

Standard rules SR2012 No10 V5.0

The Environmental Permitting (England & Wales) Regulations 2016

On farm Anaerobic digestion facility including use of the resultant biogas –

Waste Recovery Operation – treatment capacity no more than 100 tonnes per day, no more than 35,000 tonnes accepted per year

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 waste anaerobic digestion facility involving the acceptance, preparation, storage, anaerobic digestion including pasteurisation of specified biodegradable wastes, arising from on-farm and dairy activities. The total quantity of waste that can be accepted is limited to 100 tonnes of waste per day and the amount managed in predigesting storage is limited to 100 tonnes. The anaerobic digestion treatment process is limited to a capacity of no more than 100 tonnes per day. For anaerobic digesters with capacity above this threshold, an installation permit is required.

Any wastes controlled by the Animal By-Products Regulations must be treated and handled in accordance with any requirements imposed by those Regulations.

These rules permits storage, cleaning, compression and the use of biogas by combustion in spark ignition engines, gas turbines, boilers, fuel cells and treatment of the biogas and/or upgrading the biogas to biomethane and injection to the national grid. An aggregated total rated thermal input of less than 5 megawatts applies to combustion and power generation.

These Standard Rules implement the Environmental Permitting (England and Wales) (Amendment) Regulations 2018 for Medium Combustion Plant (MCP) and Specified Generators.

Different emission limits and requirements apply to new combustion plant >1MWth input brought into operation after 20 December 2018 (i.e. New Medium Combustion Plant). Dependent on capacity market agreements and balancing services agreements time lines for emission compliance will vary. Operators should identify whether Specified Generators are Tranche B generators.

Standby flares must be available on site and combustion of gas by a flare is permitted in emergency situations or for planned maintenance only. These events must be recorded and the Agency notified. These rules do not allow fugitive emissions other than those in an unplanned emergency, where it is necessary to preserve the integrity of the plant or for immediate Health and Safety reasons only. Release from pressure relief valves is permitted in emergency situations or for planned maintenance only. These events must be recorded and the Agency notified. Frequent or prolonged disposal of excess biogas or biomethane is not permitted.

Vehicle fuelling stations are not permitted.

The permitted activities include pasteurisation, separation and storage of digestate on site in purpose-built covered tanks and lagoons with appropriately engineered abatement. Operators who wish to further treat pasteurised separated digestate fibre by drying can do so if the dryer is fitted with a specifically designed and maintained abatement system. Operators can also treat pasteurised digestate fibre by composting but must manage the process to promote aerobic composting. The composting capacity of the site must be below 75 tonnes in composting treatment per day. Where composting capacity is in excess of 75 tonnes per day an installations permit will be required.

Prior to operation all critical infrastructure shall be validated by a chartered engineer and that validation report together with a commissioning plan will be submitted to the Environment Agency.

All emission abatement equipment shall be designed by a qualified engineer and be suitable in capacity and type to treat emissions. All abatement technology must be rigorously inspected and maintained as per design specification.

Consideration must be given to operational variability and there must be adequate storage capacity available during periods of time when land is not available for the spreading of digestate, so that compliance with the rules and their limits is maintained. The operator shall have contingency measures in place to slow waste acceptance if necessary.

These rules do not permit the burning of any other wastes, either in the open, inside buildings or in any form of incinerator.

These rules do not allow any point source emission into air, surface waters or groundwater, except:

- Liquids may be discharged into a sewer subject to a consent issued by the local water company;
- Liquids may be taken off-site in a tanker for disposal or recovery;
- Clean surface water from roofs, or from areas of the site that are not being used in connection with storing and treating waste, should be harvested and reused. Where this is not possible clean water may be discharged directly to surface waters, or to groundwater by seepage through the soil via a soak away.
- Point source emissions from designed abatement system

These rules do not apply to installations with more than one operator.

End of Introductory Note

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) a) in accordance with a written management system that identifies and minimises risks of pollution, so far as is reasonably practicable, including those risks 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”).
- 2.1.2 The activities shall be undertaken in accordance with appropriate measures
- 2.1.3 All process plant and equipment shall be commissioned, operated and maintained, and shall be fully documented and recorded, in accordance with the manufacturer’s recommendations.

Table 2.1 Activities

Description of activities	Limits of activities
<p>R13: Storage of waste pending the operations numbered R1 and R3</p>	<p>All activities must be carried out on premises used for agriculture.</p> <p>Secure storage of compatible waste and other feedstock's prior to anaerobic digestion.</p>
<p>R3: Recycling or reclamation of organic substances that are not used as solvents</p>	<p>Anaerobic digestion and the following associated activities: Physical treatment of waste including de-packaging, removal of plastic and contrary items, shredding, sorting, screening, compaction, baling, mixing and maceration.</p> <p>Treatment by anaerobic digestion of waste or waste containing mixtures shall not exceed 100 tonnes per day.</p> <p>Animal wastes shall be no more than 10 tonnes per day.</p> <p>Waste pasteurisation and chemical addition</p> <p>Treatment of digestate including screening to remove plastic residues, centrifuge or pressing, addition of thickening agents (polymers) or drying (other than for the purpose of use as a fuel).</p> <p>Composting of separated digestate fibre.</p> <p>Digestate separation and drying Secure storage of whole or liquid fraction of digestate</p> <p>Secure storage of fully recovered waste as stable finished digestate.</p> <p>Secure storage of non-digestible and quarantined waste</p>
<p>R1: Use principally as a fuel or other means to generate energy</p> <p>Burning of biogas in a Specified Generator that may also be a new MCP</p> <p>Burning biogas or natural gas in a boiler that may also be a new MCP</p>	<p>Gas storage and drying.</p> <p>Burning of biogas in stationary gas engines, gas turbines, boilers and use in fuel cells with an aggregated rated thermal input of all appliances less than 5 megawatts.</p> <p>Burning natural gas in boilers</p> <p>Single Fuel Use Only</p>
<p>R1: Use principally as a fuel or other means to generate energy</p> <p>Use of biogas and biomethane</p>	<p>Gas cleaning and upgrading to biomethane.</p> <p>Injection of upgraded biomethane to the national grid.</p>

D10: Incineration on land	<p>The use of auxiliary standby flares in an emergency and during maintenance.</p> <p>Use of pressure release valves. To protect the integrity and safety of the plant only.</p>
Raw Material Storage	<p>Secure storage of raw materials including chemicals lubrication oil, antifreeze, diesel and activated carbon.</p>
Storage of waste produced on site	<p>Secure storage of spend lubricating oil no more than 10 tonnes at any one time</p> <p>Secure storage of spent carbon filter material</p>

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 to the permit.
- 2.2.2 Only the MCPs listed in the permit can be operated at the site. No MCP shall be operated beyond the site of the grid reference specified for it in the permit.
- 2.2.1 New Medium Combustion Plant must be notified to the Agency prior to start up.
- 2.2.2 The activities shall not be carried out within:
- (a) 250 metres of the nearest sensitive receptor where any processing or storage of digestate fibre is in the open; or 200 metres of the nearest sensitive receptor in any case where the stack is less than 7 metres high, unless its “effective” stack height is at least 3 metres;
 - (b) 500 metres of a European site (within the meaning of Regulation 8 of the Conservation of Habitats and Species Regulations 2017) or a Site of Special Scientific Interest (SSSI), including candidate or proposed sites or a Marine Conservation Zone;
 - (c) a groundwater source protection zone 1 or 2, or if 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;
 - (d) 250 metres of the presence of great crested newts, where it is linked to the breeding ponds of the newts by good habitat;
 - (e) 10 metres of any watercourse;
 - (f) 50 metres of a Local Nature Reserve (LNR), Local Wildlife Site (LWS), Ancient Woodland or Scheduled Ancient Monument;
 - (g) 50 metres of a site that has relevant species or habitats protected under the Biodiversity Action Plan that the Environment Agency considers at risk to this activity;
 - (h) A specified Air Quality Management Area.

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 facility has sufficient free capacity to store and treat the waste
- 2.3.2 Waste acceptance and pre-acceptance activities shall be undertaken in accordance appropriate measures
- 2.3.3 No hazardous waste shall be accepted
- 2.3.4 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 less than 100 tonnes a day, and less than 35, 000 tonnes a year, and must be compatible with the designed capacity of the site.

Exclusions

- Waste that is not biodegradable;
- Biodegradable waste that is significantly contaminated with non-biodegradable contaminants like plastic and litter beyond incidental level 0.5% by volume
- Wastes containing wood-preserving agents or other biocides;
- Wastes containing persistent organic pollutants;
- Wastes containing Japanese Knotweed or other invasive plant species listed in the Alien Invasive Species Regulations 2014;
- Manures, slurries and spoiled bedding and straw from farms where animals have notifiable diseases as stipulated in the Animal By-Products (Enforcement) (England) Regulations 2011.

Waste Codes	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludges from washing and cleaning – vegetables, fruit and other crops
02 01 03	plant tissue waste - husks, cereal dust, waste animal feeds, off-cuts from vegetable and fruit and other vegetation waste residues from commercial mushroom cultivation
02 01 06	animal faeces, urine, manure (including spoiled straw) only from non-infected animals.
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment

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. New operations. Prior to operation, the operator shall submit a validation report for all critical infrastructure together with a commissioning plan to the Environment Agency;
- Existing operations will by the 1 January 2021
- a. submit a validation report for all critical infrastructure as carried out by a qualified engineer, together with
 - b. Hazard & Operability Study (HAZOP) or similar risk identification technique and document actions in accordance with condition 1.1
 - c. produce and submit a schedule of planned improvement and or maintenance as identified by the HAZOP or risk assessment and/or suppliers, in accordance with condition 1.1;
 - d. Produce a programme of inspection and works which will be implemented to ensure that primary and secondary containment remain fit for purpose. A report describing this programme, including its findings and the works to be undertaken as a result, will be submitted to the Environment Agency within 1 months of completion of that report. Time lines for completion of required works to be agreed with the Environment Agency.
 - e. ensure procedures are clearly documented in accordance with 1.1, which shall be documented in the management system, for re-commissioning the facility following significant changes to operations, e.g. repair, maintenance, replacement and/or restart.
 - f. Submit to the Agency a register of all combustion engines and generators onsite as per Appendix 1 of this permit.

2. The management system shall document the monitoring regimes and systems to ensure digester stability and to minimise emissions and pollution. It will include an odour management plan.
3. The acceptance, storage and physical treatment of wastes shall take place only on an impermeable surface with sealed drainage system that adheres to recommendations of a CIRIA 736 report or equivalent approved standard.
4. All bulking, transfer and pre-treatment of waste shall be carried out in an enclosed building. Wastes shall be stored or treated within enclosed containers, reactor vessels or enclosed well ventilated buildings fitted with an air extraction and abatement system. Air extraction and air abatement systems treating off gases or gas cleaning shall be specifically designed by a qualified engineer. The air composition and gas stream quality shall be monitored and maintained to minimise the release of emissions, odour and bioaerosols.
5. All storage and process tanks shall be located on an impermeable surface (a hydraulic permeability of not greater than 1×10^{-9} m/s) with sealed construction joints within a bunded area. The bunded area shall have a capacity at least 110% of the largest vessel or 25% of the total tankage volume, whichever is the greater. Bunds shall be regularly inspected to ensure that bunds filled by rainwater are regularly emptied. Connections and fill points should be within the bunded area and no pipework should penetrate the bund wall. Underground tanks shall have secondary containment and appropriate leak detection. No less than 95% of the bund capacity shall be maintained at all times. Any secondary containment shall adhere to recommendations of a CIRIA 736 report or equivalent approved standard.
6. All waste solids, liquids and sludges shall be securely stored.
7. All storage and process tanks shall be fit for purpose and shall be regularly inspected and maintained in accordance with rule 2.1.2. In the event of a leak, spill or failure, material can be contained and recovered.
8. The operator shall have a site drainage plan and a schedule for inspection and maintenance of the facility's critical infrastructure, including the impermeable surfacing and drainage system. This infrastructure shall be inspected and maintained in accordance with this schedule.
9. All maintenance work on site shall only proceed after permission to work is agreed with the operator.
10. All above ground tanks and containers shall have secondary containment. The design and construction of secondary containment systems shall comply with CIRIA 736 or equivalent approved standard.
11. Underground tanks shall have secondary containment and appropriately designed and engineered leak detection as per a CIRIA 736 or equivalent approved standard. No less than 95% of the bund capacity shall be available at all times.
12. Secondary containment and bunds shall be regularly inspected and regularly emptied. Connections and fill points should be within the bunded area and no pipework should penetrate the bund wall. Underground tanks shall have secondary containment with leak detection as per a CIRIA 736 report or equivalent approved standard.
13. Any wastes which are incompatible shall be stored separately and provided with secondary containment or engineered drainage.
14. Waste shall be stored for the minimum time possible prior to treatment, or otherwise actively managed to minimise uncontrolled decomposition.
15. Quarantined and rejected waste shall be stored in closed containers or covered and removed to a regulated facility within 5 days or as agreed in writing with the Environment Agency.
16. Digestate and dirty water should be stored in a covered lagoon or stored in tanks and treated to prevent odour and emissions. All lagoons shall be constructed in line with a CIRIA 759 report or equivalent approved standard. All storage lagoons and tanks shall have maintained a free board of at least 750mm.
17. An auxiliary flare shall be available at the site to combust unburned biogas. The operation of the auxiliary flare shall be minimised and limited to emergencies and during maintenance to protect the integrity of the plant.
18. Emissions of unburnt biogas shall be minimised and release is only permitted to maintain the integrity of the plant or health and safety of staff.
19. Each MCP must be operated in accordance with its manufacturer's instructions and records must be made and retained to demonstrate this.
20. Periods of start-up and shut-down of the Medium Combustion Plant and Specified Generator must be kept as short as possible.
21. There shall be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993
22. The engine stack shall be vertical and unimpeded by cowls or caps, and with a height of at least 3 metres.
23. Pressure relief valves must be correctly sized and inspected to ensure they are correctly seated and re-seated after release.
24. All biogas condensate shall be discharged into a sealed drainage system or recirculated back to the digester.
25. All gas to grid activities will be monitored and have available storage and combustion unit contingency for periods when national gas grid demand is low. Measures shall be taken to decrease loading rate in such circumstances. Venting and flaring of gas for disposal purposes is not permitted.
26. All digestate drying must be within a closed system designed for the volume and purpose, and all emissions must be extracted and treated in an engineered and maintained abatement system.
27. All tanker loading and discharge points should be in a building or venting to the odour abatement system.
28. All tanker transfer areas will be monitored to ensure valves are sealed when not transferring digestate.

29. Tankered waste must be accompanied by a washout certificate.
30. Poultry litter and manures shall be stored in covered lagoons or containers
31. Composting of digestate fibre shall be undertaken to promote aerobic conditions, either in a) closed buildings with a suitable abatement systems or b) in the open with abated negative aeration or covered systems.
32. Lighting conduction systems shall be in place.
33. All tanks will be fitted with foam sensing and anti-foam technology.
34. Consideration must be given to operational and storage capacity during periods of time when land is not available for the spreading of digestate, so that compliance with the rules and their limits is maintained throughout. Digestate storage must allow at least two months storage capacity.
35. All records relating to waste acceptance, processing and dispatch must be available for inspection.
36. Clean surface water shall be separated and stored for use on site.
37. A methane leak detection programme shall be in place.
38. Improvement conditions: Applying to existing facilities, that is those with permits issued before the (date of issue of this revision to the standard rules to be inserted) a) An inspection of all primary and secondary containment shall be undertaken by a chartered engineer. All secondary containment shall be assessed in line with CIRIA 736 and CIRIA 739 for lagoons b) A written report of the findings shall be submitted to the Environment Agency for approval by 1 July 2020. Where the report does not demonstrate that the primary and secondary containment is fit for purpose the report shall contain detailed proposals to bring the containment up to the required standard including timescales for the implementation of (individual measures/the measures). c) Where it contains proposals for works the report shall be implemented by the Operator in accordance with the Environment Agency's written approval.

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)	Reference Period	Monitoring Frequency	Monitoring frequency and standard or method
Stacks ¹ on engines or gas turbines burning biogas	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	periodic over minimum 1-hour period	Annual	<p>Annual monitoring</p> <p>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)</p> <p>All limits are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases at a standardised O₂ content of 5%.</p> <p>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 m³/s; OR</p> <p>The gas exit temperature shall be no less than 200°C. EA guidance TGN M 2</p> <p>The measurement uncertainty specified in TGN M2 shall apply.</p>
	Carbon monoxide	1400 mg/m ³			
	Sulphur dioxide	350 mg/m ³ Or if New MCP 107 mg/m ³			
	Total volatile organic compounds including methane	1000 mg/m ³			
Boilers burning biogas operational before 20 December 2018	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	No Limit	periodic over minimum 1-hour period	Annual	<p>In accordance with TGN M5 – Monitoring of stack emissions to air.</p> <p>All limits are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after</p>
	Sulphur dioxide				
	Carbon Monoxide				

Boilers that are new MCP burning natural gas or biogas	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	200 mg/m ³ if burning biogas 100 mg/m ³ if burning natural gas	periodic over minimum 1-hour period	Annual	correction for the water vapour content of the waste gases at a standardised O ₂ content of 3%. 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.
	Sulphur dioxide	100 mg/m ³ if burning biogas			
	Carbon Monoxide	No Limit			
Channelled emissions to air as identified on site plan Stacks or vents on biofilter and/or scrubbing system	Ammonia Odour concentration	20 mg/Nm ³ 1,000 OUE/Nm ³		Once every 6 months or in accordance with 3.3	BS EN 13725 Including all abatement systems and identified emission points in accordance with condition 3.3
Stacks or vents on biogas upgrading plant	Volatile Organic Compounds	No limit set		Continuous	Leak Detection system
Auxiliary flare	Operational hours	No limit set		Continuous	Operational record Date, time and duration of pressure relief events shall be recorded.
Pressure relief valves	Biogas release and operational events	No limit set		Continuous	Operational record Date, time and duration of pressure relief events shall be recorded. Daily inspection

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour but including ammonia) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.2.4 The operator will implement a Leak detection and repair (LDAR) programme to detect and mitigate release of volatile organic compounds.

3.3 Odour

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

3.3.2 The operator shall:

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

3.4 Noise and vibration

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

3.4.2 The operator shall:

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

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in table 3.5

3.5.2 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. These records shall be submitted to the Environment Agency annually in the form of a report.

3.5.3 For New Medium Combustion Plant the first monitoring measurements shall be carried out within four months of the issue date of the permit or the date when the MCP is first put into operation, whichever is later.

Table 3.5 Process monitoring requirements				
Monitoring Point	Parameter	Monitoring Frequency	Monitoring Method	Other Specifications
Meteorological conditions	Wind speed, air temperature and wind direction	Continuous monitoring	Method as specified in management system	In accordance with condition 3.3 recorded in operational diary and records. Equipment shall be calibrated on a 4 monthly basis or as agreed in writing by the Environment Agency or as per manufactures instructions.
Digester process and gas production	Digester stability and gas volume and quality	Continuous	Recorded to a SCADA data system.	Digester process and gas production measurements shall be carried out within 4 months of the issue date of the permit, or the date when the Medium Combustion Plant is first put into operation, whichever is later.
Digester mixing	Agitation ampage	Daily	Systems controls.	Records maintained in daily operational records.
	Tank capacity and sediment assessment	At least yearly assessment	Yearly lithium or thermal imaging	As per design specification and tank integrity testing.
Air abatement - Channelled emissions	Temperature and moisture	Daily	Recorded using industry standard techniques	Includes all abatement technology where employed to abate buildings, gas clean up or drying and composting.
	Thatching and compaction	Weekly	Back pressure	In accordance with condition 3.3
	Gas stream flow	Continuous monitoring	Off take gas streams	As per design and manufacturer's specifications. in accordance with 3.3
	Efficiency assessment	Yearly	Abatement air and efficiency removal of odours compounds and off gases.	Annual report detailing the removal efficiency of all abatement systems and planned maintenance. In accordance with condition 3.3
Wet scrubbing systems – inlet and outlet	pH	Continuous monitoring.		As per design and manufacturer's specifications. in accordance with 3.3
Auxiliary flare	Operating hours	Operation of the auxiliary flare shall be recorded.	Systems analysis system (SCADA)	Date, time and duration of use must be recorded
Pressure relief valves	Biogas including methane	As per the manufacturer's design	Daily visual or remote monitoring	Date, time and duration of pressure relief events shall be recorded. Operators must ensure that valves are re-seated after release.

Diffuse emissions from gas storage membrane, stacks, vents on biogas upgrading plant	Volatile Organic Compounds including methane	Continuous	Fence line sensors	Methane monitoring points as specified in DESEAR risk assessment and leak detection and repair programme.
Diffuse emission, Lagoons membrane covers	Ammonia, Odour VOC including methane	Yearly		In accordance with Condition 3.2
Lagoons and storage tanks	Volume	Daily	Visual or flow meter measurement	750mm freeboard must be available
Composting Digestate Fibre				
Representative internal core for each composting batch during stabilisation stage	Temperature and moisture	At least daily during sanitisation and stabilisation stage	Temperature probe. Industry Grab test as a minimum.	Temperature and moisture monitoring equipment shall be available on-site and used as required to maintain aerobic conditions and ensure compliance with these standard rules. Equipment shall be calibrated on a 4 monthly basis or as agreed in writing by the Environment Agency.
Representative internal core for each composting batch during further maturation stage	Temperature and moisture	Weekly	Temperature probe Industry Grab test as a minimum.	

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) only use approved products for pest control;
- (b) treat pest infestations promptly;
- (c) reject pest-infested incoming waste;
- (d) 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, hazard or annoyance from pests;
- (e) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.7 Fire prevention

- 3.7.1 The operator shall take all appropriate measures to prevent fires and accidents on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.
- 3.7.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;
 - (b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.7.3 The operator will undertake a DSEAR assessment and have a clear accident management and emergency plan.

4 Information

4.1 Records

- 4.1.1 All records required to be made by 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 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 these standard rules, unless otherwise agreed in writing by the Environment Agency.
- 4.1.3 The operator shall maintain a record of the type and quantity of fuel used and the total annual hours of operation for each Specified Generator and New Medium Combustion Plant.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by these standard rules to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 Within one month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.3 The operator shall demonstrate the efficiency of treatment and recovery by keeping records of all non-waste materials leaving the site - including the type of material, the batch number, the date of export off-site, and the tonnage exported on that date. These records shall be retained for at least 2 years.

Table 4.2 Reporting

Parameter	Emission or monitoring point /reference	Report frequency
Emissions from Combustion Plant	In accordance with table 3.1	Annual report by the 31st January of each year
Diffuse Emissions	In accordance with table 3.5	Annual report by the 31st January of each year
Digester process and gas production Process monitoring	As specified in table 3.5	Summary Quarterly report during the first year then yearly thereafter as agreed with the Environment Agency
Digester Tank Integrity	As specified in table 3.5	Annual report by the 31 st February
Efficiency of biofilter and other abatement systems	In accordance with table 3.5	Annual report by the 31 st January of year detailing the removal efficiency of all abatement systems and planned maintenance. In accordance with condition 3.3
Events outside of normal operating conditions	In accordance with table 3.5	Annual summary to include use of Auxiliary Flare ¹ and PRV releases by the 31st January of each year.
Waste returns	As per rule 4.2.2	Within one month of the end of each quarter
Non-waste outputs	As per rule 4.2.3	Within one month of the end of each quarter
Medium combustion plant and Generators	In accordance with rule 4.3.5	Each year on the 31 st January detailing date commissioned location, serial number and thermal input per unit as in Appendix A. New plant must be notified in accordance with condition 4.3.5

¹ Routine maintenance testing of flares for short periods are not required to be reported but should be clearly documented in accordance with condition 1.1

4.3 Notifications

- 4.3.1 The Environment Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
 - (b) the breach of a limit specified in the permit; or
 - (c) any significant adverse environmental effects.
- 4.3.2 Written confirmation of actual or potential pollution incidents and breaches of emissions shall be submitted within 24 hours.
- 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 Following the detection of an issue listed in 4.3.1, the operator shall review and revise the management system, and implement any changes as necessary to minimise the risk of reoccurrence of the issue.
- 4.3.5 The Environment Agency shall be notified at least 14 days in advance of any planned change to the Medium Combustion Plant and generators which could affect compliance with applicable emission limits.
- 4.3.6 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:
- (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 of them being in a partnership, dissolving the partnership.
- 4.3.7 The operator shall notify the Environment Agency, as soon as is practicable, in writing of any change of new combustion plant or generator at the site.

4.4 Interpretation

- 4.4.1 In these standard rules the expressions listed below shall have the meaning given.
- 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.

“accident management plan” – means a plan that identifies risks and failures which can have an impact on the environment or have environmental consequences. The plan forms part of the management system. The plan must minimise the potential causes and consequences and identify clearly, the roles, responsibilities and action to be taken to minimise the consequences of accidents. This includes measures to prevent and control fires on site (see fire prevention plan). This includes a DSEAR assessment and clearly marked zones.

“agriculture” means as defined in The Agriculture Act 1947 including: -“horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping, the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds, and the use of land for woodlands where that use is ancillary to the farming of the land for other agricultural purposes, and 'agriculture' shall be constructed accordingly”

“Air Quality Management Area” means that defined in the Environment Act 1995, Part VI, 83(1) as amended.

“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).

“appropriate measures” means the available techniques which are the best for preventing or minimising emissions and impacts on the environment. It includes both the technology used and the way your facility is designed, built, maintained, operated and decommissioned. It allows consideration of the risks, costs and advantages of a technique, and whether it is reasonably available to you.

“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.

“BAP” means Biodiversity Action Plan. This is a non-statutory plan created by the UK Biodiversity Partnership and the UK Government, in response to the Convention on Biological Diversity (CBD) signed in 1992. It describes the UK's biological resources, and commits a detailed plan for the protection of these resources.

“biodegradable” means a material is capable of undergoing biological anaerobic or aerobic degradation leading to the production of CO₂, H₂O, methane, biomass, and mineral salts, depending on the environmental conditions of the process.

“capacity” means the potential capacity and not historical or actual production levels or throughput. This means that the designed capacity is the maximum rate at which the site can operate. Biological treatment of waste usually takes place over more than one day, so the physical daily capacity can be calculated by dividing the maximum quantity of waste that could be subject to biological treatment at any one time by the minimum residence time. For in-vessel composting, the residence time for sanitisation should be calculated separately and then aggregated to the complete composting time.

“channelled Emissions” – means the emissions of pollutants into the environment through any kind of duct, pipe, stack, etc. This also includes emissions from open top biofilters.

“closed system” means a closed composting reactor or closed area (such as a building) in which waste is fully contained and efficient air management abatement systems are demonstrated. This may cover a wide range of technology and, where necessary, is in compliance with Animal By-Products Regulations.

“competent persons and resources” means that a technically competent person accredited to a relevant scheme must attend site and record their attendance, and that all roles and responsibilities are clearly stated in the management systems along with records of operatives' training

“compost” means a solid particulate material that is the result of composting, which has been sanitised and stabilised, and which confers beneficial effects when added to soil, used as a component of growing media or used in another way in conjunction with plants.

“compostable plastics” means plastics that are certified to meet the standards of EN 13432, EN 14995 or equivalent and is capable of breaking down by microbial digestion to create compost..

“composting” means the managed biological decomposition of biodegradable waste organic materials, under conditions that are predominantly aerobic and that allow the development of thermophilic temperatures as a result of biologically produced heat and that result in compost.

“composting batch” means an identifiable quantity of material that progresses through the composting system and when fully processed has similar characteristics throughout. For composting systems that operate on a continuous- or plug-flow basis, batches will be taken to mean a series of “portions of production”.

“D” means a disposal 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.

“digestate” means material resulting from an anaerobic digestion process that demonstrates a level of stability where the residual biogas potential is minimal and can be referred to a nominally stable.

“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 a European site within the meaning of Regulation 8 of the Conservation of Habitats and Species Regulations 2017

“ 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, measured in metres.

“fire prevention plan” – means a written document setting out procedures to prevent and minimise fires and the spread of fires. This forms part the management system.

“first put into operation means” the date when the fuel is first combusted in the MCP

“fuel cells” means a device that converts the energy of a fuel directly to electricity and heat without combustion

“generator” means any combustion plant which is used to generate electricity, excluding mobile, unless it is connected to the national grid.

“good habitat” means rough (especially tussocky) grassland, scrub and woodland.

“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 the Environment Agency in 2012.

“hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended)

“impermeable surface” means a surface or pavement constructed in accordance with CIRIA 736 or demonstrated equivalent 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). “Incidental contamination” means low levels of incidental waste, for example plastic, that may be contained within the feedstock waste.

“leak detection and repair (LDAR) programme” means a structured approach to reduce fugitive emissions of organic compounds by detection and subsequent repair or replacement of leaking components. Currently, sniffing (described by EN 15446) and optical gas imaging methods are available for the identification of leaks.

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

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

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

“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

“new medium combustion plant” means one that was put into operation after 20 December 2018. This includes replacement MCPD and Generators

“Operator” means in relation to a regulated facility, means-

- (a) the person who has control over the operation of the regulated facility,
- (b) if the regulated facility has not yet been put into operation, the person who will have control over the regulated facility when it is put into operation, or
- (c) if a regulated facility authorised by an environmental permit ceases to be in operation, the person who holds the environmental permit

“pest” 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.

“representative internal” – means representative monitoring at a point internally of the windrows that will give a representative assessment of temperature. Note: Larger windrows will require more bespoke temperature equipment to adequately assess temperature profiles accurately.

“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.

“secondary containment” – means a system that is capable of containing loss from all above ground and underground storage tanks and that complies with CIRIA standard 736 or an equivalent standard of design and construction.

“secure storage” means storage where waste cannot escape and members of the public do not have access to it.

“site” means the location where waste storage and treatment activities can take place.

“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).

“specified Air Quality Management Area” means an air quality management area within the meaning of the Environment Act 1995 which has been designated due to concerns about oxides of nitrogen.

“specified generator” means a group of generators other than excluded between 1 and 50 megawatts or less than 50 megawatts as defined in Schedule 25B(2) of SI 2018 No.110 of the EPRs.

“waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk. ‘List of Wastes’ means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“year” means calendar year commencing on 1st January.

End of standard rules

Appendix A

MCP Plant List (Annex 1 Information)

Operator Name:

Operator Registered Office:

Address of Plant (Site):

NACE Code:

Plant Name	Activity (MCP or SG = MCP)	Type of MCP (Technology) e.g. Diesel Engine, Gas Turbine, Dual Fuel Engine	Serial number of plant	Plant Grid Reference (Lat/Long) or (E/N)	Commissioning Date of MCP	Size (MWth) (Rated Thermal Input)	Fuel Type	Share of Fuels	Expected Annual Operating Hours (& Ave Load in Use)
Plant 1	Medium Combustion Plant								
Plant 2	Medium Combustion Plant								
Plant 3	Specified Generator (is also an MCP)								
Plant 4	Specified Generator (is also an MCP)								
Plant 5	Specified Generator (is also an MCP)								

Note:

This table only lists MCP Plant (including any SG Plant that is also an MCP) permitted on this site.

The operator shall notify the Environment Agency, as soon as is practicable, in writing of any change of new medium combustion plant Annex I information. If this includes adding or removing MCP plant from the permitted site a variation of this standard permit will be required.

If you have any queries please contact us at MCPDHelp@environment-agency.gov.uk