials used in baking and confectionary
02 06 03	sludges from on-site effluent treatment - sludges from the processing of materials used in baking and confectionary
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning, and mechanical reduction of raw materials - biodegradable wastes from the processing of the raw materials used in the production of such beverages only (wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))
02 07 02	wastes from spirits distillation - malt husks, malt sprouts, yeast and yeast-like residues, sludge from production process, or malt husks, malt sprouts, yeasts and yeast-like residues only
02 07 04	materials unsuitable for consumption or processing biodegradable wastes from the processing of the raw materials used in the production of such beverages only (wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa))
02 07 05	sludges from on-site effluent treatment - sludges from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste

Table S2.3 Permitted waste types and quantities for waste transfer station	
Maximum quantity	Annual throughput shall not exceed 20,000 tonnes.
Exclusions	Wastes having any of the following characteristics shall not be accepted: • biodegradable wastes that is significantly contaminated with non-compostable or digestible contaminants, in particular plastic and litter shall be no more than 5% w/w and shall be as low as reasonably practicable by 31 December 2025. • wastes containing wood-preserving agents or other biocides and post-consumer wood • wastes containing persistent organic pollutants • wastes containing Japanese Knotweed or other invasive plant species listed in the Invasive Alien Species (Enforcement and Permitting) Order 2019 (formerly the EU Invasive Alien Species legislation) • pest infested waste • 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.
Waste code	Description
20 03	other municipal wastes
20 03 02	waste from markets - allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Existing medium combustion plant which are engines fuelled on biogas (1 MW to 5 MW)						
Location 1 [1 on site plan in Schedule 7]	CHP engine 1 stack [note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Average over sample period	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m ³ [note 2]			BS EN 14791
		Sulphur dioxide	162 mg/m ³ [note 3]			
		Sulphur dioxide	107 mg/m ³ [note 4]			
		Carbon monoxide	1400 mg/m ³			BS EN 15058
		Total VOCs including methane	1000 mg/m ³	--	--	BS EN 12619
Monitoring boilers burning gas operational (1MW to 5 MW)						
Location 10 [10 on site plan in Schedule 7]	Boiler stack burning biogas] [note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	250 mg/m ³ [note 3]	Average over sample period (1 hour)	Annual	BS EN 14792
			200 mg/m ³ [note 3]			
		Sulphur dioxide				BS EN 14791
Monitoring is undertaken in accordance with Monitoring stack emissions: environmental permits (formerly M2) and monitoring is undertaken in accordance with guidance 'Monitoring Stack emissions: low risk MCPs and specified generators (formerly M5)'. 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 – This emission limit applies to new combustion plant.						
Open biofilter						
Location 2 [2 on site plan in Schedule 7] – Biofilter for Anaerobic	Channelled emissions such as odour abatement stack or vent(s)	Hydrogen sulphide	Action levels to be agreed on completion of IC5 as approved in writing by the	Average over sample period	Every 6 months or as agreed in writing by the Environment Agency.	CEN TS 13649 for sampling NIOSH 6013 for analysis

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
Digestion facility and Location 4 [4 on site plan in Schedule 7] – Biofilter for waste transfer station			Environment Agency.			
		Ammonia	Action levels to be agreed on completion of IC5 as approved in writing by the Environment Agency.	Average over sample period	Every 6 months or as agreed in writing by the Environment Agency.	EN ISO 21877
		Odour concentration	Action levels to be agreed on completion of IC5 as approved in writing by the Environment Agency.	--	Every 6 months or as agreed in writing by the Environment Agency.	BS EN 13725

Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
Soakaway on site drainage plan in schedule 7	Uncontaminated site source water from roofs and non operational areas	No parameter set	No limit set	--	Weekly	Visual assessment

Table S3.3 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications	
Digester feed (digestion process)	pH	As described in 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				

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	Volatile fatty acids concentration			
	Ammonia			
	Liquid /foam level			
Biogas	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 ₂	Continuous	None specified	
	O ₂	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			
Digester(s) and storage tank(s)	Integrity checks	Weekly	Visual assessment	--
Digester(s)	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 technical specification	In accordance with design specification and tank integrity checks.
Waste reception building or area; Digester(s) and storage tank(s)	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
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 stack(s)	VOCs including methane	Annually	BS EN 12619	Total annual VOCs emissions from the CHP engine(s) 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	Conditions to be recorded in operational diary and records. Equipment shall be calibrated on a 4 monthly basis, in accordance with manufacturer's recommendations or as agreed in writing by the Environment Agency.
Auxilliary flare usage	Operating hours	Continuous	Recorded duration and frequency.	Date, time and duration of use of auxiliary flare shall be recorded.

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	Quantity of gas sent to emergency flare		Recording using a SCADA system or similar system	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 – continuous monitoring	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.
	Inspection, maintenance, calibration, repair and validation	Following foaming or over topping or at 3 yearly intervals whichever is sooner	Written scheme of examination	- After a foaming event or sticking, build-up of debris, obstructions or damage - Operators must ensure that PRV function remains within designed operation gas pressure in accordance with the manufacturer's design by suitably trained and qualified personnel. Requirements as for maintenance.
	Inspection calibration and validation report	In accordance with design and construction specifications or after over topping or foaming event		
Primary containment and tank integrity	Tank integrity	Daily operational records of capacity and storage	Inspect tank integrity in accordance with the design specification	Assess sediment build up and remove sediment as appropriate. From the date of commission inspect the tank and carry out a non-destructive pressure testing integrity assessment 5

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
				yearly or as specified by the manufacturers technical specification, whichever is more frequent.
Gas pressure	Digesters storage tank(s) and gas delivery systems	Biogas release and operational events	Within plant design	Continuous
Odour abatement plant				
Open biofilters				
Biofilter – AD activity Location 2 [2 on site plan in Schedule 7] and Biofilter – waste transfer activity Location 4 [4 on site plan in Schedule 7]	Surface condition (signs of vegetation and channelling)	Daily	Visual assessment	Odour abatement plant shall be regularly checked and maintained to ensure appropriate temperature and moisture content.
	Gas temperature – inlet	Daily	Temperature probe / Traceable to national standards	
	Biofilter media moisture	Daily	Moisture meter or recognised industry method	Odour abatement plant shall be managed in accordance with permit condition 3.3, the odour management plan and manufacturer's recommendations.
	Thatching /compaction	Weekly	Back pressure	
	Gas flow rate and composition – inlet and outlet	Continuous	Gas flow meter / EN 16911-1 and MID for EN 16911-1	
	pH (biofilter drainage effluent)	Daily	pH metre	Equipment shall be calibrated on a 4 monthly basis, or as agreed in writing by the Environment Agency.
	Efficiency assessment	Annual	Media health, air-flow distribution and emission removal efficiency (BS EN 13725 for odour removal)	
	Hydrogen sulphide – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.		Action levels to be agreed on completion of IC5 as approved in writing by the

Table S3.3 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
				Environment Agency.
	Ammonia – inlet	Every 6 months or as agreed in writing by the Environment Agency.		Action levels to be agreed on completion of IC5 as approved in writing by the Environment Agency.
	Odour concentration – inlet and outlet gas stream	Every 6 months or as agreed in writing by the Environment Agency.	BS EN 13725	Action levels to be agreed on completion of IC5 as approved in writing by the Environment Agency.

Table S3.4 Bioaerosols monitoring requirements – ambient monitoring ^{Note 3}					
Location or description of point of measurement	Parameter	Bioaerosols action levels (CFU m ⁻³)	Monitoring frequency	Monitoring standard or method	Other specifications
Upwind of the operational area, as described in the Technical Guidance Note M9	Total bacteria	1000 ^{Note 1}	Quarterly for the first year of operation and twice a year thereafter, unless another frequency is agreed in writing by the Environment Agency ^{Note 2}	In accordance with Technical Guidance Note M9 – Environmental monitoring of bioaerosols at regulated facilities.	As described in the Technical Guidance Note M9, including all the additional data requirements specified therein.
Downwind of the operational area, as described in the Technical Guidance Note M9	Aspergillus Fumigatus	500 ^{Note 1}			
Note 1 – The bioaerosols action levels are only applicable at downwind sampling locations equivalent to the distance of the nearest sensitive receptor. Where these action levels are elevated, the operator must take action to mitigate the impact on sensitive receptors. Assessment of compliance will be based on risk and in line with guidance. Note 2 – Where the bioaerosols action levels are exceeded, then monitoring remain quarterly until such time that it is demonstrated that the site has adequate mitigation for a 12 month period. Note 3 – The monitoring requirements in Table S3.4 is only required if there are sensitive receptors within 250m of site operations, as specified in Schedule 6 – Interpretation, and where the bioaerosol risk assessment shows that monitoring is required.					

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air from combustion plant Parameters as required by condition 3.5.1.	Location 1 (CHP) and 10 (boiler)	Every 12 months	1 January
Emissions to air from odour abatement plant Parameters as required by condition 3.5.1.	Location 2 (biofilter for AD facility) and 4 (biofilter for transfer building)	Every 6 months	1 January, 1 July
Process monitoring Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.3	Every 12 months	1 January
Total annual VOCs emissions from gas engines (calculated)	As specified in schedule 3 table S3.3	Every 12 months	1 January
Digester tank integrity	In accordance with schedule 3 table 3.3	5-yearly from the date of commission or as per the manufacturer's recommendation, whichever is sooner	1 January
Under and over pressure relief systems	In accordance with schedule 3 table 3.3	Yearly summary report of over-pressure and under-pressure events detailing mass balance release	1 January
Leak detection and repair	In accordance with schedule 3 table 3.3	Yearly summary	1 January
Use of auxiliary flare and burning surplus gas	In accordance with schedule 3 table 3.3	Yearly summary report	1 January
Bioaerosols monitoring Parameters as required by condition 3.5.1	As specified in schedule 3 table S3.4	Every 3 months or as agreed in writing by the Environment Agency	1 January, 1 April, 1 July, 1 October
Waste and output returns	In accordance with condition 4.2.4, 4.2.5 and 4.2.6	Quarterly – within one month of the end of each quarter	1 January, 1 April, 1 July, 1 October
Non-compostable contamination removal efficiency Parameters as required by conditions 4.2.6		Every 12 months Yearly report of detailing contamination removal efficiency	

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
		and progress with plastic reduction contamination	
Medium combustion plant and generators		Each year on 31 January detailing date commissioned location, serial number and thermal input for each unit as detailed in Appendix A. New plant must be notified in accordance with condition 4.3.7	

Table S4.2 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Emissions to Air Reporting Form or other form as agreed in writing by the Environment Agency	03/11/2021
Bioaerosols	As specified in the Technical Guidance Note M9 or other form as agreed in writing by the Environment Agency	--
Process monitoring	Process Monitoring Form version 1 or other form as agreed in writing by the Environment Agency	03/11/2021
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--
Medium combustion plant and generators	Appendix A	--

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, 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.

“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.

“Annex I” means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Annex II” means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“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.

“bioaerosols action levels” mean the acceptable bioaerosols concentrations at the nearest sensitive receptor, or at an equivalent distance downwind of the biowaste treatment operations, which are attributable to the biowaste treatment operations. The acceptable concentrations are respectively 1000 and 500 CFU m⁻³ for total bacteria and *Aspergillus fumigatus*. Where these action levels are elevated, the operator must take action to mitigate the impact on sensitive receptors.

“Biodegradable” means a material is capable of undergoing biological anaerobic or aerobic degradation leading to the production of CO₂, H₂O, 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.

“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.

“nearest sensitive receptors” means the nearest place to the permitted activities where people are likely to be for prolonged periods. This term would therefore apply to dwellings (including any associated gardens) and to many types of workplaces. We would not normally regard a place where people are likely to be present for less than 6 hours at one time as being a sensitive receptor. The term does not apply to those controlling the permitted facility, their staff when they are at work or visitors to the facility, as their health is covered by Health and Safety at Work legislation, but would apply to dwellings occupied by the family of those controlling the facility.

“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.

“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” is 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, waterborne preservatives, organic-based preservatives, boron and organo-metallic based preservatives, boron and halogenated flame retardants and surface treatments (including paint and veneer)

“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.

“year” means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, table S2.2 and S2.3, for those tables, they have the meaning given below:

“hazardous substance” means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008.

“heavy metal” means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances.

“PCBs” means

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight.

“transition metals” means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances.

“stabilisation” means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste.

“solidification” means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste.

“partly stabilised wastes” means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

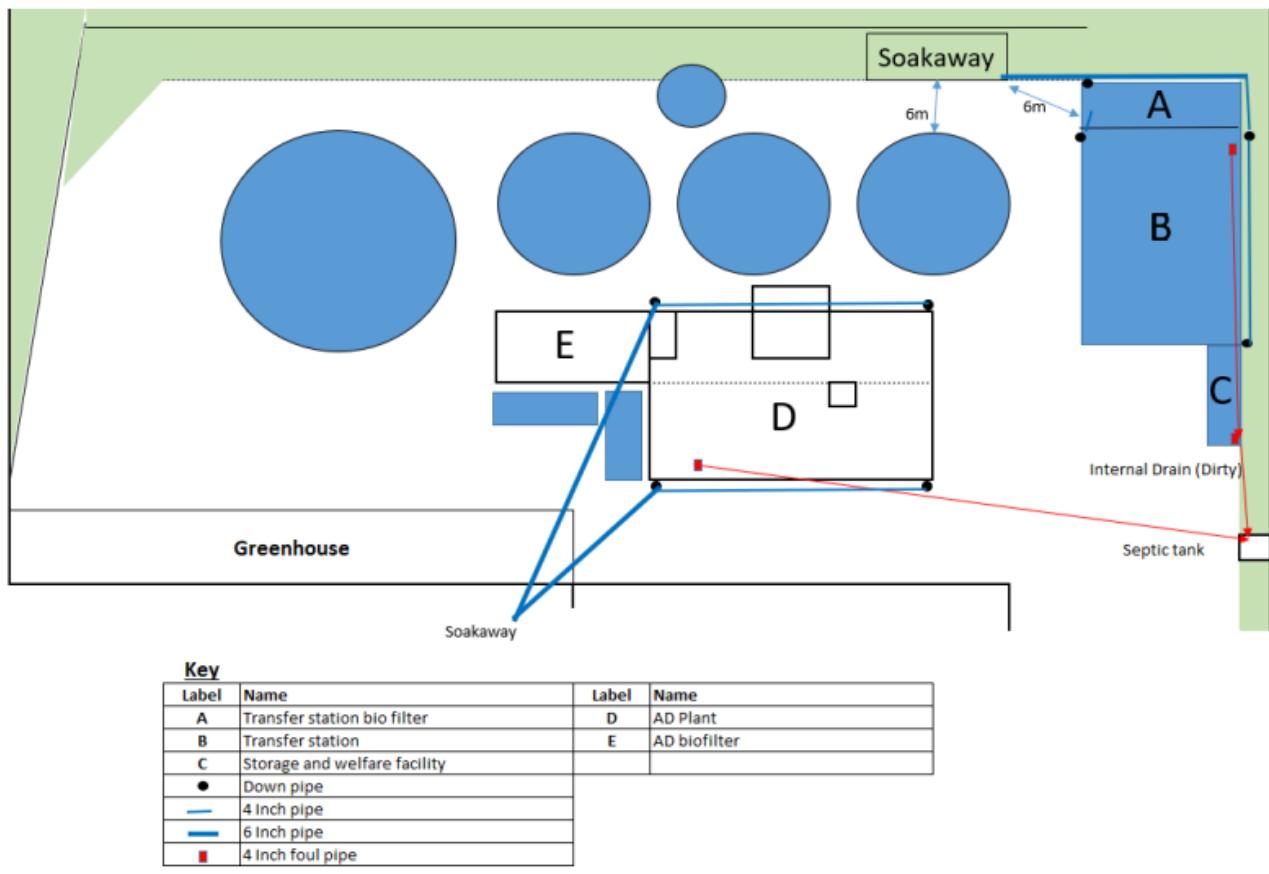
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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.

[illegible]

LOCATION	DESCRIPTION	EMISSION
A – Transfer station building AD plant building	Operational activity	Fugitive odour
B – AD plant building	Operational activity	Fugitive odour
1 – Engine container	CHP exhaust	Biogas combustion
2 – Biofilter AD plant	Media filled biofilter	Air extraction from building
3 – Tank 4 digestate store	Waste gas flare	Biogas combustion
4 – Biofilter transfer station	Media filled biofilter	Air extracted from building
5 – Tank 3 digester	Pressure relief valve	Biogas
6 – Tank 2 digester	Pressure relief valve	Biogas
7 – Tank 1 digester	Pressure relief valve	Biogas
8 – Transfer station roller door	Door to building	Fugitive emissions
9 – AD plant roller door	Door to building	Fugitive emissions
10 – Boiler container	Backup gas boiler	Biogas combustion



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