

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Kelda Organic Energy (Cardiff) Limited

Tremorfa Anaerobic Digestion Facility
Tide Fields Road
Tremorfa
Cardiff
CF24 5SB

Permit number
EPR/AB3093CA

Tremorfa Anaerobic Digestion Facility

Permit number EPR/AB3093CA

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

This permit allows the activities listed to be carried out at a 2MWe Food Waste Anaerobic Digestion (AD) Facility at Tides Fields Road, Tremorfa. The AD facility is designed to process material from the entire food chain and contribute to the diversion of food wastes from landfill. The facility will also generate 2MWe of green electricity and produce nitrate and potash rich digestate for use by local agricultural enterprises in replacement of manufactured fertiliser.

The AD facility will primarily process collected municipal food waste with an element of commercial food waste to ensure throughput efficiency. Waste processed will predominantly come from homes and businesses in the Cardiff and Vale of Glamorgan areas.

The AD process at this facility will involve the following components:

- Waste reception;
- Waste de-packaging;
- Waste storage;
- Anaerobic digestion;
- Digestate pasteurisation and storage;
- Biogas storage; and
- Energy recovery and power distribution.

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/KP3033VY/A001 | Duly made 24/09/2015 | Application for a Food Waste Anaerobic Digestion Facility. |
| Permit determined EPR/AB3093CA | 25/01/2016 | Permit issued to Kelda Organic Energy (Cardiff) Limited. |

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/AB3093CA

The Natural Resources Body for Wales (“Natural Resources Wales”) authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

Kelda Organic Energy (Cardiff) Limited (“the operator”),

whose registered office is

**Western House
Halifax Road
Bradford
West Yorkshire
BD6 2SZ**

company registration number **08356859**

to operate an installation at

**Tremorfa Anaerobic Digestion Facility
Tide Fields Road
Tremorfa
Cardiff
CF24 5SB**

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

| Name | Date |
|---|------------------------|
|  | 25 January 2016 |

Eirian Macdonald

Authorised on behalf of Natural Resources Wales

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 For the following activities referenced in schedule 1, table S1.1 (A1 to A4) 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 For the following activities referenced in schedule 1, table S1.1 (A1 to A4) 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 (a) 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 Natural Resources Wales.
- (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales 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 Natural Resources Wales.
- 2.3.2 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 or holder.
- 2.3.3 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.

- 2.3.4 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.

2.5 Pre-operational conditions

- 2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.3 have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

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

3.2 Emissions of substances not controlled by emission limits

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

3.3 Monitoring

- 3.3.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in table S3.1; and S3.2
 - (b) process monitoring specified in table S3.3.

- 3.3.2 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.
- 3.3.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.3.4 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 S3.3 unless otherwise agreed in writing by Natural Resources Wales.

3.4 Odour

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

3.5 Noise and vibration

- 3.5.1 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 Natural Resources Wales, 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.
- 3.5.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales 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 Natural Resources Wales.

3.6 Pests

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

- 3.6.2 The operator shall:
- (a) if notified by Natural Resources Wales, submit to Natural Resources Wales for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by Natural resources Wales.

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 Natural Resources Wales, 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 Natural Resources Wales.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) 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 Natural Resources Wales, 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 Natural Resources Wales, 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 Natural Resources Wales 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 (a) In the event 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 Natural Resources Wales,
 - (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) in the event of a breach of any permit condition the operator must immediately—
 - (i) inform Natural Resources Wales, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) in the event 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 Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 Natural Resources Wales 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) Natural Resources Wales 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 Natural Resources Wales 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 "without delay", 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 |
|--------------------|---|--|---|
| A1 | S5.4 Part A (1)(b)(1) | <p>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 treatment is anaerobic digestion) by biological treatment.</p> <p>R1: Use principally as a fuel or other means to generate energy.</p> <p>R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological/transformation processes).</p> <p>R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where the waste is produced).</p> | <p>The Anaerobic Digestion process will include the following key components:</p> <ul style="list-style-type: none"> • Waste reception; • Waste de-packaging; • Waste storage; • Anaerobic digestion • Digestate pasteurisation and storage; • Biogas storage; and • Energy recovery and power distribution. <p>Waste acceptance and pre-treatment will take place within an enclosed building.</p> <p>The waste reception building will be provided with fast acting roller shutter doors with air curtains provided for access and egress to aid the creation of negative air pressure conditions.</p> <p>Bulking and mixing will only take place under instruction from appropriately trained personnel.</p> <p>Exhaust air from the processing/separating and storage areas will pass through abatement prior to discharge to the atmosphere.</p> <p>Activities shall be carried out on an impermeable surface with a sealed drainage system.</p> <p>Where separated fractions do not meet the PAS 110 Quality Protocol, they will continue to be treated as wastes and the procedures for the storage of wastes will be followed.</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 |
|-------------------------------------|--|---|---|
| Directly Associated Activity | | | |
| A2 | Combined heat and power (CHP) Plant | R11: Use of waste obtained from any of the wastes listed R1 to R10. | CHP engine shall be sized at 2MWe. |
| A3 | Flare | D10: Incineration on land. | The flare is enclosed and shall burn collected biogas when the CHP plant is unavailable. The enclosed biogas flare has a minimum residence of 0.3 seconds at 1,000 °C. |
| A4 | 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) R3: Recycling/reclamation of organic substances which are not used as solvents | | All storage tanks will be designed fit for purpose and fully quality assured and tested for leakage prior to commissioning. Procedures will be in place for the regular inspection and maintenance of storage areas with any repairs being undertaken as soon as is practiceable. Liquid levels within all storage tanks will be continuously monitored by pressure sensors which will alert the operator to high levels and operate interlocks. Float switches will also be in place which act to switch off pumps if a high level is reached. Digestate will be stored within covered tanks which are of a design and capacity fit for purpose. Digestate will be stored in a manner which minimises odour and risk to pollution. |

Table S1.2 Operating techniques

| Description | Parts | Date Received |
|-------------|---|---------------|
| Application | Response to Part B3 of the application, section 3a – technical standards. | 16/06/2015 |

Table S1.3 Pre-operational measures

| Reference | Pre-operational measures |
|-----------|---|
| POM1 | The operator shall submit a map confirming the surface water and foul water drainage scheme and all applicable consents for discharge to the surface water sewer and foul water sewer prior to operation. |

Schedule 2 - Waste types, raw materials and fuels

| Table S2.1 Raw materials and fuels | |
|------------------------------------|---------------|
| Raw materials and fuel description | Specification |
| - | |

Table S2.2 Permitted waste types and quantities

Maximum quantity The total annual throughput must not exceed 35,000 tonnes per annum.

| 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 |
| 02 01 02 | Animal-tissue waste |
| 02 01 03 | Plant-tissue waste |
| 02 01 06 | Animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site |
| 02 01 99 | Wastes not otherwise specified – residues from commercial mushroom cultivation |
| 02 02 | Wastes from the preparation and processing of meat, fish and other food from 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 99 | Wastes not otherwise specified – sludges from gelatin production and 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 02 | Wastes from preserving agents |
| 02 03 04 | Materials unsuitable for consumption or processing |
| 02 03 05 | Sludges from on-site effluent treatment |
| 02 04 | Wastes from sugar processing |
| 02 04 03 | Sludges from on-site effluent treatment |
| 02 04 99 | Wastes not otherwise specified – other biodegradable wastes |
| 02 05 | Wastes from the dairy product industry |
| 02 05 01 | Materials unsuitable for consumption or processing |
| 02 05 02 | Sludges from on-site effluent treatment |
| 02 06 | Wastes from the baking and confectionary industry |
| 02 06 01 | Materials unsuitable for consumption or processing |
| 02 06 02 | Wastes from preserving agents |
| 02 06 03 | Sludges from on-site effluent treatment |
| 02 07 | Wastes from the production of alcoholic and non-alcoholic beverages (except tea, coffee 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 | Wastes not otherwise specified (malt husks, malt sprouts, malt dust, spent and sludge from breweries, sludge from wine making, yeast and yeast-like residues) |
| 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 06 | Wastes from anaerobic treatment of waste (source separated) |
| 19 06 03 | Liquor from anaerobic treatment of municipal waste |
| 19 06 04 | Digestate from anaerobic treatment of municipal waste |
| 19 06 05 | Liquor from anaerobic treatment of animal and vegetable waste |

| | |
|--------------|---|
| 19 06 06 | Digestate from anaerobic treatment of animal and vegetable waste |
| 19 08 | Wastes from waste water treatment plant not otherwise specified |
| 19 08 09 | Grease and oil mixture from oil/water separation containing edible oils and fats |
| 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 | Biodegradeable kitchen and canteen waste |
| 20 01 25 | Edible oil and fat |
| 20 03 | Other municipal waste |
| 20 03 01 | Mixed municipal waste |
| 20 03 02 | Wastes from markets – allowed only if source segregated biodegradeable 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 | Parameter | Source | Limit (including unit) | Reference period | Monitoring frequency | Monitoring standard or method |
|--|-------------------|-----------------------------------|------------------------|------------------|----------------------|---|
| A1 [Point A1 on site plan in Schedule 7] | No parameter set. | Bio Filter outlets | No limit set | - | - | - |
| A2 [Point A2 on site plan in Schedule 7] | NO _x | CHP Engine Stack (note 1) | 500mg/m ³ | Hourly Mean | Annually | In accordance with guideline M2 'Monitoring of stack emissions to air' |
| | SO ₂ | | 350mg/m ³ | | | |
| | PM ₁₀ | | No limit set | | | |
| | CO | | 1400mg/m ³ | | | |
| | Total VOC's | | 1000mg/m ³ | | | |
| A3 [Point A3 on site plan in Schedule 7] | No parameter set | Fermenter 1 pressure relief valve | No limit set | - | - | - |
| A4 [Point A4 on site plan in Schedule 7] | No parameter set | Fermenter 2 pressure relief valve | No limit set | - | - | - |
| A5 [Point A5 on site plan in Schedule 7] | NO _x | Auxiliary Flare (Note 2) | 150mg/m ³ | Hourly Mean | Annually (Note 3) | In accordance with guideline M2 'Monitoring of stack emissions to air' |
| | CO | | 50mg/m ³ | | | |
| | Total VOC's | | 10mg/m ³ | | | |
| | | | | | | |
| Note 1: These limits are based on normal operating conditions and load – temperature 0°C (273K); 101.3kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply. | | | | | | |
| Note 2: These limits are based on normal operating conditions and load – temperature 0°C (273K); 101.3 KPa and oxygen: 3 per cent (dry gas). The measurement uncertainty specified in LFTGN05 v2 2010 shall apply. | | | | | | |
| Note 3: 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 to NRW annually. | | | | | | |

Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements

| Emission point ref. & location | Parameter | Source | Limit (incl. Unit) | Reference period | Monitoring frequency | Monitoring standard or method |
|--|-------------------------------|--|--------------------|------------------|----------------------|-------------------------------|
| Surface water public sewers within Martin Road | Inspection for oil and grease | Clean, un-contaminated surface water | None Observed | N/A | Monthly | - |
| | Ammonical nitrogen (mg/l) | collected in bund sump and storm water inspection chambers | No Limit | Spot Sample | Quarterly | In accordance with M18 |
| Foul sewer within Martin Road | - | Foul flows from site. | - | - | - | - |

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 |
|--|------------------------|-----------------------------|--|--|
| Biofilter | Temperature | | Temperature Probe | Biofilter shall be regularly checked and maintained to ensure appropriate temperature and moisture content |
| | Moisture | | None specified | |
| | Thatching / compaction | | None specified | |
| Biogas from digesters | Flow | Continuous | In accordance with EU weights and measures regulations | - |
| Biogas from digesters | Methane | Continuous | None specified | |
| | Hydrogen | | | |
| | Sulphide | | | |
| | Carbon Dioxide | | | |
| Digesters, storage tanks and waste reception building | Odour | Daily | Olfactory monitoring | Odour detection at site boundary |
| Amount of biogas used by the CHP unit per day | t/day | Daily | As agreed in writing with Natural Resources Wales | - |

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 3.3.1. | CHP and HT Flare | Annually | 1 January |

Table S4.2: Annual production/treatment

| Parameter | Units |
|--------------------------------|----------------|
| Biogas produced by AD facility | m ³ |
| Total amount of waste treated | Tonnes |

Table S4.3 Performance parameters

| Parameter | Frequency of assessment | Units |
|--|-------------------------|---------------------------|
| Power Output - Electricity | Annually | MWh |
| Energy Efficiency | | MWh/m ³ biogas |
| Electrical Energy exported to the grid | | MWh |
| Electrical Energy drawn from the grid | | MWh |
| Water Usage | | m ³ |
| Operational time of flare | | % of operational time |
| Amount of biogas combusted in the CHP unit per day | | m ³ /day |

Table S4.4 Reporting forms

| Media/parameter | Reporting format | Date of form |
|------------------------|--|--------------|
| Air | Form air 1 or other form as agreed in writing by Natural Resources Wales | 01/01/16 |
| Performance Parameters | Form performance 1 or other form as agreed in writing by Natural Resources Wales | 01/01/16 |
| Water Usage | Form water usage 1 or other form as agreed in writing by Natural Resources Wales | 01/01/16 |

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 activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment | |
| To be notified Immediately | |
| 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 permit condition | |
| To be notified immediately | |
| Emission point reference/ source | |
| Parameter(s) | |
| Limit | |
| Measured value and uncertainty | |
| Date and time of monitoring | |
| 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 |
| | |

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(c) In the event 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:

| To be notified immediately | |
|---|--|
| 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.

“*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 Natural Resources Wales 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.

“*background concentration*” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“*disposal*” means any of the operations provided for in Annex IIA to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

“*emissions to land*” includes emissions to groundwater.

“*EP Regulations*” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“*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 or background concentration limit..

“*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.

“*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.

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 IIB to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

“*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.

“*WFD*” means Waste Framework Directive 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 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

