

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Lanes Farm Energy Limited

Lanes Farm AD Energy Facility

Lanes Farm

Pontefract Road

Ackworth

WF7 7DX

Permit number

EPR/NP3338DJ

Lanes Farm AD Energy Facility

Permit number EPR/NP3338DJ

Introductory note

This introductory note does not form a part of the permit

This permit is for Lanes Farm Energy Limited to operate a mesophilic wet anaerobic digestion (AD) plant at Lanes Farm AD Energy Facility, with a capacity of up to 80,000 tonnes per annum, permitted under the following Schedule 1 activity:

S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.

The site is located approximately 0.8 km to the south of Ackworth, 1.5 km north east of Hemsworth and 1.5 km west of the village of Badsworth. The new AD plant is to be located on agricultural land approximately 130 m to the east of the existing farm buildings at Lanes Farm. The closest residential properties that are not connected with the farm are three properties located on the farm access road to the west of Lanes Farm. Further properties are located within 800 m of the site, including a primary school. Fitzwilliam Country Park, which is a local wildlife site and a local nature reserve is located 1.9 km from the site. There is also an ancient woodland 975 m from the site. There are no designated habitat sites within 10 km of the site. The installation is not within an Air Quality Management Area.

The AD plant will operate on a co-digestion basis with both solid and liquid food waste, manures and purpose-grown crops. The operator will seek approval from the Animal and Plant Health Agency (APHA) in accordance with the Animal By-Products Regulations (ABPR). The operator intends producing digestate that will meet the PAS110 standard to allow it to be used as a biofertilizer product, under the Biofertiliser Certification Scheme (BCS). This environmental permit does not authorise the spreading of waste and/or non-waste digestate on any land.

The resultant biogas from the AD process will be upgraded to biomethane (using a gas upgrading system) which will be blended with around 5% propane in order to meet the local target calorific value and then injected into the National Grid via a Grid Entry Unit on site. A proportion of the upgraded biogas will be used in a combined heat and power (CHP) engine after passing through a carbon filter. The CHP electricity and heat generated will be used to power the AD plant equipment and to heat the digesters. A natural gas boiler is also present to supplement the additional heating requirements.

The main releases to air will be from the biogas upgrading plant, CHP engine, boiler and emergency flare. Biogas will be burnt in the emergency flare in the event of breakdown and/or maintenance of the biogas upgrading plant and CHP engine. The only emission to water is the clean surface water from roofs, and from areas of the site that are not being used in connection with storing or treating waste and purpose grown feedstocks. The collected surface water passes through an attenuation pond and separator which will remove any oil or silt prior to release.

Emissions will be controlled through site design and operation in accordance with Best Available Techniques (BAT), and regular monitoring and assessment of monitoring data. Key design areas of the facility in relation to BAT include:

- Waste reception within an enclosed building including fast-acting shutter doors for odour control
- Treatment of emissions to air from the waste reception building and process tanks through an activated carbon filter Odour Control Unit (OCU) with 12 m stack, with the system being designed to meet BAT Associated Emission Levels (AELs) for ammonia and odour concentration.
- All storage and process tanks will be located on an impermeable surface with sealed construction joints within a bunded area of at least 110% of the largest vessel.
- Noise mitigation measures to limit the impact of noise at local receptors.

- CHP, boiler and emergency flare specified to meet relevant emissions limits
- Emergency systems and operational proposals for abnormal operating conditions and emergencies

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

| Status log of the permit | | |
|---|-------------------------|---|
| Description | Date | Comments |
| Application EPR/NP3338DJ/A001 | Duly made 07/06/2019 | Application for an anaerobic digestion facility with combustion of biogas and injection of gas to grid. |
| Additional information received | 07/06/2019 | Includes updated EMS summary, Site Layout Plan, revised Air Quality Assessment (v2), Site Condition Report, Site Layout Plan, BAT Assessment and Details of Drainage. |
| Additional information received | 17/06/2019 | Draft EMS procedures, Waste and Resource Management Plan (v4), Accident Management Plan (v2), revised BAT assessment. |
| Additional information received | 15/07/2019 | Noise Assessment and Noise Management Plan |
| Additional information received | 22/07/2019 | Details of waste acceptance including poultry litter, glycerol, and de-packaging, odour control and odour assessment, secondary containment of pipework and leak detection. |
| Additional information received | 04/09/2019 | Odour Management Plan v9, details on the specification and operation of the Odour Control Unit. |
| Permit determined EPR/NP3338DJ/A001 (EPR Billing reference - NP3338DJ) | 01/10/2019 | Permit issued to Lanes Farm Energy Limited. |

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/NP3338DJ

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

Lanes Farm Energy Limited (“the operator”),

whose registered office is

Link 606 Office Park

Staithgate Lane

Bradford

Yorkshire

BD6 1YA

company registration number 10036182

to operate an installation at

Lanes Farm AD Energy Facility

Lanes Farm

Pontefract Road

Ackworth

WF7 7DX

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

| Name | Date |
|--------------------|-------------------|
| Philip Lamb | 01/10/2019 |

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

1.2.1 The operator shall:

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

1.3 Efficient use of raw materials

1.3.1 The operator shall:

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

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

1.4.1 The operator shall take appropriate measures to ensure that:

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

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

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 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.
- 2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

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

3.4 Noise and vibration

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

3.5 Pests

- 3.5.1 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.
- 3.5.2 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;

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

3.6 Monitoring

- 3.6.1 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; and
 - (b) process monitoring specified in table S3.3.
- 3.6.2 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.
- 3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.6.4 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.

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.

4.3 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 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.

4.3.4 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.

4.3.5 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.

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

4.4 Interpretation

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

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

Schedule 1 – Operations

| Table S1.1 activities | | | |
|-------------------------------------|--|---|--|
| Activity reference | Activity listed in Schedule 1 of the EP Regulations | Description of specified activity and WFD Annex I and II operations | Limits of specified activity and waste types |
| AR1 | S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment. | R3: Recycling/reclamation of organic substances which are not used as solvents | <p>From receipt of waste through to digestion and recovery of by-products (digestate).</p> <p>Anaerobic digestion of waste in 4 tanks followed by burning of biogas produced from the process.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p> <p>Daily treatment of hazardous waste (EWC 07 01 08*) shall not exceed 10 tonnes per day.</p> |
| Directly Associated Activity | | | |
| AR2 | Storage of waste pending recovery or disposal | R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced) | <p>From the receipt of permitted waste to pre-treatment and despatch for anaerobic digestion on site.</p> <p>Storage of residual wastes from pre-treatment to despatch off-site for recovery or disposal.</p> <p>Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with sealed drainage.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p> <p>Storage of hazardous waste (EWC 07 01 08*) shall not exceed 50 tonnes at any one time, and shall be stored within tank BV02.</p> |

| Table S1.1 activities | | | |
|------------------------------|--|--|---|
| Activity reference | Activity listed in Schedule 1 of the EP Regulations | Description of specified activity and WFD Annex I and II operations | Limits of specified activity and waste types |
| AR3 | Physical treatment for the purpose of recycling | R3: Recycling/reclamation of organic substances which are not used as solvents | <p>From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery.</p> <p>Pre-treatment of waste in enclosed building and on impermeable surface with sealed drainage system including mixing and maceration.</p> <p>Heat treatment (pasteurisation) of waste in 6 tanks for the purpose of recovery.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p> |
| AR4 | Steam and electrical power supply | R1:Use principally as a fuel to generate energy | <p>From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases.</p> <p>Combustion of biogas in 1 combined heat and power CHP engine with an aggregated thermal input of 1.22 MWth.</p> <p>Combustion of natural gas in 1 auxiliary boiler with an aggregated thermal input of 1.4 MWth.</p> |
| AR5 | Emergency flare operation | D10: Incineration on land | <p>From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases.</p> <p>Use of 1 auxiliary flare required only during periods of breakdown or maintenance of the CHP engine or biogas upgrading plant.</p> |

| Table S1.1 activities | | | |
|------------------------------|--|---|--|
| Activity reference | Activity listed in Schedule 1 of the EP Regulations | Description of specified activity and WFD Annex I and II operations | Limits of specified activity and waste types |
| AR6 | Gas upgrading | Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and Volatile organic compounds) for injection into the National Grid. | From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National Grid. This includes return of off-specification biogas for combustion to the on-site CHP engine, auxiliary boiler and/or emergency flare. |
| AR7 | Raw material storage | Storage of raw materials including lubrication oil, antifreeze, propane, ferric chloride, activated carbon, diesel. | From the receipt of raw materials to despatch for use within the facility. |
| AR8 | Gas storage | R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) | Storage of biogas produced from on-site anaerobic digestion of permitted waste in roof space of digesters. From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility. |
| AR9 | Digestate storage | R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) | From the receipt of processed uncertified digestate produced from the on-site anaerobic digestion process to despatch for use off-site. Storage of processed uncertified liquid digestate in 1 lagoon. Storage of processed uncertified solid digestate in covered bays. |
| AR10 | Surface water collection and storage | Collection and storage of uncontaminated roof and site surface water in 1 attenuation pond, and discharge to local ditch. | From the collection of uncontaminated roof and site surface water from non operational areas only to re-use within the facility or discharge off-site. |
| AR11 | Air treatment | Collection and treatment of air from the buildings and tanks using Odour Control Unit, carbon filter based abatement system, prior to release to atmosphere. | From the collection of air from site waste acceptance building and processes to treatment and release of treated air to atmosphere. |

| Table S1.2 Operating techniques | | |
|---|--|----------------------|
| Description | Parts | Date Received |
| Application | <ul style="list-style-type: none"> Sections 1.2, 1.4, 1.6 and 1.8 of the application document in response to section 3a – technical standards, Part B of the application form. Best Available Techniques as described in BAT conclusions for Waste Treatment (Commission Implementing Decision (EU) 2018/1147 of 10 August 2018) and additional guidance for: Anaerobic Digestion, Reference LIT 8737, 2013. Energy Report 15-LFE Drainage Management Plan 16-LFE Environmental Management System summary 11-LFE Site Condition Report 8-LFE, and Site Investigation information Drainage Design Plan Site Layout Plan1187-AQU-ZZ-XX--DR-M-1010_P4, dated 23/05/19 BAT Assessment 9-LFE Accident Management Plan (v2) reference 12-LFE Water and Resources Management Plan 17-LFE | 07/06/2019 |
| Response to Schedule 5 Notice | <ul style="list-style-type: none"> Noise Management Plan (dated 15/07/2019) | 18/07/2019 |
| Response to Schedule 5 Notice | <ul style="list-style-type: none"> Response to question 1, 2 and 3 detailing waste acceptance (poultry litter, glycerol and pre-treatment of waste). Response to Question 4 detailing appropriate design and maintenance of the Odour Control Unit. Response to Question 5 detailing the proposed odour benchmark, operations to mitigation odour and odour assessment. | 22/07/2019 |
| Email response to RFI on Odour Control Unit | <ul style="list-style-type: none"> Odour Management Plan v9. | 04/09/2019 |
| Final Site Plan | <ul style="list-style-type: none"> Site Layout Plan1187-AQU-ZZ-XX--DR-M-1010_P3, dated 19/09/19 | 19/09/2019 |

| Table S1.3 Improvement programme requirements | | |
|--|--|---|
| Reference | Requirement | Date |
| IC1 | <p>The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the releases of pollutants to air. The study shall include the monitoring of point source releases to air from the biogas upgrading plant emission point E10 during normal operation, having regard to the Environment Agency technical guidance M2 and to MCERTS standards. As a minimum, two separate monitoring campaigns in a year shall be completed (one monitoring survey six months following commissioning of the biogas upgrading plant).</p> <p>The pollutants to be monitored shall include:</p> <ul style="list-style-type: none"> total volatile organic compounds; and | 01/06/2020 or otherwise agreed in writing by the Environment Agency |

| Table S1.3 Improvement programme requirements | | |
|---|---|---|
| Reference | Requirement | Date |
| | <ul style="list-style-type: none"> hydrogen sulphide | |
| IC2 | <p>Following the completion of IC1, 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.</p> <p>The environmental impact assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> reports showing details of the monitoring undertaken and the results obtained; results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance – Air emissions risk assessment for your environmental permit a completed H1 assessment software tool <p>If the H1 assessment shows potential long or short term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified</p> | Within one month following completion of IC1. |
| IC3 | <p>The operator shall submit a performance review of the carbon filter odour abatement at the facility to the Environment Agency for approval. The performance review shall demonstrate that the abatement system is capable of ensuring odour emissions do not extend beyond the permit boundary. The operator shall also confirm the details of odour abatement plant monitoring protocols and an assessment of the abatement system against design parameters</p> | 01/06/2020 or otherwise agreed in writing by the Environment Agency |
| IC4 | <p>Following completion of IC3, if the performance review finds that the odour abatement system is insufficient in ensuring that odour emissions do not extend beyond the permit boundary, the operator shall submit to the Environment Agency for approval a detailed evaluation of alternative odour abatement techniques, proposals and timescales for the installation of an alternative odour abatement system.</p> <p>The proposals for any alternative odour abatement shall be in accordance with the requirements of the Environment Agency's guidance documents, H4 Odour Management and How to comply with your environmental permit. Additional guidance for: Anaerobic Digestion (November 2013).</p> | Within one month following completion of IC3. |
| IC5 | <p>A detailed assessment of noise shall be carried out at the facility during normal operations in accordance with BS4142:2014 (Rating industrial noise affecting mixed residential and industrial areas) and BS7445:2003 (Description and measurement of environmental noise), or other methodology as agreed with the Environment Agency, in order to validate the assessment provided within the permit application EPR/NP3338DJ/A001.</p> <p>The assessment shall consider all noise sources at the facility, including static plant and on-site vehicle movements. Where any noise sources are identified as exhibiting tonal contributions, they shall be quantified by means of frequency analysis.</p> <p>If the de-packaging equipment (or other anticipated equipment which would provide significant noise contribution) is not installed at the date of assessment, consideration shall be provided as to the additional noise contribution from this equipment.</p> <p>The results of the assessment together with conclusions and recommendations shall be submitted to the Environment Agency for approval in writing.</p> | 01/06/2020 or otherwise agreed in writing by the Environment Agency |
| IC6 | <p>Following the completion of IC5, if the assessment shows that emissions of noise and vibrations are likely to cause annoyance outside of the site</p> | Within one month following |

| Table S1.3 Improvement programme requirements | | |
|--|---|--------------------|
| Reference | Requirement | Date |
| | <p>boundary, the operator shall submit to the Environment Agency a report detailing proposals and timescales for the implementation of appropriate noise mitigation measures to ensure that site noise levels are below the background levels.</p> <p>The operator shall also update the site Noise Management Plan to ensure it is consistent with the proposals for noise mitigation and that it is a suitable tool for control of noise.</p> <p>The proposals for noise mitigation shall be in accordance with the requirements of the Environment Agency's Technical Guidance Note IPPC H3 Part 2. The proposals shall be implemented by the operator from the date of approval in writing by the Environment Agency subject to any such amendments or additions as notified by the Environment Agency.</p> | completion of IC5. |

Schedule 2 – Waste types, raw materials and fuels

| Raw materials and fuel description | Specification |
|------------------------------------|--|
| Vegetable matter (energy crops) | Substantially free of non-vegetable matter |
| Maize silage | Substantially free of non-vegetable matter |

| Maximum quantity | Annual throughput shall not exceed 80,000 tonnes |
|------------------|---|
| 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 01 06 | animal faeces, urine and manure (including spoiled straw) only |
| 02 01 07 | wastes from forestry |
| 02 01 99 | residues from commercial mushroom cultivation |
| 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 |
| 02 02 02 | animal tissue waste |
| 02 02 03 | materials unsuitable for consumption or processing |
| 02 02 04 | sludges from on-site effluent treatment |
| 02 02 99 | sludges from gelatine production, animal gut contents |
| 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 |
| 02 03 04 | materials unsuitable for consumption or processing |
| 02 03 05 | sludges from on-site effluent treatment |
| 02 03 99 | sludge from production of edible fats and oils to include seasoning residues, molasses residues, residues from production of potato, corn or rice starch |
| 02 04 | wastes from sugar processing |
| 02 04 03 | sludges from on-site effluent treatment |
| 02 04 99 | other biodegradable wastes |
| 02 05 | wastes from the dairy products industry |
| 02 05 01 | materials unsuitable for consumption or processing |
| 02 05 02 | sludges from on-site effluent treatment |

| Table S2.2 Permitted waste types and quantities for anaerobic digestion | |
|--|--|
| Maximum quantity | Annual throughput shall not exceed 80,000 tonnes |
| Waste code | Description |
| 02 06 | wastes from the baking and confectionery industry |
| 02 06 01 | materials unsuitable for consumption or processing |
| 02 06 03 | sludges from on-site effluent treatment |
| 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 |
| 02 07 02 | wastes from spirits distillation |
| 02 07 04 | materials unsuitable for consumption or processing |
| 02 07 05 | sludges from on-site effluent treatment |
| 02 07 99 | spent grains, hops and whisky filter sheets/cloths, yeast and yeast-like residues, sludge from production process |
| 07 | Wastes from organic chemical processes |
| 07 01 | wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals |
| 07 01 08* | glycerol waste from bio-diesel manufacture from non-waste vegetable oils only |
| 16 | Wastes not otherwise specified in the list |
| 16 10 | aqueous liquid wastes destined for off-site treatment |
| 16 10 02 | liquor/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 | waste types listed within this table, Table S2.2, that have been mixed together only |
| 19 02 06 | sludge types from waste listed within this table, Table S2.2, that have been heat treated only |
| 19 02 10 | glycerol not designated as hazardous i.e. excludes EWC code 19 02 08 |
| 19 06 | wastes from anaerobic treatment of waste |
| 19 06 03 | liquor from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table only) |
| 19 06 04 | digestate from anaerobic treatment of source segregated biodegradable waste (from a process that treats wastes which are listed in this table only) |
| 19 06 05 | liquor from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only) |
| 19 06 06 | digestate from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only) |
| 19 08 | wastes from waste water treatment plants not otherwise specified |
| 19 08 09 | grease and oil mixture from oil/water separation containing only edible oil and fats |
| 19 08 12 | sludges from biological treatment of industrial waste water |

| Table S2.2 Permitted waste types and quantities for anaerobic digestion | |
|--|--|
| Maximum quantity | Annual throughput shall not exceed 80,000 tonnes |
| Waste code | Description |
| 19 12 | wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified |
| 19 12 12 | waste types listed in this table, Table S2.2, that have been subjected to mechanical treatment 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 01 | mixed municipal waste – only separately collected biodegradable wastes of types listed within this table, Table S2.2 |
| 20 03 02 | waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables |

Schedule 3 – Emissions and monitoring

| Table S3.1 Point source emissions to air – emission limits and monitoring requirements | | | | | | |
|--|---|---|--------------------------|------------------|----------------------|--|
| Emission point ref. & location | Source | Parameter | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard or method |
| A1 (Point E8 on site plan 1187-AQU-ZZ-XX--DR-M-1010_P4, dated 23/05/19) | CHP engine 1 stack [note 1] | Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂) | 500 mg/m ³ | Hourly average | Annual | BS EN 14792 |
| | | Sulphur dioxide | 107 mg/m ³ | | | BS EN 14791 |
| | | Carbon monoxide | 1400 mg/m ³ | | | BS EN 15058 |
| | | Total VOCs | 1000 mg/m ³ | | | BS EN 12619:2013 |
| A2 (Point E7 on site plan 1187-AQU-ZZ-XX--DR-M-1010_P4, dated 23/05/19) | Boiler (natural gas) 1 stack | Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂) | 100 mg/m ³ | Hourly average | Annual | In accordance with TGN M5 |
| A3 (Point E9 on site plan 1187-AQU-ZZ-XX--DR-M-1010_P4, dated 23/05/19) | Emergency flare stack [note 2] | Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂) | 150 mg/m ³ | Hourly average | [note 3] | BS EN 14792 |
| | | Carbon monoxide | 50 mg/m ³ | | | BS EN 15058 |
| | | Total VOCs | 10 mg/m ³ | | | BS EN 12619:2013 |
| A4 (Point E6 on site plan 1187-AQU-ZZ-XX--DR-M-1010_P4, dated 23/05/19) | Odour Control Unit (OCU) stack | Ammonia | 20 mg/m ³ | Hourly average | Once every 6 months | In accordance with M2 – Monitoring of stack emissions to air |
| | | Odour concentration | 1,000 ouE/m ³ | -- | Once every 6 months | BS EN 13725 |
| A5 (Point E11 on site plan 1187-AQU-ZZ-XX--DR-M- | Odour Control Unit (OCU) pre-tank stack | Ammonia | 20 mg/m ³ | Hourly average | Once every 6 months | In accordance with M2 – Monitoring of stack emissions to air |

| 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 |
| 1010_P4, dated 23/05/19) | | Odour concentration | 1,000 ouE/m ³ | -- | Once every 6 months | BS EN 13725 |
| A6 (Point E10 on site plan 1187-AQU-ZZ-XX--DR-M-1010_P4, dated 23/05/19) | Biogas upgrading plant stack | No parameter set | No limit set | -- | -- | -- |
| Pressure relief valves (Points E1 to E4 on site plan 1187-AQU-ZZ-XX--DR-M-1010_P4, dated 23/05/19) | Digesters | No parameter set | No limit set | -- | Record of operating hours | -- |
| Vents from tanks | Oil/Fuel Storage tanks | No parameter set | No limit set | -- | -- | -- |
| <p>Note 1 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in section 4.5.1 of LFTGN08 v2 2010 shall apply.</p> <p>Note 2 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 3 per cent (dry gas). The measurement uncertainty specified in section 5.3.1 of LFTGN05 v2 2010 shall apply.</p> <p>Note 3 - Monitoring to be undertaken 12 months after commissioning of the emergency flare. 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.</p> | | | | | | |

| 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 |
| W1 on site plan 1187-AQU-ZZ-XX--DR-M- | Uncontaminated site surface water from roofs and | Oil or grease | No visible oil or grease | -- | Weekly | Visual assessment |

| 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 |
| 1010_P4, dated 23/05/19, release to ditch to eastern boundary. | non-operational areas | | | | | |

| 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 | | | |
| | Volatile fatty acids concentration | | | |
| | Ammonia | | | |
| | Liquid /foam level | | | |
| Biogas in digester | Flow | Continuous | In accordance with EU weights and measures Regulations | Process monitoring to be recorded using a SCADA system where relevant. Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations. |
| | Methane | Continuous | None specified | |
| | CO ₂ | Continuous | None specified | |
| | O ₂ | Continuous | None specified | |
| | Pressure | Continuous | None specified | |
| | Hydrogen sulphide | Daily | None specified | |
| Waste reception building; Digesters and storage tanks | Odour | Daily | Olfactory monitoring | Odour detection at the site boundary. |
| Digesters and storage tanks | Integrity checks | 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 |
| Odour Control Unit Carbon filtration system | Key process parameters to include pH, temperature and air flow | In accordance with manufacturer's recommendations. | None specified | <p>Odour abatement system shall be regularly checked and maintained to ensure appropriate temperature and moisture content.</p> <p>Carbon filter to be subjected to Residual Capacity testing as required.</p> <p>Carbon filter to be replaced when saturated in accordance with manufacturer's recommendations.</p> |

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 Parameters as required by condition 3.6.1. | A1, A2, A3, A4 and A5. | Every 12 months | 1 January |

| Table S4.2 Annual production/treatment | |
|---|--------------------------|
| Parameter | Units |
| Electricity generated | MWh |
| Biomethane generated | tonnes or m ³ |
| Liquid digestate | tonnes or m ³ |
| Solid digestate | tonnes |

| Table S4.3 Performance parameters | | |
|--|--------------------------------|--------------------------|
| Parameter | Frequency of assessment | Units |
| Water usage | Annually | tonnes or m ³ |
| Energy usage | Annually | MWh |
| Raw material usage | Annually | tonnes or m ³ |
| Emergency flare operation | Annually | hours |
| Electricity exported | Annually | MWh |
| Biomethane exported | Annually | tonnes or m ³ |
| 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 | DD/MM/YY |
| Water usage | Form water usage 1 or other form as agreed in writing by the Environment Agency | DD/MM/YY |
| Energy usage | Form energy 1 or other form as agreed in writing by the Environment Agency | DD/MM/YY |
| Other performance indicators | Form performance 1 or other form as agreed in writing by the Environment Agency | DD/MM/YY |
| 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, limit or prevent any pollution of the environment which has been or may be caused by the emission | |
| The dates of any unauthorised emissions from the facility in the preceding 24 months. | |

| | |
|-----------|--|
| Name* | |
| Post | |
| Signature | |
| Date | |

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“ADQP” means Anaerobic Digestion Quality Protocol

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

“animal waste” means any waste consisting of animal matter that has not been processed into food for human consumption.

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

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

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

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

“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.

“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

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

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

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

“pests” means Birds, Vermin and Insects.

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

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

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

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

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

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

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

“year” means calendar year ending 31 December.

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

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

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid fuels 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.

Schedule 7 – Site plan



END OF PERMIT

Permit Number: NP3338DJ **Operator:** Lanes Farm Energy Limited
Facility: Lanes Farm AD **Form Number:** Air1 / DD/MM/YY

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

| Emission Point | Substance / Parameter | Emission Limit Value | Reference Period | Result [1] | Test Method [2] | Sample Date and Times [3] | Uncertainty [4] |
|--|---|------------------------|------------------|------------|------------------|---------------------------|-----------------|
| New medium combustion plant which are engines fuelled on biogas | | | | | | | |
| A1 | Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) | 500 mg/m ³ | 1 hour period | | BS EN 14792 | | |
| A1 | Sulphur dioxide | 107 mg/m ³ | 1 hour period | | BS EN 14791 | | |
| A1 | Carbon monoxide | 1400 mg/m ³ | 1 hour period | | BS EN 15058 | | |
| A1 | Total VOCs | 1000 mg/m ³ | 1 hour period | | BS EN 12619:2013 | | |
| New medium combustion plant – natural gas boiler | | | | | | | |
| A2 | Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) | 100 mg/m ³ | 1 hour period | | TGN M5 | | |
| Emergency flare | | | | | | | |
| A3 | Oxides of nitrogen (NO and NO ₂ expressed as NO ₂) | 150 mg/m ³ | 1 hour period | | BS EN 14792 | | |
| A3 | Carbon monoxide | 50 mg/m ³ | 1 hour period | | BS EN 15058 | | |

| Emission Point | Substance / Parameter | Emission Limit Value | Reference Period | Result [1] | Test Method [2] | Sample Date and Times [3] | Uncertainty [4] |
|----------------------------------|-----------------------|--------------------------|------------------|------------|--|---------------------------|-----------------|
| A3 | Total VOCs | 10 mg/m ³ | 1 hour period | | BS EN 12619:2013 | | |
| Odour Control Unit stacks | | | | | | | |
| A4 | Odour Concentration | 1,000 ouE/m ³ | -- | | BS EN 13725 | | |
| A4 | Ammonia | 20 mg/m ³ | Hourly average | | In accordance with M2 – Monitoring of stack emissions to air | | |
| A5 | Odour Concentration | 1,000 ouE/m ³ | -- | | BS EN 13725 | | |
| A5 | Ammonia | 20 mg/m ³ | Hourly average | | In accordance with M2 – Monitoring of stack emissions to air | | |

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

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

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

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

Signed

Date.....

(Authorised to sign as representative of Operator)

Permit Number: NP3338DJ
Facility: Lanes Farm AD

Operator: Lanes Farm Energy Limited
Form Number: WaterUsage1 / DD/MM/YY

Reporting of Water Usage for the year

| Water Source | Usage (m ³ /year) | Specific Usage (m ³ /unit output) |
|-------------------|------------------------------|--|
| Mains water | | |
| Site borehole | | |
| River abstraction | | |
| TOTAL WATER USAGE | | |

Operator's comments:

Signed
(authorised to sign as representative of Operator)

Date.....

Permit Number: NP3338DJ
Facility: Lanes Farm AD

Operator: Lanes Farm Energy Limited
Form Number: Energy1 / DD/MM/YY

Reporting of Energy Usage for the year

| Energy Source | Energy Usage | | Specific Usage (MWh/unit output) |
|--------------------|--------------|----------------------|----------------------------------|
| | Quantity | Primary Energy (MWh) | |
| Electricity * | MWh | | |
| Natural Gas | MWh | | |
| Gas Oil | tonnes | | |
| Recovered Fuel Oil | tonnes | | |
| Biogas | tonnes | | |
| TOTAL | - | | |

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

Signed
 (Authorised to sign as representative of Operator)

Date.....

Permit Number: NP3338DJ

Operator: Lanes Farm Energy Limited

Facility: Lanes Farm AD

Form Number:

Performance1 / DD/MM/YY

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

| Parameter | Units |
|---------------------------|--------------------------|
| Total raw material used | tonnes |
| CHP engine usage | hours |
| CHP engine efficiency | % |
| Auxiliary boiler usage | hours |
| Emergency flare operation | hours |
| Electricity exported | MWh |
| Biomethane exported | tonnes or m ³ |

Operator's comments:

Signed

Date.....

(Authorised to sign as representative of Operator)