

# Permit with introductory note

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

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Willand O&M Limited

Willand Anaerobic Digester

Willand Road

Willand

Devon

EX15 2PJ

### Permit number

**EPR/WP3533AJ**

# Willand Anaerobic Digester

## Permit number EPR/WP3533AJ

### Introductory note

#### **This introductory note does not form a part of the permit**

The Applicant (now the operator) has applied for an environmental permit that will allow the operation of an anaerobic digestion (AD) facility with the upgrading and combustion of the resultant biogas. The operator reports that only grass silage, maize silage and wheat grain (non waste) will be accepted as feedstock for the digesters initially under Phase 1 of the project. Phase 2 will involve accepting and treatment of the wastes specified in Table S2.2 of this permit.

In accordance with the Environment Agency's position statement (dated April 2010), an environmental permit is not required for this facility where an operator uses non waste feedstock. The conditions in this permit shall come into force in the event the operator accepts wastes specified in Table S2.2 for treatment at the facility.

The main features of the permit are as follows:

The anaerobic digestion (AD) facility is located on industrial land at Willand Road, Willand, Devon EX15 2PJ at grid reference ST03016 11220. The facility is bound to the north by the effluent treatment plant of the abattoir, to the south by an abattoir; to the east by a railway line and scrap yard; to the west by Spratford stream.

It is designed to process up to 55,000 tonnes of non-hazardous waste consisting primarily of farm yard manure grass silage, maize silage, beet and wheat grain. The installation will be regulated under Section 5.4 A(1)(b)(i) of Schedule 1 of the Environmental Permitting Regulations 2016: "Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 100 tonnes per day by biological treatment". No hazardous waste or animal by-products will be accepted at the facility.

The waste is delivered to the site via road and discharged into an enclosed reception building. This building is equipped with an extraction ventilation system that will extract air to an odour abatement system which consists of an ammonia scrubber and biofilter that will treat odour emissions prior to discharge to atmosphere.

There are 2 semi plug power ring digesters which will be fed with arable feedstocks and animal manures from a designated feeder within the reception building and then transferred to a buffer tank. The buffer tank is fitted with a submerged mechanical mixer to homogenise the contents. Liquid is automatically pumped into the digesters by a positive displacement pump via a macerator to prevent any large objects entering the digesters.

Air is injected into the top of the digesters to remove hydrogen sulphide. The biogas produced is stored in gas holders above the digesters. There are also gas holders above the final digestate storage tanks.

Biogas is drawn off the digesters and used to generate electricity and heat using the CHP engine with an aggregated thermal input of 0.5 MW. The heat produced from the engine will be recovered and integrated into the process heating requirements. The by-product from the process (digestate) will be transferred to digestate storage tanks, where it will be despatched off site. The spreading of digestate on land is not included or authorised by this Environmental Permit. Excess biogas not utilised by the CHP engine will be upgraded in the PURAC gas upgrade equipment and sent to the grid. Combustion gases from the CHP engine will be discharged to atmosphere via a 5.5 metre stack.

The flare stack will be required to operate when the gas upgrading plant and CHP are not running due to routine maintenance or breakdown.

Air emissions include point sources emissions from the CHP engine, the emergency flare, auxiliary boiler, the odour control ventilation via a stack, gas upgrading and tank pressure relief valves. All emissions have been assessed in line with our guidance and appropriate emissions limits inserted into the permit.

There will be no process discharges to controlled waters or sewer. Uncontaminated surface water run-off arising from the site will be directed to the attenuation pond after passing through an oil interceptor. There is one emission point to controlled waters which will be clean surface waters only from non-operational areas of the site.

Due to human receptors being within 250 metres of the facility, bioaerosols monitoring is now a requirement of the permit. Bioaerosols monitoring has been set and the frequency given in Table S3.4 may be reduced to twice a year after the first year of operation if agreed in writing by the Environment Agency.

There are no European habitat sites (Special Protection Areas, Special Areas of Conservation or Ramsar) within 10 km from the Installation. There are no Site of Special Scientific Interest (SSSI) or local wildlife sites located within 2 km of the Installation.

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

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application EPR/WP3533AJ/A001	Duly made 18/05/2016	Application for an anaerobic digestion facility with combustion of biogas in a CHP plant and upgrading of excess biogas.
Schedule 5 - Additional information dated 28/07/2016	Received 7/10/16	List of feedstock and wastes to be processed List of raw materials
Schedule 5 - Additional information dated 28/07/2016	Received 24/11/16	Air quality impact assessment of a combined heat and power biogas engine at the Willand anaerobic digestion plant
Schedule 5 No 2 dated 13/12/2016	Received 17/02/17	Willand OMP V2 dated 17/02/17 Willand EMS Revised OPRA Table 1B List of Wastes Non-Technical Summary
Schedule 5 No 3 dated 23/03/2017	Received 26/06/17	Installation Boundary including emission points and drainage - Drawing No 151103/15 rev 3
		Preliminary Report Biofilter Sizing dated 23/06/17
		Willand OMP V3, Willand EMS rev 3; GFLE Willand O&M Ltd- Accident Management Plan
Additional information email	Received 25/08/17	Confirmation of the use air for H <sub>2</sub> S removal from biogas and that oxygen is monitored automatically and use of a high level alarm.
Additional information email	Received 01/09/16	Description of pre-treatment (pasteurisation) and PVR's
Additional information email with covering letter	Received 18/09/2017	Notification of change of name from GFLE Willand O&M Limited to Willand O&M Limited, company registration number 10967093 Phased approach for operation of the AD plant initially with non-waste feedstock only.
Permit determined (Billing Ref WP3533AJ)	22/09/2017	Permit issued to Willand O&M Limited.

End of introductory note

# Permit

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

### Permit number

**EPR/WP3533AJ**

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

**Willand O&M Limited (“the operator”),**

whose registered office is

**Cleave Farm**

**Templeton**

**Tiverton**

**Devon**

**EX16 8BP**

company registration number **10967093**

to operate an installation at

**Willand Anaerobic Digester**

**Willand Road**

**Willand**

**Devon**

**EX15 2PJ**

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

<b>Name</b>	<b>Date</b>
<b>J Linton</b>	<b>22/09/2017</b>

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
  - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

### 1.2 Energy efficiency

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

### 1.3 Efficient use of raw materials

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

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

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

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

## **2 Operations**

### **2.1 Permitted activities**

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 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.

## **2.5 Pre-operational conditions**

- 2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4 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 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

### **3.2 Emissions of substances not controlled by emission limits**

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
  - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

### **3.3 Odour**

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

### **3.4 Noise and vibration**

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

3.4.2 The operator shall:

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

### **3.5 Bioaerosols**

3.5.1 The operator shall take all appropriate measures, to prevent or where that is not practicable to minimise the release of bioaerosols. Emissions of bioaerosols from the operational activities shall not exceed the emission threshold limits specified in table S3.4.

3.5.2 The operator shall where the emission threshold limits are exceeded:

- (a) notify the Environment Agency and investigate and take remedial action;
- (b) submit to the Environment Agency for approval within the period specified, a bioaerosols management plan which identifies and minimises the risks of pollution from bioaerosols; and
- (c) implement the bioaerosols management plan from the date of approval and revise the plan periodically, unless otherwise agreed in writing by the Environment Agency.

### **3.6 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 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.

### **3.7 Monitoring**

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

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

3.7.2 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.

3.7.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.7.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.



- 3.7.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 table S3.1 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.
- 4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
  - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
  - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

## **4.4 Interpretation**

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

# Schedule 1 – Operations

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
AR1	S5.4 A (1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 100 tonnes per day 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 two power ring digestion tanks followed by burning of biogas produced from the process.</p> <p>Annual combined throughput of 55,000 tonnes per annum of waste and non-waste feedstock.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2.</p> <p>Animal waste shall not be accepted for treatment or storage at this facility</p>
<b>Directly Associated Activity</b>			
AR2	Storage of waste pending recovery or disposal	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)	<p>From the receipt of permitted waste to pre-treatment and despatch for anaerobic digestion on site.</p> <p>Storage of waste in an enclosed building fitted with appropriate odour abatement and on an impermeable surface with sealed drainage.</p> <p>Waste types suitable for acceptance are limited to those specified in Table S2.2</p>
AR3	Heat and electrical power supply	R1: Use principally as a fuel to generate energy	<p>Undertaken in relation to Activity AR1</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the</p>

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
			<p>release of combustion gases.</p> <p>Combustion of biogas in a combined heat and power (CHP) engine with an aggregated thermal input of 0.5 MWth.</p> <p>Combustion of biogas in an auxiliary boiler with an aggregated thermal input of 0.6 MWth.</p>
AR4	Auxiliary (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 an auxiliary flare required only during periods of breakdown or maintenance associated with the gas production, storage, utilisation and gas upgrade processes on site.</p>
AR5	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.
AR6	Raw material storage	Storage of raw materials including lubrication oil, antifreeze, glycerol and propane.	From the receipt of raw materials to despatch for use within the facility.
AR7	Storage of non-waste feedstock	Non-waste feedstock	<p>From the receipt of feedstock to despatch for anaerobic digestion or despatch off site for recovery.</p> <p>Storage of vegetable matter (energy crops) including maize silage, grass silage</p>

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
			(non-waste), wheat grain and fodder within the reception hall on an impermeable surface with sealed drainage.
AR8	Gas storage	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 and propane 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) Storage of liquid digestate in two digestate storage tanks	From the receipt of digestate produced from the on-site anaerobic digestion process to despatch for use off-site.
AR10	Surface water collection and storage	Collection and storage of site surface water in an attenuation pond.	From the collection of site surface water from non-operational areas only to the re-use within the facility or discharge off-site.
AR11	Air treatment	Collection and treatment of air from the reception building using an abatement system – [ammonia scrubber and biofilter] prior to release to atmosphere.	From the collection of air from site processes to treatment and release of treated air to atmosphere.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application EPR/WP3533AJ/A001	Technical standards table of the application document in response to section 3a – technical standards, Part B of the application form	13/05/16
Response to Schedule 5 Notice dated 28/07/2016	Details of biogas upgrading (CAPURE® TECHNOLOGY, Purac Puregas' CApure 2014-11-26 unit).	22/08/16
Response to Schedule 5 Notice dated 13/12/2016	Document - Willand Site Ammonia Scrubber System	17/02/17

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Response to Schedule 5 Notice dated 13/12/2016 and additional information	Installation Boundary including emission points and drainage - Drawing 151103/15 rev3 Preliminary Report Biofilter Sizing dated 23/06/17 Willand OMP V3; Willand EMS rev 3; GFLE Willand O&M Ltd- Accident Management Plan	26/06/17
Email Received on 14/08/17	Confirmation that a compressor to the digesters will not be installed.	14/08/17
Email received on 25/08/2017	Use of air for the removal of H <sub>2</sub> S from biogas and confirmation that the levels of oxygen are continuously monitored with high O <sub>2</sub> level alarm	25/08/17
Email received on 01/09/17	Details of the pre-treatment stage and confirmation that prv's have carbon traps.	01/09/17

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1	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 A5 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 the acceptance of waste specified in Table S2.2 for treatment on site). The pollutants to be monitored shall include: <ul style="list-style-type: none"> <li>• total volatile organic compounds; and</li> <li>• hydrogen sulphide</li> </ul>	3 months following the acceptance of waste specified in Table S2.2 for treatment on site or otherwise agreed in writing by the Environment Agency
IC2	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. The environmental impact assessment shall, as a minimum, include: <ul style="list-style-type: none"> <li>• reports showing details of the monitoring undertaken and the results obtained;</li> <li>• results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance on Air Quality Risk Assessment</li> <li>• a completed H1 assessment software tool</li> </ul> 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.	1 month following the completion of IC1 or otherwise agreed in writing by the Environment Agency
IC3	The operator shall submit a written report to the Environment Agency for approval. The report shall contain a written review of the effectiveness of the installation's odour management plan. The report shall include the dates for the implementation of individual measures identified in order to ensure compliance with indicative BAT as specified in section 7.6.5 of the Environment Agency Draft Technical	6 months following the acceptance of waste specified in Table S2.2 for treatment on site or as

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	<p>Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and Horizontal Guidance H4 – Odour Management.</p> <p>The operator shall implement the actions and outcomes of the report as approved, and from the date stipulated by the Environment Agency.</p>	<p>otherwise agreed in writing with the Environment Agency.</p>
IC4	<p>The operator shall undertake a revised quantitative impact assessment (dispersion modelling) of emissions of bioaerosols (total bacteria and <i>Aspergillus fumigatus</i>) from the open bed biofilter. The environmental impact assessment report and model input files shall be submitted in writing to the Environment Agency for review.</p>	<p>6 months following the acceptance of waste specified in Table S2.2 for treatment on site or as otherwise agreed in writing with the Environment Agency.</p>

<b>Table S1.4 Pre-operational measures</b>	
<b>Reference</b>	<b>Pre-operational measures</b>
PO1	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to the acceptance of waste specified in Table S2.2 at the installation, the operator shall ensure that a review of the design, method of construction and integrity of the proposed site secondary containment is carried out by a qualified structural engineer. The review shall compare the constructed secondary containment against the standards set out in section 7.9.1 of the Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and CIRIA C736 - Containment Systems for the Prevention of Pollution - secondary, tertiary and other measures for industrial and commercial premises or other relevant industry standard.</p> <p>The review shall include:</p> <ul style="list-style-type: none"> <li>- physical condition of the secondary containment</li> <li>- the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure;</li> <li>- any work required to ensure compliance with the standards set out in CIRIA C736 or other relevant industry standard; and</li> <li>- a preventative maintenance and inspection regime</li> </ul> <p>A written report of the review shall be submitted to the Environment Agency detailing the review's findings and recommendations. Remedial action shall be taken to ensure that the secondary containment meets the standards set out in the technical guidance documents and implement the maintenance and inspection regime.</p> <p>No waste shall be accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>



<b>Table S1.4 Pre-operational measures</b>	
<b>Reference</b>	<b>Pre-operational measures</b>
PO2	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to the acceptance of waste specified in Table S2.2 at the installation, the operator shall provide a written commissioning plan using waste for approval by the Environment Agency. The commissioning plan shall include, but not limited to:</p> <ul style="list-style-type: none"> <li>• the expected emissions to the environment during the different stages of commissioning;</li> <li>• the monitoring systems and associated critical limits including nutrient feed rates, temperature, pH, ammonia, Organic acids (FOS) and Total Organic Carbon (TOC) to achieve optimum gas production.</li> <li>• information demonstrating that the reception building has been appropriately sealed to enable a negative pressure environment.</li> <li>• management structure during commissioning – who has control over the plant operation, details of the acceptance testing and how this will be handed over into Willand O&amp;M control.</li> <li>• the details of building smoke-testing;</li> <li>• the expected durations and timescales for the completion of commissioning activities; and</li> <li>• the measures to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions.</li> </ul> <p>Commissioning shall be carried out in accordance with the commissioning plan as approved by the Environment Agency.</p> <p>No waste shall be accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
PO3	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to the acceptance of waste specified in Table S2.2 at the installation, the operator shall provide written evidence to the Environment Agency of the Technically Competent Manager (TCM) at the proposed installation. The report shall confirm that the person(s):</p> <ul style="list-style-type: none"> <li>• hold the relevant qualifications under the CIWM/WAMITAB scheme or other equivalent for the operation of the anaerobic digestion plant, and</li> <li>• have appropriate competence in operating the biogas upgrading plant (including the injection of bio methane into the Gas Grid).</li> </ul> <p>No waste shall be accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
PO4	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to the acceptance of waste specified in Table S2.2 at the installation, the operator shall provide evidence that the equipment to be installed on site has emission specifications that are consistent with noise assessment submitted with application , excluding the compressor. If the emission levels are identified to be higher than predicted in the noise assessment referred to above, the operator shall submit a revised noise assessment using actual noise levels to the Environment Agency and update the Noise Management Plan for written approval.</p> <p>No waste shall be accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
PO5	<p>At least 8 weeks (or any other date as agreed with the Environment Agency) prior to the acceptance of waste specified in Table S2.2 at the installation, the operator shall carry out background sampling of bioaerosols upwind of the plant and submit a written</p>

<b>Table S1.4 Pre-operational measures</b>	
<b>Reference</b>	<b>Pre-operational measures</b>
	<p>report of the monitoring to the Environment Agency and for approval. The sampling shall be undertaken in accordance with the Technical Guidance Note M9 – Environmental monitoring of bioaerosols at regulated facilities (January 2017).</p> <p>The operator shall obtain the Environment Agency’s written approval to the report.</p> <p>No waste shall be accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>

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

<b>Table S2.1 Raw materials and fuels</b>	
<b>Raw materials and fuel description</b>	<b>Specification</b>
Vegetable matter (energy crops) including maize silage, grass silage, wheat grain and fodder beet	Substantially free of non-vegetable matter
Glycerol	--

<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion</b>	
<b>Maximum quantity</b>	<b>The total annual throughput of waste and non-waste feedstock shall not exceed 55,000 tonnes</b>
<b>Waste code</b>	<b>Description</b>
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 06	animal faeces, urine and manure (including spoiled straw) only

## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	CHP engine 1 stack [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m <sup>3</sup>			BS EN 14791
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	1000 mg/m <sup>3</sup>			BS EN 12619:2013
A2 [Point A2 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	Biofilter vents	No parameter set	No limit set	--	--	--
A3 [Point A3 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	Auxiliary boiler stack	No parameter set	No limit set	--	--	--
A5 [Point A5 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	Biogas upgrading plant stack (Purac)	No parameter set	No limit set	--	--	--
A6&A7 [Point A6&A7 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	Pressure relief valves to Digesters/Digestate storage tank(s)	No parameter set	No limit set	--	Record of operating hours	--
A10 [Point A10 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	Gas Entry Unit (GEU) vent	No parameter set	No limit set	--	--	--

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A12&13 [Point A12&13 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	2 x Pasteuriser valves					
A14 [Point A14 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	Auxiliary (Emergency) flare stack [note 2]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	150 mg/m <sup>3</sup>	Hourly average	[note 3]	BS EN 14792
		Carbon monoxide	50 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	10 mg/m <sup>3</sup>			BS EN 12619:2013
<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>						

<b>Table S3.2 Point source emissions to water (other than sewer) and land – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. unit)</b>	<b>Reference Period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
W1 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017	Uncontaminated site surface water from roofs and non-operational areas	No parameter set	No limit set	--	Weekly	Visual assessment – no visible oil or grease

<b>Table S3.3 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Biogas from Digesters	Flow	Continuous	In accordance with EU weights and measures Regulations	--
	Methane	Continuous	None specified	Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	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	--
Ammonia scrubber	Key process parameters to include pH, temperature and air flow	In accordance with manufacturer's recommendations.	None specified	Odour abatement system shall be regularly checked and maintained to ensure appropriate temperature and moisture content.
Biofilter	Temperature	As required	Temperature probe	Biofilter shall be regularly checked and maintained to ensure appropriate temperature and moisture content.
	Moisture	As required	None specified	
	Thatching/compaction	As required	None specified	

<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Carbon filtration system filter (biogas upgrading plant)	Key process parameters to include, temperature, differential pressure, air flow, moisture and dust filters (where installed).	In accordance with manufacturer's recommendations.	None specified	<p>Odour abatement (Carbon filter) shall be regularly checked and maintained to ensure appropriate temperature and moisture content.</p> <p>Carbon filters to be replaced when saturated in accordance with manufacturer's recommendations.</p> <p>Differential pressure determined by upstream and downstream measurement of the activated carbon unit or other method agreed in writing with the Environment Agency.</p>

<b>Location or description of point of measurement</b>	<b>Parameter</b>	<b>Bioaerosols threshold limits (CFU m<sup>-3</sup>)</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Biofilter (open bed) [Point A2 on plan drawing No: 151103/15 Revision P3 Dated: 6/06/2017]	Total bacteria	[note 1]	Quarterly for the first year of operation and twice a year thereafter, unless another frequency is agreed in writing by the Environment Agency	In accordance with Technical Guidance Note M9 – Environmental monitoring of bioaerosols at regulated facilities.	As described in the Technical Guidance Note M9, including all the additional data requirements specified therein.
	Aspergillus Fumigatus	[note 1]			
Note 1 – Bioaerosols threshold limits to be set following the completion of Improvement condition IC4.					

## Schedule 4 – Reporting

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

<b>Table S4.1 Reporting of monitoring data</b>			
<b>Parameter</b>	<b>Emission or monitoring point/reference</b>	<b>Reporting period</b>	<b>Period begins</b>
Emissions to air Parameters as required by condition 3.7.1.	A1 and A14.	Every 12 months	1 January, 1 April, 1 July, 1 October
Bioaerosols monitoring Parameters as required by condition 3.7.1	As specified in schedule 3 table S3.4	Every 3 months or as agreed in writing by the Environment Agency	1 January, 1 April, 1 July, 1 October

<b>Table S4.2 Annual production/treatment</b>	
<b>Parameter</b>	<b>Units</b>
Electricity generated	MWh
Biomethane generated	tonnes or m <sup>3</sup>
Whole digestate	tonnes

<b>Table S4.3 Performance parameters</b>		
<b>Parameter</b>	<b>Frequency of assessment</b>	<b>Units</b>
Water usage	Annually	tonnes or m <sup>3</sup>
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m <sup>3</sup>
Emergency flare operation	Annually	hours
Electricity exported	Annually	MWh
Biomethane exported	Annually	tonnes or m <sup>3</sup>
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours



<b>Table S4.4 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Air	Form air 1 or other form as agreed in writing by the Environment Agency	21/09/17
Bioaerosols	As specified in the Technical Guidance Note M9 or other form as agreed in writing by the Environment Agency	21/09/17
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	21/09/17
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	21/09/17
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	21/09/17
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

## Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

<b>(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b>	
<b>To be notified within 24 hours of detection</b>	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

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

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

<b>Time periods for notification following detection of a breach of a limit</b>	
<b>Parameter</b>	<b>Notification period</b>

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

## Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator

## Schedule 6 – Interpretation

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

“ADQP” means Anaerobic Digestion Quality Protocol

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

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

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

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

“bioaerosol threshold limits” means the maximum acceptable bioaerosol concentrations at the nearest sensitive receptor, or at an equivalent distance downwind of the composting operations, which are attributable to the composting operations. The maximum acceptable concentrations are respectively 1000 and 500 CFU m<sup>-3</sup> for total bacteria and *Aspergillus fumigatus*.

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

“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

“Industry Standard Protocol” means “A standardised protocol for the monitoring of bioaerosols at open composting facilities” published by the Association for Organics Recycling and developed in conjunction with the Environment Agency.

“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 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.

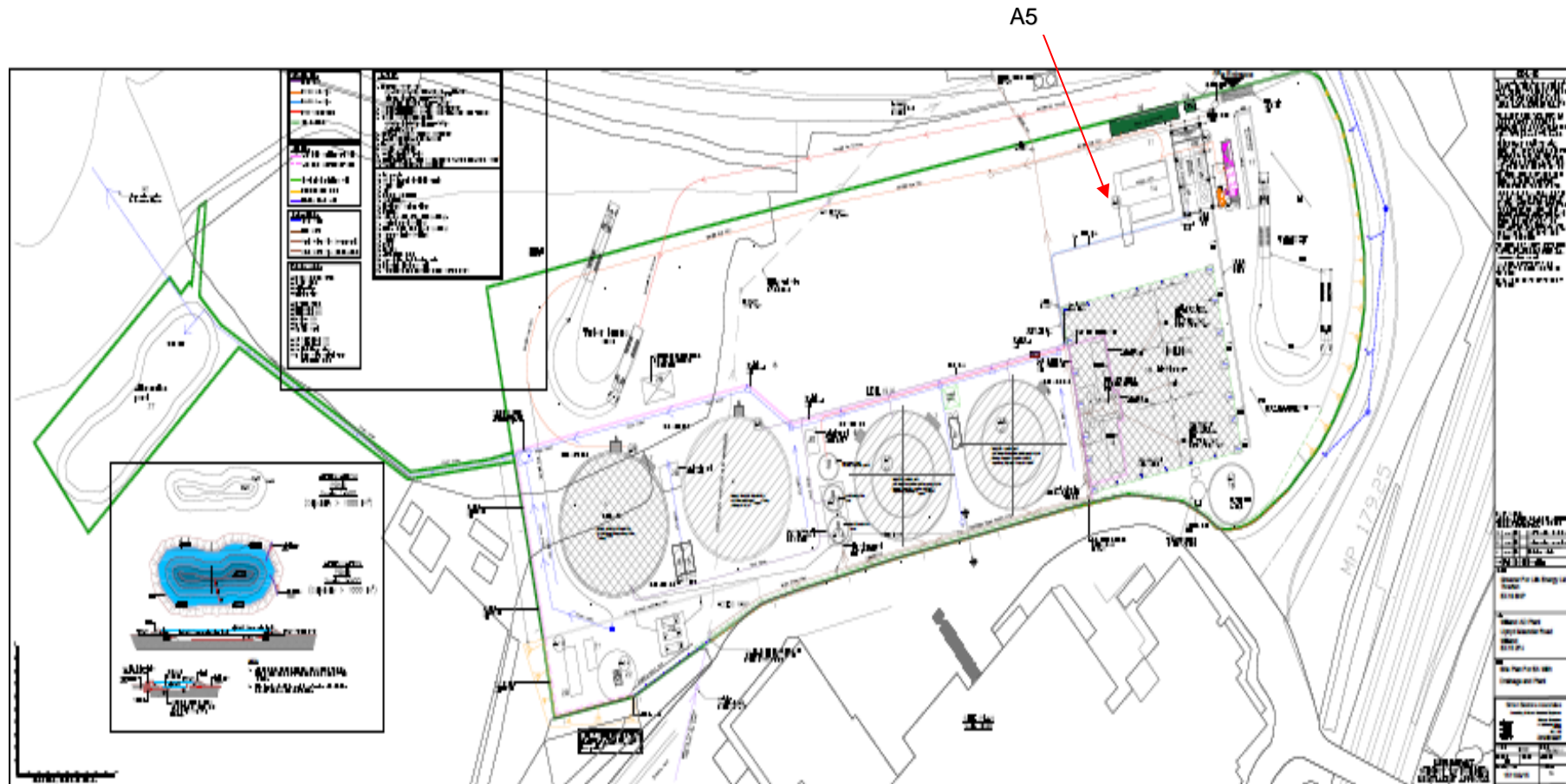
“year” means calendar year ending 31 December.

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, 3% or 5% for 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



Drawing No.: 151103/15  
Revision: P3

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END OF PERMIT

Permit Number: EPR/WP3533AJ

Operator: Willand O&M Limited

Facility: Willand Anaerobic Digester

Form Number: Air1 / 22/09/17

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]
A1	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
A1	Sulphur dioxide	350 mg/m <sup>3</sup>	1 hour period		BS EN 14791		
A1	Carbon monoxide	1400 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
A1	Total VOCs	1000 mg/m <sup>3</sup>	1 hour period		BS EN 12619:2013		
A14	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	150 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
A14	Carbon monoxide	50 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
A14	Total VOCs	10 mg/m <sup>3</sup>	1 hour period		BS EN 12619:2013		

[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: EPR/WP3533AJ**

**Operator: Willand O&M Limited**

**Facility: Willand Anaerobic Digester**

**Form Number:WaterUsage1 / 22/09/17**

**Reporting of Water Usage for the year**

<b>Water Source</b>	<b>Usage (m<sup>3</sup>/year)</b>	<b>Specific Usage (m<sup>3</sup>/unit output)</b>
Mains water		
Site borehole		
River abstraction		
<b>TOTAL WATER USAGE</b>		

Operator's comments:

Signed .....

Date.....

(authorised to sign as representative of Operator)

**Permit Number: EPR/WP3533AJ**

**Operator: Willand O&M Limited**

**Facility: Willand Anaerobic Digester**

**Form Number: Energy1 / 22/09/17**

**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:
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Signed .....

Date.....

(Authorised to sign as representative of Operator)

**Permit Number: EPR/WP3533AJ**

**Operator: Willand O&M Limited**

**Facility: Willand Anaerobic Digester**

**Form Number: Performance1 / 22/09/17**

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

<b>Parameter</b>	<b>Units</b>
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 <sup>3</sup>
Whole digestate	tonnes

Operator's comments:

Signed .....

Date.....

(Authorised to sign as representative of Operator)