

Standard rules SR2012 No10

The Environmental Permitting (England & Wales) Regulations 2010

Standard Rules 2012 No 10 – On-farm anaerobic digestion facility using farm wastes only, including use of the resultant biogas

Waste Recovery Operation – treatment capacity no more than 100 tonnes of waste per day

Introductory note

This introductory note does not form part of these standard rules

When referred to in an environmental permit, these rules will allow the operator to operate an on-farm anaerobic digestion facility accepting up to 100 tonnes waste per day of specified biodegradable wastes arising from on-farm activities. The permitted activities include the anaerobic digestion of wastes, the combustion of the resultant biogas in gas engines, the use of gas turbines, boilers, fuel cells and treatment of the biogas. The anaerobic digestion of waste or waste-containing mixtures is limited to no more than 100 tonnes per day. For anaerobic digesters operating above this threshold, standard rules for installation activities are available.

Permitted wastes do not include hazardous wastes. Any wastes controlled by the Animal By-Products Regulations must be treated and handled in accordance with any requirements imposed by those Regulations.

These standard rules do not allow any emission into surface waters or groundwater except clean water from roofs and parts of the site not used for waste activity including storage of wastes. However, under the emissions of substances not controlled by emission limits rule, biogas condensate, treated digestate and waste waters may be discharged to a sewer subject to a consent issued by the local water company.

End of Introductory Note

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 these standard rules shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

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

- 1.2.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.
- 1.2.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in table 2.1 below (“the activities”).

Table 2.1 Activities	
Description of activities	Limits of activities
<p>R13: Storage of wastes pending the operations numbered R1 and R3</p> <p>R3: Recycling or reclamation of organic substances that are not used as solvents</p> <p>R1: Use principally as a fuel or other means to generate energy.</p>	<p>All activities must be carried out on premises used for Agriculture.</p> <p>Anaerobic digestion of waste and the following associated activities:</p> <ul style="list-style-type: none"> • Physical treatment of waste including shredding, sorting, screening, compaction, bailing, mixing and maceration. • Waste pasteurisation and chemical addition • Gas cleaning and upgrading to biomethane. • Gas storage and drying • Treatment of digestate involving screening to remove plastic residues, centrifuge or pressing, addition of thickening agents (polymers) or drying. • Maturation of digestate • The use of combustible gases produced as a by-product of the anaerobic digestion process as fuel. • Burning of biogas in gas engines, gas turbines, boilers and use in fuel cells. • Use of an auxiliary flare required only for short periods of breakdown or maintenance of the facility. • Use of pressure release valves to protect the integrity of the plant. Such systems should not be used routinely to vent unburnt biogas. <p>Anaerobic digestion of waste or waste containing mixtures shall not exceed 100 tonnes per day</p>

2.1 2 All process plant and equipment shall be commissioned, operated and maintained, and shall be fully documented and recorded, in accordance with the manufacturers recommendations.

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 attached the permit.

2.2.2 The permitted activities must not be carried out within:

- (a) 10 metres of any watercourse;
- (b) a groundwater source protection zone 1, or where a source protection zone has not been defined then within 50 metres of any well, spring or borehole used for the supply of water for human consumption. This must include private water supplies;
- (c) a specified Air Quality Management Area;

2.2.3 The gas engine stack must be a minimum of 3 metres in height and must not be located within:

- (a) 200 metres of a European Site or a Site of Special Scientific Interest (excluding any site designated solely for geological features);
- (b) 200 metres from the nearest sensitive receptor in cases where the stack does not have an “effective” stack height of 3 metres or more, or the stack is less than 7 metres in height.

2.3 Waste acceptance

2.3.1 Waste shall only be accepted if:

- (a) it is of a type and quantity listed in table 2.3 of these rules;
- (b) it conforms to the description in the documentation supplied by the producer and holder;
- (c) the waste is biodegradable.

2.3.2 No hazardous wastes shall be accepted

2.3.3 Records demonstrating compliance with rule 2.3.1 shall be maintained.

Table 2.3 Waste Types	
Maximum Quantities	
The total quantity of waste accepted at the site shall be no more than 100 tonnes in any one day	
Waste Codes	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, AND HUNTING, FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludge from washing and cleaning – vegetables, fruit and other crops
02 01 03	plant tissue waste - husks, cereal dust, waste animal feeds, off-cuts from vegetable and fruit and other vegetation waste
02 01 06	animal faeces, urine, manure including spoiled straw
02 05	Wastes from the dairy products industry
02 05 01	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) – solid and liquid dairy products, milk, food processing wastes, yoghurt, whey from dairies
02 05 02	sludge from dairies effluent treatment

2.4 Operating techniques

2.4.1 The activities shall be operated using the techniques and in the manner described in Table 2.4 below.

Table 2.4 Operating Techniques	
Measures	
1)	All waste solids, liquids and sludges shall be securely stored. In the event of a leak, spill or failure, material must be contained and recovered.
2)	All storage and process tanks shall be fit for purpose and shall be regularly inspected and maintained in accordance with paragraph 2.1.2. In the event of a leak, spill or failure, material can be contained and recovered.
3)	
4)	Digestate shall be stored within containers or lagoons and should be of a design and capacity fit for purpose. The lagoon shall have a free board of 750mm.
5)	Gas engine stack height shall be no less than 3 metres.
6)	All biogas condensate shall be discharged into a sealed drainage system or recirculated back to the digester.
7)	Emissions of unburned biogas and the operation of the auxiliary flare shall be minimised. Any significant emissions of unburned biogas (including the operation of the pressure relief valves and the operation of the auxiliary flare shall be recorded.

3 Emissions and monitoring

3.1 Emissions to air, water or land

3.1.1 There shall be no point source emissions to air, water or land, except from the sources and emission points listed in table 3.1.

3.1.2 The limits given in table 3.1 shall not be exceeded

Table 3.1 Point source emissions to air - emission limits and monitoring requirements			
Emission Point and Source	Parameter	Limit (including units)	Monitoring Frequency and Standard or Method
Stacks on engines	Oxides of Nitrogen	500 mg/m ³	Annual monitoring Monitoring equipment, techniques, personnel and organisations employed for the engine stack emissions monitoring programme (including the measurement of exhaust gas temperature) shall have either MCERTS certification or MCERTS accreditation (as appropriate).
	Carbon monoxide	1400 mg/m ³	
	Sulphur dioxide	350 mg/m ³	
	Total volatile organic compounds including methane	1000 mg/m ³	
		Emission levels at Normal Temperature and Pressure and 5%O ₂ , unless otherwise agreed in writing by Natural Resources Wales Uncertainty allowance as stated in EA guidance LFTGN08 v2 2010. To ensure effective plume breakaway, minimum stack gas exit velocity shall be no less than 15 m/s or 12 m/s where stack volume flow is less than 0.5 m ³ /s; OR The gas exit temperature shall be no less than 200°C	
Stacks on boilers burning biogas	Oxides of Nitrogen	No limit set	None specified
Auxiliary flare	Oxides of Nitrogen	No limit set	Record of operating hours.
Pressure relief valves	Biogas	No limit set	Weekly visual or remote monitoring to ensure valves are correctly seated.

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 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 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.
- 3.3.2 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.

3.4 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 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.
- 3.4.2 The operator shall:
- (a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to 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.

3.5 Pests

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

3.6 Monitoring

- 3.6.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake monitoring for the parameters, at the locations and at not less than the frequencies specified in table 3.1
- 3.6.2 The operator shall maintain records of all monitoring required by these standard rules 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.

4 Information

4.1 Records

- 4.1.1 All records required to be made by these standard rules 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 these standard rules, 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 these standard rules to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.

4.2.2 Within one 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 Natural Resources Wales shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
- (b) the breach of a limit specified in the permit; or
- (c) any significant adverse environmental effects.

4.3.2 Written confirmation of actual or potential pollution incidents and breaches of emissions shall be submitted within 24 hours.

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:

- a) Where the operator is a registered company:
 - any change in the operator's trading name, registered name or registered office address; and
 - any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- b) Where the operator is a corporate body other than a registered company:
 - any change in the operator's name or address; and
 - any steps taken with a view to the dissolution of the operator.
- c) In any other case:
 - the death of any of the named operators (where the operator consists of more than one named individual);
 - any change in the operator's name(s) or address(es); and
 - 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 them being in a partnership, dissolving the partnership.

4.4 Interpretation

4.4.1 In these standard rules the expressions listed below shall have the meaning given in that schedule.

4.4.2 In these standard rules 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.

"accident" means an accident that may result in pollution.

"anaerobic digestion" means a process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobe 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. This does include, blood, feathers, uncooked butchers waste and any other animal waste that is not

catering waste or former foodstuffs. This does not include faecal matter from animals (e.g. chicken litter or farmyard manure).

“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.

“digestate” means material resulting from an anaerobic digestion process

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from emission points specified in these standard rules or from other localised or diffuse sources, which are not controlled by an emission limit.

“emissions to land” include emissions to groundwater.

“European Site” means Special Area of Conservation or candidate Special Area of Conservation or Special Protection Area or proposed Special Protection Area in England and Wales, within the meaning of Council Directives 79/409/EEC on the conservation of wild birds and 92/43/EEC on the conservation of natural habitats and of wild flora and fauna and the Conservation of Habitats and Species Regulations 2010. Internationally designated Ramsar sites are dealt with in the same way as European sites as a matter of government policy and for the purpose of these rules will be considered as a European Site.

Gas engine “effective” stack height” means:

- a) If away from buildings actual stack height is no less than 3 meters.
- b) If attached to or on top of a building the stack tip must be no less than 3 meters above roof ridge.
- c) If there are other buildings within a distance of 5L from the point of discharge, the top of the stack must be no less than 3 meters above the roof ridge of the highest building. L is the lesser of the two measurements of building height and maximum width of the building.

“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.

“groundwater source protection zone” has the meaning given in the document titled “Groundwater protection: Principles and practice” published by Natural Resources Wales in 2012.

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface, and should be read in conjunction with the term “sealed drainage system” (below).

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

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

pests” means Birds, Vermin and Insects.

“pollution” means emissions as a result of human activity which may—

- (a) be harmful to human health or the quality of the environment,
- (b) cause offence to a human sense,
- (c) result in damage to material property, or
- (d) impair or interfere with amenities and other legitimate uses of the environment.

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

“R” means a recovery operation provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 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:

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

“SSSI” means Site of Special Scientific Interest within the meaning of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

"*waste code*" means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, and in relation to hazardous waste, includes the asterisk.

"*year*" means calendar year commencing on 1st January.

End of standard rules