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Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Biogen Waen Ltd

**Waen Anaerobic Digestion Site
Holywell Road
St Asaph
Denbighshire
Wales
LL17 0DS**

Permit number

EPR/DP3735NP

Waen Anaerobic Digestion Site

Permit number EPR/DP3735NP

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

This permit allows the operator to carry out anaerobic digestion of wastes and the combustion of the resultant biogas. Permitted wastes are non-hazardous biodegradable wastes including those controlled by the Animal-By-Products Regulations (ABPR). Hazardous wastes are not permitted. The total permitted annual throughput is 22,500 tonnes a year. Renewable energy will be generated using the resultant biogas through the combined heat and power engine (CHP) with the liquid and solid intended for recovery to agricultural land as a biofertiliser. Uncontaminated discharges from site shall be collected from areas in connection with the storage and treatment of waste via the existing surface water system providing they have been tested and confirmed to be free of ammonia.

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

Status log of the permit		
Description	Date	Comments
Application EPR/DP3735NP/A001	Duly made 30/08/13	Application for an Anaerobic Digestion Facility
Permit determined	16/01/14	Permit issued to Biogen Waen Limited
Variation Application EPR/DP3735NP/V002	Duly made 28/08/14	Variation to amend waste codes in Table S2.1
Variation determined EPR/DP3735NP/V002	19/11/14	Variation notice issued to Biogen Waen Limited
Regulation 61(1) Notice sent to the Operator	05/04/19	Issue of a Notice under Regulation 61(1) of the EPR. Natural Resources Wales initiated review and variation to vary the permit following the publication of the revised Best Available Techniques (BAT) Reference Document (BRef) for Waste Treatment
Regulation 61(1) Notice response	30/09/19	Response received from the operator
Additional information received	23/03/20	Clarifications provided to sections 1, 2, 3 and 5 of Reg 61 Notice
Additional information received	11/06/20	Updated Site Plan & details of thermal input capacity of Boiler
NRW initiated variation determined EPR/DP3735NP/V003	11/01/21	Varied and consolidated permit issued in modern condition format

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number
EPR/DP3735NP

This is the consolidated permit referred to in the variation and consolidation notice for application **EPR/DP3735NP/V003**

issued to

Biogen Waen Ltd (“the operator”)

whose registered office is

**Milton Parc
Milton Ernest
Bedfordshire
MK44 1YU**

company registration number **07816570**

to operate **an installation** at

**Waen Anaerobic Digestion Site
Holywell Road
St Asaph
Denbighshire
Wales
LL17 0DS**

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

Name	Date
Holly Noble	11/01/2021

Authorised on behalf of Natural Resources Wales

Conditions

1 Management

1.1 General management

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

1.2 Energy efficiency

- 1.2.1 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
 - (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.
 - (b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.2 Waste shall only be accepted if:
 - (a) it is of a type and quantity listed in schedule 2 table S2.1; and
 - (b) it conforms to the description in the documentation supplied by the producer and holder.
- 2.3.3 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.
- 2.3.4 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 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 Natural Resources Wales.
- 2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales 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 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.

3.4 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 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
 - (a) point source emissions specified in tables S3.1 and S3.2;
 - (b) process monitoring specified in table S3.3.
- 3.5.2 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.

- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2 unless otherwise agreed in writing by Natural Resources Wales.

3.6 Pests

- 3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.
- 3.6.2 The operator shall:
- (a) if notified by Natural Resources Wales, submit to Natural Resources Wales for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.
- 4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:
- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
 - (b) the annual production /treatment data set out in schedule 4 table S4.2; and
 - (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- 4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.
- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to Natural Resources Wales using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

- 4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
- (i) inform Natural Resources Wales,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) in the event of a breach of any permit condition the operator must immediately—
- (i) inform Natural Resources Wales, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

- (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

 - (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

 - (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.

In any other case:

 - (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
 - (a) Natural Resources Wales shall be notified at least 14 days before making the change; and
 - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

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

Schedule 1 - Operations

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
A1	S5.4A(1)(b)(i) Recovery or a mix of recovery and disposal of non hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving one or more of the following activities: Biological Treatment	<p>Anaerobic Digestion (with a capacity exceeding 100 tonnes per day) of permitted waste followed by burning of biogas produced from the process.</p> <p>R3: Recycling/reclamation of organic substances which are not used as solvents</p> <p>R13: Storage of waste pending any of the operations numbered R1 to R3 (excluding temporary storage, pending collection, on the site where it was produced)</p> <p>D9: Physico-chemical treatment which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (e.g. evaporation, drying, calcinations etc)</p>	<p>Anerobic Digestion of wastes including pasteurisation and chemical addition</p> <p>Wastes as specified in table S2.1</p> <p>Pre-treatment of waste including shredding, sorting, compaction, bailing, mixing and maceration</p> <p>Gas cleaning by biological or chemical scrubbing and upgrading to biomethane</p> <p>Gas storage and drying</p> <p>Treatment of digestate including screening to remove plastic residues, centrifuge or pressing, addition of thickening agents (polymers) or drying</p> <p>Use of pressure valves to protect the integrity of the plant. Such systems should not be used routinely to vent unburnt biogas</p> <p>All waste to be stored and treated on an impermeable surface with sealed drainage, surrounded by a bund with a capacity of at least 110% of the largest vessel or 25% of the total tankage volume (whichever is highest)</p> <p>Digestate shall be stored within covered containers or covered lagoons and should be of a design and capacity fit for purpose</p>

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
			<p>All biogas condensate shall be discharged into a sealed drainage system</p> <p>From receipt of permitted waste through to its digestion and recovery of by-products from the installation</p> <p>Surface water collected from areas in connection with the storing and treatment of waste shall be contained within the bunded area and collected within a sealed sump. The sump water will be directed one of two ways:</p> <ol style="list-style-type: none"> 1. returned back to the AD process or 2. discharged to surface waters via the surface water drainage system (only if tested and confirmed to be free of ammonia)
Directly Associated Activity			
A2	Biogas storage and supply system	Storage of biogas arising from the Anaerobic Digestion Plant	From receipt of gas into the gas holders, to supply to the listed activity
A3	Emergency flare operation	Use of an auxiliary flare required only for periods of breakdown or maintenance of the CHP engines	From receipt of biogas to the release of combustion products from the flare stack
		D10: Incineration on land	
A4	Combustion of resultant Biogas	The combustion of fuel for the purpose of generating electricity and heat for use within the installation & national grid. R1: Use principally as a fuel or other means to generate electricity	Combustion of resultant biogas in one combined heat and power (CHP) engine with an aggregated thermal input of 3.456 MWth

Table S1.2 Operating techniques

Description	Parts	Date Received
Permit application EPR/DP3735NP/A001	Appendices: <ul style="list-style-type: none"> - 26C Non technical summary - B43b Technical standards and techniques for pollution control (BAT) - B43(a) Fugitive emissions plan - B43b(B) Odour Management Plan - B43b(c) Noise Management Plan 	12/08/13
Response to regulation 61(1) Notice – request for information dated 05/04/2019 detailing how the Operator will comply with the BAT conclusions for Waste Treatment, under Directive 2010/75/EU of the European Parliament and of the Council	Response to Regulation 61 Notice for Waste Treatment <ul style="list-style-type: none"> – Waen Notice 61 BAT Report – Ammonia Testing Waen 2015-2019 2 – Systematic Groundwater Appraisal (Waen)v2 – Appendix 1 Geology and Soil (Waen)v2 – Appendix 2 Groundwater (Waen)v2 	30/09/19
Additional information for regulation 61(1) Notice	Clarifications provided to sections 1, 2, 3 and 5 of Reg 61 Notice <ul style="list-style-type: none"> - Process Flow Diagram (Waen) - WT BREF Spreadsheet Waen AD Site - BAT 3 (iii) Ref Document 	23/03/20
Agreed written methodology for meeting the process parameters listed in Schedule 3b Table S3.3	All relevant section	In line with IC7

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC1	The operator shall submit to Natural Resources Wales for approval information to evidence compliance with the following BAT requirements in accordance with requirements specified within BAT Conclusions of the Waste Treatment BREF Document (EU 2018) in relation to: <ul style="list-style-type: none"> • BAT 1 vii. Following the development of cleaner technologies; • BAT 1 ix. Regular sectoral bench marking; • BAT 1 x. Waste stream management (and BAT 2); • BAT 1 xi. The inventory of waste gas stream (and BAT 3); • BAT 1 xii. Residues Management Plan; • BAT 1 xiii. Accident Management Plan. 	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC2	The operator shall submit to Natural Resources Wales for approval information to evidence compliance with the following BAT requirements in accordance with requirements specified within BAT Conclusions of the Waste Treatment BREF Document (EU 2018) in relating to: <ul style="list-style-type: none"> • BAT 2 a) Waste characterisation and pre-acceptance procedures • BAT 2 e) Waste segregation 	17 February 2022 or otherwise agreed in writing with Natural Resources Wales

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC3	<p>The operator shall submit to Natural Resources Wales for approval information to evidence compliance with the following BAT Conclusions of the Waste Treatment BREF Document (EU 2018) in relation to:</p> <ul style="list-style-type: none"> BAT 3 (i)(a) The existing process flow diagram requires updating to include the emissions sources and in particular the activated carbon filtration system outlet. BAT 3 (i)(b) the waste gas treatment description (carbon filtration system) including performance information. BAT 3 (iii) establish an inventory of waste gas (for the waste gas from the reception hall to be treated by the activated carbon filtration system) to collate the information in accordance with BAT Conclusion 3 of the Waste Treatment BREF Document (EU 2018). 	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC4	<p>The operator shall submit to Natural Resources Wales for approval information to evidence compliance with the following BAT Conclusions of the Waste Treatment BREF Document (EU 2018) in relation to:</p> <ul style="list-style-type: none"> BAT 4 b) adequate storage capacity 	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC5	<p>The operator shall submit to Natural Resources Wales for approval information to evidence compliance with the following BAT requirements in accordance with requirements specified within BAT Conclusions of the Waste Treatment BREF Document (EU 2018):</p> <ul style="list-style-type: none"> BAT 23 Energy efficiency Plan; and Energy Balance Record. 	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC6	<p>The operator shall submit to Natural Resources Wales for approval information to evidence compliance with the following BAT requirements in accordance with requirements specified within BAT Conclusions of the Waste Treatment BREF Document (EU 2018):</p> <ul style="list-style-type: none"> BAT 24 Maximise the reuse of packaging as part of a Residues Management Plan. 	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC7	<p>The Operator shall submit for written approval a methodology for meeting the process parameters listed in Schedule 3b Table S3.3, as per BAT 38 for the anaerobic treatment of waste. The methodology shall identify each of the process parameters and detail the frequency and techniques in place to record the data. Where a process parameter cannot be monitored justification should be provided and/or a suitable alternative proposed. The methodology should include trigger levels for each of the parameters with associated procedures in place if trigger levels are exceeded.</p>	17 February 2022 or otherwise agreed in writing with Natural Resources Wales

Table S1.4 Pre-operational measures

Reference	Pre-operational measures	Date
POM 1	A finalised copy of the Environment Management System shall be submitted to Natural resources Wales for written approval prior to operations commencing on site.	Complete

Table S1.4 Pre-operational measures		
Reference	Pre-operational measures	Date
POM 2	Prior to the commencement of commissioning; the Operator shall provide a written commissioning plan, including timelines for completion, for approval by Natural Resources Wales. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to Natural Resources Wales in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as approved.	Complete

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Permitted waste types and quantities for anaerobic digestion process

Maximum waste throughput quantity	22,500 tonnes per annum
Waste code	Description
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	Sludges from washing and cleaning
02 01 02	Animal-tissue waste
02 01 03	Plant-tissue waste
02 01 06	Animal faeces, urine and manure (Inc. spoiled straw), effluent, collected separately and treated off-site
02 01 07	Wastes from forestry
02 01 99	Spent mushroom compost or discarded mushrooms from commercial mushroom cultivation only
02 02	Wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 01	Sludges from washing and cleaning
02 02 02	Animal-tissue waste
02 02 03	Materials unsuitable for consumption or processing
02 02 04	Sludge's from on-site effluent treatment
02 02 99	Wastes not otherwise specified - Sludge's from gelatine production and animal gut contents only
02 03	Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea, tobacco preparation and processing, conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	Sludge's from washing, cleaning peeling, centrifuging and separation
02 03 04	Materials unsuitable for consumption or processing
02 03 05	Sludge's from on-site effluent treatment
02 03 99	Wastes not otherwise specified - Sludge from production of edible fats and oils; tainning process residues, tobacco dust, veins and sludge, defective cigarette batches, residues from processing coffee, tea and cocoa, oilseed residueues, and Glycerol residue from biodiesel manufacture from non waste vegetable oils only
02 04	Wastes from sugar processing
02 04 03	Sludge's from on-site effluent treatment
02 04 99	Wastes not otherwise specified – Biological sludge only
02 05	Wastes from the dairy product industry
02 05 01	Materials unsuitable for consumption or processing
02 05 02	Sludge's from on-site effluent treatment
02 06	Wastes from the baking and confectionary industry
02 06 01	Materials unsuitable for consumption or processing
02 06 03	Sludge's from on-site effluent treatment
02 07	Wastes from the production of alcoholic and non-alcoholic beverages (except tea, coffee and cocoa)
02 07 01	Wastes from washing, cleaning and mechanical reduction for raw materials

Table S2.1 Permitted waste types and quantities for anaerobic digestion process

Maximum waste throughput quantity	22,500 tonnes per annum
Waste code	Description
02 07 02	Wastes from spirits distillation
02 07 04	Materials unsuitable for consumption or processing
02 07 99	Wastes not otherwise specified - Malt husks, sprouts and dust; spent sludge from breweries, sludge from wine production, yeast and yeast like residues only
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD
03 01	Wastes from wood processing and the production of panels and furniture
03 01 01	Waste bark and cork – untreated only
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 02	Green liquor sludge (from recovery of cooking liquor)
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	Sludge's from on-site effluent treatment other than those mentioned in 03 03 10 – must not contain or be mixed with de-inking sludge
04	WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES
04 01	Wastes from the leather and fur industry
04 01 01	Fleshings and lime split wastes
04 02	Waste from the textiles industry
04 02 10	Organic matter from natural products (for example grease, wax)
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	Packaging (including separately collected municipal packaging waste)
15 01 01	Paper and cardboard packaging
15 01 03	Wooden packaging
15 01 05	Composite packaging
16	Wastes not otherwise specified on the list
16 10	Aqueous liquid wastes destined for off-site treatment
16 10 02	Aqueous liquid wastes other than those mentioned in 16 10 01 – only if the digestate is from an anaerobic digestion process which accepts waste types listed in the Anaerobic Digestate Quality Protogol (QP) EA 2014
19	Waste from waste management facilities, offsite waste water treatment plant and the preparation of water intended for human consumption and water for industry use
19 02	Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	Premixed wastes composed only of non-hazardous wastes – only if derived solely from waste types listed in the Anaerobic Digestate Quality Protogol (QP) EA 2014 and remain segregated from and uncontaminated by any other waste
19 02 06	Sludge's from physico/chemical treatment other than those mentioned in 19 02 05 – only if derived solely from physical treatment and/or pH adjustment of waste types allowed by the Anaerobic Digestate Quality Protogol (QP) EA 2014
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09 - glycerol only
19 05	Wastes from aerobic treatment of solid wastes
19 05 01	Non-composted fraction of municipal and similar wastes
19 05 02	Non-composted fraction of animal and vegetable waste

Table S2.1 Permitted waste types and quantities for anaerobic digestion process

Maximum waste throughput quantity	22,500 tonnes per annum
Waste code	Description
19 05 03	Off-specification compost
19 05 99	Wastes not otherwise specified - liquor/leachate from aerobic composting of municipal, animal and vegetable wastes only
19 06	Wastes from anaerobic treatment of waste
19 06 03	Liquor from anaerobic treatment of municipal waste
19 06 04	Digestate from anaerobic treatment of municipal waste
19 06 05	Liquor from anaerobic treatment of animal and vegetable waste
19 06 06	Digestate from anaerobic treatment of animal and vegetable waste
19 08	Wastes from waste water treatment plants not otherwise specified
19 08 09	Grease and oil mixture from oil/water separation containing only edible oils and fats
19 08 12	Sludge's from industrial biological treatment of industrial waste water other than those mentioned in 19 08 11
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 – only if derived solely from waste types listed in the Anaerobic Digestion Quality Protocol (QP) EA 2014 and remain segregated from and uncontaminated by any other waste
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	Separately collected fractions (except 15 01)
20 01 01	Paper and cardboard
20 01 08	Biodegradable kitchen and canteen waste
20 01 25	Edible oil and fat
20 01 38	Wood other than that mentioned in 20 01 37 – untreated wood only e.g. no biodegradable coating or preservative present
20 02	Garden and park wastes (including cemetery waste)
20 02 01	Biodegradable waste
20 03	Other municipal wastes
20 03 01	Mixed municipal wastes
20 03 02	Waste from markets

Schedule 3 (a) – Emissions and monitoring effective until 16 August 2022

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 CHP Exhaust on site plan WAEN-D-016	CHP Engine 1 (Note 1)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500mg/m ³	Hourly Mean	Annual	BS EN 14792
		Sulphur dioxide (SO ₂)	350mg/m ³			BS EN 14791
		Volatile Organic Compounds (VOCs)	1000mg/m ³			BS EN 12619 or 13526 depending on concentration
		Carbon Monoxide (CO)	1400mg/m ³			BS EN 15058
A2 Flare Stack on site plan WAEN-D-016	Flare Stack (Note 2)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	No limits set	Hourly Mean	Annual	BS EN 14792
		Volatile Organic Compounds (VOCs)				BS EN 12619 or 13526 depending on concentration
		Carbon Monoxide (CO)				BS EN 15058
A3 Pressure Relief Valves (PRVs)	Digesting Tanks, Biogas Holder	No parameters set	No limits set	-	No monitoring required	
A4 Boiler Exhaust	Boiler	No parameters set	No limits set	-	No monitoring required	
A5 Activated carbon filter outlet	Carbon Filter	No parameters set	No limits set	-	No monitoring required	

Note 1: These limits do not apply during start up and shut down. These limits are based on normal operating conditions and load temperature 0°C (273K); 101.3kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply

Note 2: Monitoring to be undertaken in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted to NRW annually

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 – Surface water discharge as on site plan in Schedule 7	Uncontaminated site surface water	Suspended solids, oils and/or grease	No visible trace	-	Daily or weekly as agreed in writing with NRW	Visual Check

Table S3.3 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Biogas from digesting tank and biogas holder	Flow	Continuous	In accordance with EU weights and measures regulations	-
Biogas from digesting tank, biogas holder and waste reception building	Methane Hydrogen Sulphide Carbon Dioxide	Spot Sample	Gas monitors calibrated every 6 months to manufacturers requirements	-
Biogas from digesting tank, biogas holder, waste reception building and external storage areas	Odour	Daily	Olfactory Monitoring	Odour detection at the site boundary
Bund sump and storm water inspection chambers	Oil/grease and ammonia <03.ppm	Periodically	Instantaneous ammonia reading	-

Schedule 3 (b) – Emissions and monitoring effective from 17 August 2022

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 CHP Exhaust on site plan WAEN-D-016	CHP Engine 1 (Note 1)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500mg/m ³	Hourly Mean	Annual	BS EN 14792
		Sulphur dioxide (SO ₂)	350mg/m ³			BS EN 14791
		Volatile Organic Compounds (VOCs)	1000mg/m ³			BS EN 12619 or 13526 depending on concentration
		Carbon Monoxide (CO)	1400mg/m ³			BS EN 15058
A2 Flare Stack on site plan WAEN-D-016	Flare Stack (Note 2)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	No limits set	Hourly Mean	Annual	BS EN 14792
		Volatile Organic Compounds (VOCs)				BS EN 12619 or 13526 depending on concentration
		Carbon Monoxide (CO)				BS EN 15058
A3 Pressure Relief Valves	PRVs	No parameters set	No limits set	-	No monitoring required	
A4 Boiler Exhaust	Boiler	No parameters set	No limits set	-	No monitoring required	
A5 Activated carbon filter outlet	Carbon Filter	Ammonia (NH ₃)	20 mg/Nm ³	-	Every 6 months	BS EN 14791
		Hydrogen sulphide (H ₂ S)	No limits set	-	Every 6 months	US EPA Method 11 (Impinger method) or CEN TS 13649 (Charcoal tube), US EPA Method 15

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
Note 1: These limits do not apply during start up and shut down. These limits are based on normal operating conditions and load temperature 0°C (273K); 101.3kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply						
Note 2: Monitoring to be undertaken in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted to NRW annually						

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
W1 – Surface water discharge as on site plan in Schedule 7	Uncontaminated site surface water	Suspended solids, oils and/or grease	No visible trace	-	Daily or weekly as agreed in writing with NRW	Visual Check

Table S3.3 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Digester feed	pH	To be agreed with NRW	To be agreed with NRW	Subject to approved methodology in improvement condition IC7 and as agreed with NRW
	Alkalinity			
	Hydraulic and organic loading rates			
Digester	Operating temperature			
	Liquid and foam levels			
	Concentration of ammonia			
	Concentration of VFAs			
	Alkalinity			
	FOS/TAC ratio (VFA/TA)			
Digestate	pH			
	Concentration of VFAs			
	Ammonia			
Biogas from digesters	Flow			
	Quantity			
	Pressure			
	Composition			
	Methane			
	Hydrogen Sulphide			
	Carbon Dioxide			

Table S3.3 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Biogas from digesting tank, biogas holder, waste reception building and external storage areas	Odour	Daily	Olfactory Monitoring	Odour detection at site boundary
Bund sump and storm water inspection chambers	Oil/grease and ammonia no >0.3ppm	To be agreed with NRW	Instantaneous ammonia reading	-
Note 1: There is no requirement to report process monitoring data. The information shall be made available at the installation for inspection				

Schedule 4 (a) – Reporting effective until 16 August 2022

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

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	CHP Exhaust and Flare Stack A1 and A2	Annually	16/01/2014

Table S4.2: Annual production/treatment

Parameter	Units
Biogas produced by AD Facility	m ³
Total amount of waste treated	tonnes

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Power output – Electricity	Annually	MWh
Energy efficiency	Annually	MWh/m ³ biogas
Electrical energy exported to the grid	Annually	MWh
Electrical energy drawn from the grid	Annually	MWh
Water usage	Annually	m ³
Total raw material used	Annually	tonnes
Operational time of emergency flare	Annually	% of operational time
Amount of biogas combusted in the CHP unit per day	Annually	m ³ day

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by Natural Resources Wales	16/01/2014
Water usage	Form water usage 1 or other form as agreed in writing by Natural Resources Wales	11/01/2021
Energy usage	Form energy 1 or other form as agreed in writing by Natural Resources Wales	11/01/2021
Other performance indicators	Form performance 1 or other form as agreed in writing by Natural Resources Wales	16/01/2014
Waste Subject to Conditions 4.2.5	Waste tonnage return form from the Natural Resources Wales website or other form as agreed in writing by Natural Resources Wales	N/A

Schedule 4 (b) – Reporting effective from 17 August 2022

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

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	CHP Exhaust and Flare Stack A1 and A2	Annually	16/01/2014
	A5 Activated carbon filter outlet	Annually	18/08/2022

Table S4.2: Annual production/treatment

Parameter	Units
Biogas produced by AD Facility	m ³
Total amount of waste treated	tonnes

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Power output – Electricity	Annually	MWh
Energy efficiency	Annually	MWh/m ³ biogas
Electrical energy exported to the grid	Annually	MWh
Electrical energy drawn from the grid	Annually	MWh
Water usage	Annually	m ³
Total raw material used	Annually	tonnes
Operational time of emergency flare	Annually	% of operational time
Amount of biogas sent to emergency flare	Annually	m ³
Generation of redsidues	Annually	tonnes
Generation of waste water	Annually	m ³
Amount of biogas combusted in the CHP unit per day	Annually	m ³ day

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by Natural Resources Wales	17/08/2022
Water usage	Form water usage 1 or other form as agreed in writing by Natural Resources Wales	11/01/2021
Energy usage	Form energy 1 or other form as agreed in writing by Natural Resources Wales	11/01/2021
Other performance indicators	Form performance 1 or other form as agreed in writing by Natural Resources Wales	17/08/2022

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Waste Subject to Conditions 4.2.5	Waste tonnage return form from the Natural Resources Wales website or other form as agreed in writing by Natural Resources Wales	N/A

Schedule 5 - Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

(a) Notification requirements for: any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a permit condition	
To be notified within 24 hours of detection	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

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

“Annex I” means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Annex II” means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

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

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

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

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.
- *“best available treatment, recovery and recycling techniques”* shall have the meaning given to it in the document published jointly by the Department for Environment, Food and Rural Affairs, the Welsh Assembly Government and the Scottish Executive on 27th November 2006, entitled “Guidance on Best Available Treatment, Recovery and Recycling Techniques (BATRR) and Treatment of Waste Electrical and Electronic Equipment (WEEE).

“disposal” or “D” 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 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.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

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

“Pests” means Birds, Vermin and Insects.

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

“recovery” or “R” 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.

‘residue’ means the solid waste generated by the waste treatment activity and is not directly related to the type of waste treated in the plant.

“Waste code” means the six digit code referable to a type of waste in accordance with the list of wastes established by Commission Decision 2000/532/EC as amended from time to time (the ‘List of Wastes Decision’) 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.

"*Waste Treatment BAT Conclusions*" means the BAT Conclusions for the Waste Treatment sector published as a Commission Implementing Decision EU 2018/1447 in the Official Journal of the EU on 17 August 2018.

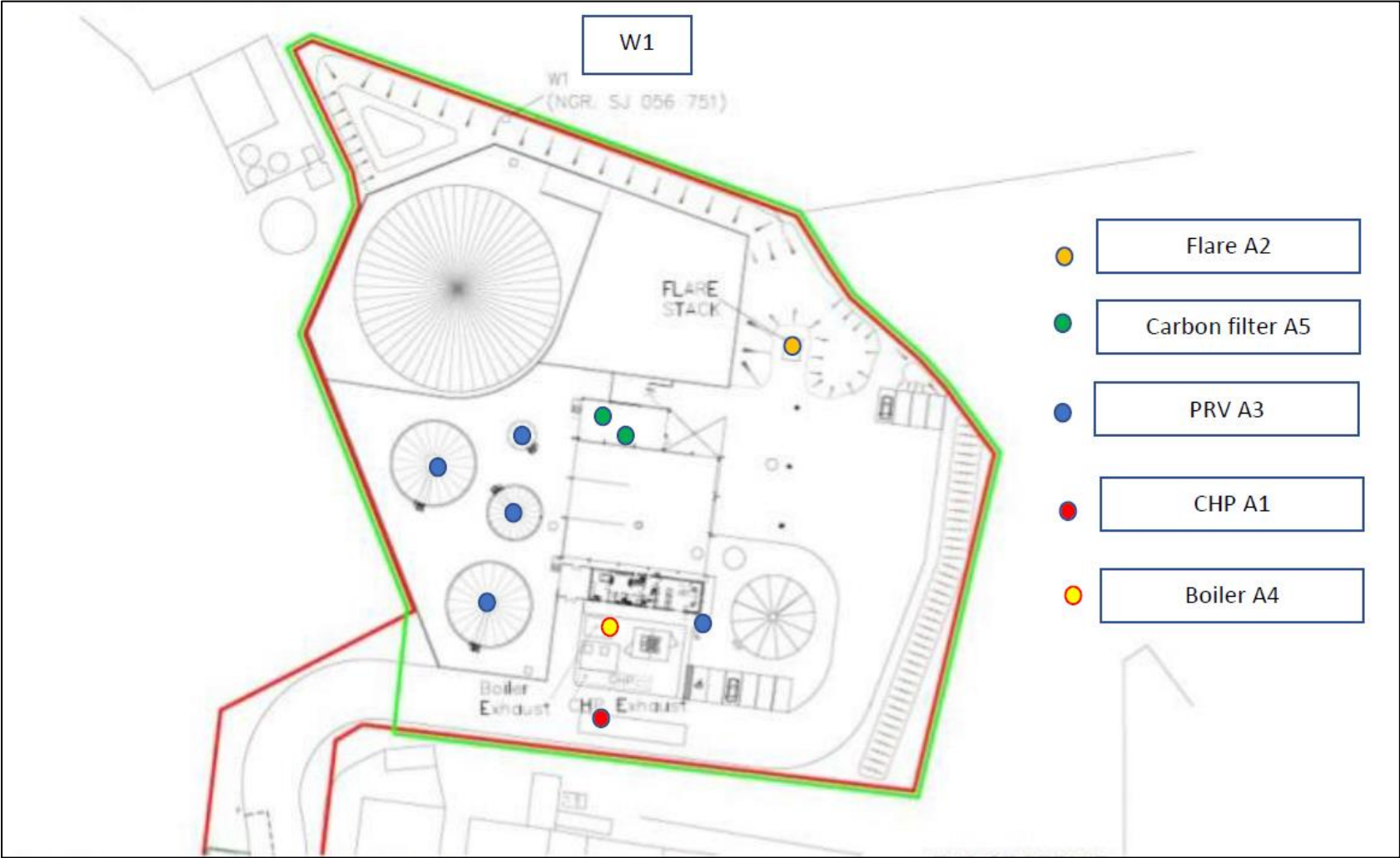
"year" means calendar year ending 31 December.

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:

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- (b) 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



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