Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

BioConstruct NewEnergy Ltd

Teesside AD Power Plant
Forty Foot Road
Middlesbrough
Cleveland
TS2 1HG

Permit number

EPR/YP3433VR

Teesside AD Power Plant
Permit number EPR/YP3433VR

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

This anaerobic digestion plant is located on an industrial estate in a loop of the river Tees in Middlesbrough, Cleveland. The plant is designed to treat up to 120,000 tonnes of food waste, agricultural wastes and green waste per year. The process is largely controlled by an automated Supervisory Control and Data Acquisition (SCADA) system that has been used widely on other similar plants. The waste is mixed and then fermented by mesophilic bacteria in two 5800m^3 fermenter vessels before transfer via a 4820m^3 post fermentation vessel, macerator (to reduce the particle size to less than 12mm) and pasteurisation treatment to two 8068m^3 digestate storage vessels. The process is designed to comply with the Animal By-Products Regulations (ABPR) and to produce digestate that will meet the requirements of the Anaerobic Digestate Quality Protocol (including meeting Publicly Available Specification 110).

Biogas (approximately 53% methane) is collected in membrane roofs on the post fermentation and digestate vessels, cleaned and compressed and then burnt in four gas engines to generate up to 5.1MWe of electricity for export to the national grid (and some use on site). Heat produced will also be used on site or dissipated by a cooling system. These Combined Heat and Power units vent to atmosphere through a 28m stack. If the gas engines are unavailable the excess gas will be flared. Potentially odorous sulphur compounds in the biogas are minimised by introducing a controlled small quantity of air into the fermenters and post fermenter vessels to promote microbiological oxidation. Remaining hydrogen sulphide is removed from the biogas using carbon absorption before combustion. The pasteurised digestate will be tankered off site for use as fertiliser on land. This permit does not authorise the spreading of digestate on land.

Emissions to air including odour from building and vessel extraction are abated by a range of biofilters and carbon absorption units. There are no process discharges to water or sewer. Site surface water is collected in a sump linked to a 100m^3 underground collection tank and then pumped automatically to a third 8068m^3 storage tank. The water is continuously monitored at all stages for dissolved oxygen content to indicate the presence of any process materials with a significant Biochemical Oxygen Demand (BOD). If the final tank content dissolved oxygen concentration is satisfactory the contents are drained under gravity to the road sewer and thence to the River Tees as a manually activated operation.

The closest potential ecologically sensitive receptors are the Teesmouth and Cleveland Coast SPA/RAMSAR and Tees and Hartlepool Foreshore and Wetlands SSSI at 1.5km and Linthorpe Cemetery Local Nature reserve (1.8km) and Teesaurus Park wildlife site (0.6km).

The site operates its own environmental management system that includes weighbridge and visual checks of waste deliveries.

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/YP3433VR/A001	Duly made 08/04/14	Application for an anaerobic digestion and biogas combustion facility
Schedule 5 notice issued	02/06/14	Request for clarifications, confirmations and additional information
Schedule 5 part response received	11/06/14	Main response including Appendices B -E
Schedule 5 part response received	17/06/14	Main response Appendix A
Schedule 5 response received	17/06/14	Further Design detail on Slam-shut valve and Biofilters
Schedule 5 response received	16/07/14	Spill Risk Assessment and DSEAR report.
Schedule 5 response received	23/07/14	HAZOP report
Schedule 5 response received	29/07/14	Final response detailing change to passive site containment from Slam-shut valve active containment approach
Permit EPR/YP3433VR/A001 determined	20/10/14	

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/YP3433VR

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

BioConstruct NewEnergy Ltd ("the operator"),

whose registered office is

Biogas Plant
Forty Foot Road
Middlesbrough
United Kingdom
TS2 1HG

company registration number 09112259

to operate an installation at

Teesside AD Power Plant
Forty Foot Road
Middlesbrough
Cleveland
TS2 1HG

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

Name	**Date**
Anne Nightingale	**20/10/14**

Authorised on behalf of the Environment Agency

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").

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan , and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 table S2.2 and

(b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4 have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

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

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

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

3.3 Monitoring

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

(a) point source emissions specified in tables S3.1, S3.2;

(b) process monitoring specified in table S3.3;

3.3.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.3.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.3.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 table S3.1 unless otherwise agreed in writing by the Environment Agency.

3.4 Odour

3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of 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.

3.5 Noise and vibration

3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of 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.

3.6 Pests

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

3.6.2 The operator shall:

(a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution, hazard or annoyance from pests;

(b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production /treatment data set out in schedule 4 table S4.2; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

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

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex IIA and IIB operations**	**Limits of specified activity and waste types**
A1	S5.4 A(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	Anaerobic digestion of permitted waste in an enclosed process followed by burning of biogas produced from the process R3: Recycling/reclamation of organic substances which are not used as solvents R13: Storage of waste pending any of the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)	From the receipt of permitted waste through to its digestion and recovery of by-products from the installation Anaerobic digestion of permitted waste including pasteurisation and chemical addition Pre-treatment of permitted waste prior to digestion which includes screening, shredding, maceration and mixing. Gas cleaning by biological desulphurisation or chemical scrubbing; Odour abatement as described in the odour management plan Waste types specified in Table S2.2 Treatment of animal waste shall not exceed 10 tonnes per day
	Directly Associated Activity		
A2	Biogas combustion	Combustion of biogas in 4 combined heat and power (CHP) engines with an aggregated electrical output of 5.1 MWe. R1: Use principally as a fuel to generate energy	**CHP engines**: from the receipt of biogas produced at the on-site anaerobic digestion process to combustion via CHP engine(s) with the release of combustion gases.
A3	Emergency flare operation	Use of an auxiliary flare required only during start-up, shutdown and during periods of biogas overpressure.	From the receipt of biogas produced on-site to incineration with the release of combustion gases.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex IIA and IIB operations**	**Limits of specified activity and waste types**
		D10: Incineration on land	
A4	Raw material storage	Storage of lubrication oil, antifreeze, iron (III) chloride, iron hydroxide, activated carbon, microelements, defoaming agents and miscellaneous laboratory consumables	From the receipt of raw materials to despatch for use within the facility
A5	Gas storage	Storage of biogas produced from anaerobic digestion of permitted waste on site	From the storage of biogas produced from anaerobic digestion process to despatch for combustion via CHP engines or flares.
A6	Digestate storage	Storage of liquid digestate in storage tanks	From the storage of liquid digestate in storage tanks to despatch for use off-site
A7	Diesel Oil combustion	Storage of diesel oil and use in telehandler, backup generator and mobile boilers	Mobile boilers only to be used during process start up.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application	Applications Form parts B2 and B3; Application documents sections and appendices (including all subsections figures and tables) 2.4, 2.5, 2.6 2.7, 2.14, 2.15, 3.5, all of section 4; and appendices E (noise) section 3; F (Odour) sections 4, 5, 6 and 7; and H (Containment) sections 5.2 and 6	08/04/14
E-mail response to Schedule 5 Notice dated 02/06/14	Response to questions 2, 3, and 5 to 10 and Appendices B and F.	11/06/14
Further e-mail Responses to Schedule 5 Notice dated 02/06/14	Operation of biofilter. Spill Risk Assessment and DSEAR assessment report. HAZOP Report from 2013 completed (CHP Plant) June 2014 Final response detailing change to passive site containment from Slam-shut valve active containment approach	17/06/14 16/07/14 23/07/14 29/07/14
E-mail letter dated 11/09/14 Applicant ref: 405.04387.00001.140 911 and attached figures 1and 2	Additional information relating to remote secondary containment design. Outline details for below ground collection sump and pumping to remote secondary tank.	11/09/14
E-mail letter dated 26/09/14 Applicant ref: 405.04387.00001.140	Response to request for information. Clarification and confirmation of a range of operational points arising from the application and subsequent discussions.	26/09/14

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
926		
E-mail letter and attachments dated 02/10/14	The use of DO as a metric within the containment solution at Teesside AD facility, and for use in discharge of surface water run-off from the containment tank	02/10/14

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IP1	The operator shall submit a post-commissioning report to the Environment Agency which shall include, but not be limited to: • a review of performance of the facility against the conditions of this permit and the pre-commissioning report proposals • details of procedures developed during commissioning for achieving and demonstrating satisfactory process control • air emission monitoring results for stack emissions points A1-A5 as detailed in Table S3.1 (this includes the flare and is additional to the annual monitoring requirement for A1-A4). • odour control and abatement systems performance.	Within 9 months of the start of commissioning of the Anaerobic Digestion Process
IP2	Following a period of optimum operation of the facility the operator shall conduct a Process Hazard Review to ensure design and operability intent is maintained and there is as low as is reasonably practicable (ALARP) risk when operating the plant. A report of the review shall be written and submitted to the Environment Agency. Where areas for improvement are identified the report shall include proposals for improvement and timescales for their implementation	Within 12 months of the start of commissioning of the Anaerobic Digestion Process
IP3	The operator shall supply written evidence to the Environment Agency of derivation of the methanol concentration and temperature limits for the glycerol waste accepted on site that will ensure its non-hazardous categorisation (for both flammability and toxicity) under WM2.	31/12/14
IP4	The operator shall provide a report to the Environment Agency detailing the findings of a noise survey conducted in accordance with BS4142:1997 (or replacement standard) designed for comparison with the predictive calculations presented in Appendix E of application EPR/YP3433VR/A001. The assessment shall cover, but not necessarily be limited to: • a review of noise sources from the facility. Where any noise source(s) are identified as exhibiting tonal contributions, they shall be quantified by means of frequency analysis. • Normal day, night and weekend operations. If the assessment indicates that the plant might give rise to disturbance then the report will include further investigation and studies undertaken to identify the specific source(s) of the problematic noise and measures proposed to mitigate the potential impact to acceptable levels in accordance with BS4142:1997 (or replacement standard).	Within 12 months from the end of commissioning.
IP5	The operator shall carry out an energy efficiency audit of the anaerobic digestion facility. The audit shall also include an evaluation of potential off-site utilisation by third parties of any excess/waste heat from the process. A written report shall be submitted to the Environment Agency detailing the findings of the audit and any improvements with a plan including timescales for their implementation.	Within 2 years from the end of commissioning.
IP6	The operator shall install and operate the collection tanks, pumps, sensors and any other infrastructure changes for remote secondary containment in the manner and to the plan detailed in the Schedule 5 notice response and subsequent e-mails as referenced in the table	Within 9 months of the start of commissioning of

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
	S1.2 Operational Techniques. Where details are in conflict the more recent submission takes precedence.	the Anaerobic Digestion Process (or otherwise as agreed in writing with the Environment Agency).

Table S1.4 Pre-operational measures	
Reference	**Pre-operational measures**
POC 01	Before beginning commissioning of the new anaerobic digestion plant the operator shall submit a commissioning plan to the Environment Agency along with timescales for implementation. The plan shall be designed to demonstrate that permit conditions will be met under all anticipated operating conditions and shall also confirm the commissioning programme, detail plant monitoring protocols, assess the performance of all abatement equipment against design parameters and monitor any abnormal waste generated during commissioning. No anaerobic digestion operations shall commence or waste be accepted at the facility until the Environment Agency has given written approval of the commissioning plan. The plan shall be implemented in accordance with the Environment Agency's written approval.
POC 02	At least 4 weeks (or such other date as agreed in writing by the Environment Agency) prior to the commencement of anaerobic digestion activities, the operator shall ensure that a review of the design, method of construction and integrity of any bunds surrounding above-ground tanks and the whole site containment is carried out by a qualified structural engineer. The review shall compare constructed bunds against the standards set out in Section 2.2.5 of the Sector Guidance Note IPPC S5.06 – *Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste*. The review shall include: • the physical condition of the bunds, • their suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure, • any work required to ensure compliance with the descriptions set out in CIRIA Report C736 where relevant, and • details of the preventative maintenance and inspection regime to be used. A written report of the review shall be submitted to the Environment Agency for approval detailing the reviews findings and recommendations. Remedial action shall be taken to ensure all bunds meet the standards set out in the above documents and implement the maintenance and inspection regime. No anaerobic digestion operations shall commence or waste be accepted at the facility until the Environment Agency has given written approval of completion of this condition.
POC 03	Before beginning commissioning of the new anaerobic digestion plant the operator shall make available to the Environment Agency for inspection, at the facility (or otherwise as agreed with the Environment Agency), the Operational, Training and Maintenance manuals for the site covering, but not limited to, all the points listed in the response to questions 2c and 2h of the Schedule 5 notice (dated 11/06/14) and the feedstock and process control sampling and analysis programme. No anaerobic digestion operations shall commence or waste be accepted at the facility until the Environment Agency has given written approval of completion of this condition.
POC 04	Before beginning commissioning of the new anaerobic digestion plant the operator shall submit to the Environment Agency, for approval, an assessment of the consequences of fire on site, including, but not limited to, quantitative consideration of the containment of fire-

Table S1.4 Pre-operational measures	
Reference	**Pre-operational measures**
	fighting water and other materials. No anaerobic digestion operations shall commence or waste be accepted at the facility until the Environment Agency has given written approval of completion of this condition.
POC 05	At least 4 weeks (or such other date as agreed in writing by the Environment Agency) prior to the commencement of anaerobic digestion activities, the operator shall ensure that a review of the design, method of construction and integrity of any above-ground tanks is carried out by a qualified structural engineer. The review shall include: • the physical condition of the tanks, • their suitability for providing containment when subjected to the dynamic and static loads in normal operation, • details of the preventative maintenance and inspection regime to be used. A written report of the review shall be submitted to the Environment Agency for approval detailing the reviews findings and recommendations. Remedial action shall be taken to ensure all tanks meet the recommendations and implement the maintenance and inspection regime. No anaerobic digestion operations shall commence or waste be accepted at the facility until the Environment Agency has given written approval of completion of this condition.
POC 06	Before beginning commissioning of the new anaerobic digestion plant the operator shall submit to the Environment Agency a report including evidence of consideration of all the recommendations in the DSEARs report for the site. This shall include, but not be limited to: Main recommendations 2.1 to 2.7 on page 5-6 Assessment of measures taken by a competent person (page 7) Explosion protection document (page 8) and verification (page 9) Quality verification of construction to as built drawings specifically to include critical safety devices and instrumentation. No anaerobic digestion operations shall commence or waste be accepted at the facility until the Environment Agency has given written approval of completion of this condition.
POC 07	Before beginning commissioning of the new anaerobic digestion plant the operator shall submit to the Environment Agency for approval a report including evidence of consideration of all the actions in the HAZOP report for the site relating to operational methods, fire and containment. No anaerobic digestion operations shall commence or waste be accepted at the facility until the Environment Agency has given written approval of completion of this condition.

Schedule 2 – Waste types, raw materials and fuels

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

Table S2.2 Permitted waste types and quantities for storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products	
Maximum quantity	**Annual throughput shall not exceed 120,000 tonnes**
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 *Restriction: Food processing waste and food washing waste only.*
02 01 03	Plant tissue waste *Including husks, cereal dust, waste animal feeds, off-cuts from vegetable and fruit and other vegetation waste*
02 01 06	Animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off site.
02 01 07	Wastes from forestry *Restriction: Plant tissue waste only.*
02 01 99	Wastes not otherwise specified *Restriction: 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 *Restriction: Process water and food washing waste only*
02 02 02	Animal-tissue waste *Including blood, animal flesh, fish processing waste, fish carcasses and poultry waste*. **Note acceptance of 02 02 02 waste type will be limited to <10 tonnes/day input.**
02 02 03	Materials unsuitable for consumption or processing
02 02 04	Sludges from on-site effluent treatment
02 02 99	Wastes not otherwise specified *Restriction: Sludges from gelatine production and animal gut contents only.*
02 03	**Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**
02 03 01	Sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	Materials unsuitable for consumption or processing
02 03 05	Sludges from on-site effluent treatment

Table S2.2 Permitted waste types and quantities for storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products	
Maximum quantity	**Annual throughput shall not exceed 120,000 tonnes**
Waste Code	**Description**
02 03 99	Wastes not otherwise specified *Restriction – Only:* *− Sludge from production of edible fats and oils* *– Seasoning residues* *– Molasses residues* *– Residues from production of potato, corn or rice starch.*
02 04	**Wastes from sugar processing**
02 04 03	Sludges from on-site effluent treatment *Restriction: Biological sludge only*
02 05	**Wastes from the dairy products industry**
02 05 01	Materials unsuitable for consumption or processing *including solid and liquid dairy products, milk, food processing wastes, yoghurt, whey*
02 05 02	Sludges from on-site effluent treatment *Restriction: Biological sludge only*
02 06	**Wastes from the baking and confectionery industry**
02 06 01	Materials unsuitable for consumption or processing *including condemned food, food processing wastes, biscuits, chocolate, yeast, bread, bakery wastes*
02 06 03	Sludges from on-site effluent treatment *Restriction: Biological sludge only*
02 07	**Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials *including brewing waste, food processing waste, fermentation waste*
02 07 02	Wastes from spirits distillation *Restriction only:* *– Spent grains, fruit and potato pulp* *– Sludge from distilleries*
02 07 04	Materials unsuitable for consumption or processing *including brewing waste, food processing waste, fermentation waste, beer, alcoholic drinks, fruit juice*
02 07 99	Wastes not otherwise specified *Restriction Only:* *− Malt husks, malt sprouts, malt dust* *– Spent grains* *– Hops* *– Yeast and yeast like residues* *– Sludges from the production process*
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 *Restriction: Untreated only*
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04

Table S2.2 Permitted waste types and quantities for storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products	
Maximum quantity	**Annual throughput shall not exceed 120,000 tonnes**
Waste Code	**Description**
	Restriction: Untreated wood only.
03 03	**Wastes from pulp, paper and cardboard production and processing**
03 03 10	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation *Restriction: Only allowed if not mixed with, or does not contain, de-inking sludge.*
03 03 11	Sludges from on-site effluent treatment other than those mentioned in 03 03 10 *Restriction: Only allowed if not mixed with, or does not contain, 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 *Fleshings may also be described as leather shavings. Restriction: Allowed only if hides and skins, or parts of them, originating from animals that did not show clinical signs of any disease communicable through that product to humans or animals.*
04 02	**Wastes from the textile 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 *Restriction: Not allowed if any non biodegradable coating or preserving substance present. Excludes laminates such as Tetrapaks.*
15 01 03	Wooden packaging *Restriction: Untreated wood only.*
15 01 05	Composite packaging *Restriction: Only allowed if comprised of packaging material otherwise allowed by list of acceptable wastes.*
16	**Wastes not otherwise specified in 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 *Restriction: Allowed only if digestate from an aerobic digestion process that accepts only the waste input types allowed by list of acceptable wastes.*
19	**Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use**
19 02	**Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	Premixed wastes composed only of non-hazardous wastes *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
19 02 06	Sludges from physico/chemical treatment other than those mentioned In 19 02 05 *Restriction: Acceptable only if derived solely from physical treatment and/or pH adjustment of input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*

Table S2.2 Permitted waste types and quantities for storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products	
Maximum quantity	**Annual throughput shall not exceed 120,000 tonnes**
Waste Code	**Description**
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09 *Restriction: Glycerol only.*
19 05	**Wastes from aerobic treatment of solid wastes**
19 05 01	Non-composted fraction of municipal and similar wastes *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
19 05 02	Non-composted fraction of animal and vegetable waste *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
19 05 03	Off-specification compost *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
19 05 99	Wastes not otherwise specified *Restriction: Allowed only if:* *– liquor/leachate from a composting process that accepts only the waste input types allowed by list of acceptable wastes; or* *– digestate from an aerobic digestion process that accepts only the waste input types allowed by list of acceptable wastes.*
19 06	**Wastes from anaerobic treatment of waste**
19 06 03	Liquor from anaerobic treatment of municipal waste *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
19 06 04	Digestate from anaerobic treatment of municipal waste *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
19 06 05	Liquor from anaerobic treatment of animal and vegetable waste *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
19 06 06	Digestate from anaerobic treatment of animal and vegetable waste *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type.*
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 *Restriction: Grease and oil mixture containing only edible oils and fats only.*
19 08 12	Sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11 *Restriction: Allowed only if uncontaminated by potentially polluting materials or substances harmful to anaerobic bacteria.*
19 12	**Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**

Table S2.2 Permitted waste types and quantities for storage prior to separation and subsequent treatment by anaerobic digestion, dewatering and final recovery of by-products	
Maximum quantity	**Annual throughput shall not exceed 120,000 tonnes**
Waste Code	**Description**
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 *Restriction: Acceptable only if derived solely from input types allowed by list of acceptable wastes and remains segregated from, and uncontaminated by, any other waste type*
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 *Restriction: Not allowed if any non-biodegradable coating or preserving substance present. Excludes laminates such as Tetrapaks.*
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 *Restriction: Untreated wood only. Not allowed if any non-biodegradable coating or preserving substance present.*
20 02	**Garden and park wastes (including cemetery waste)**
20 02 01	Biodegradable waste *Including animal faeces, manure, garden waste, green waste, horticulture waste, plant tissue, parks and garden waste, hedge and tree trimmings, grass cuttings and leafy materials.*
20 03	**Other municipal wastes**
20 03 01	Mixed municipal waste *Restriction: Allowed only if separately collected biodegradable wastes otherwise allowed by list of acceptable wastes. If former foodstuffs are packaged, the restrictions given above on packaging wastes apply.*
20 03 02	Waste from markets *– Restriction: Allowed only if source segregated biodegradable fractions. Examples are plant material, fruit and vegetables* *– Restriction: Packaging waste from a market source is allowed only if it is otherwise allowed by list of acceptable wastes.*

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1 [Point A1 on site plan in Schedule 7]	CHP engine IR1 [Note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	Annual	As per TGN M2 or other methods as agreed in writing with the Environment Agency
		Sulphur dioxide	350 mg/m^3	Hourly average	Annual	
		Carbon monoxide	1400 mg/m^3	Hourly average	Annual	
		Total VOCs	1000 mg/m^3	Hourly average	Annual	
A2 [Point A2 on site plan in Schedule 7]	CHP engine IR2 [Note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	Annual	As per TGN M2 or other methods as agreed in writing with the Environment Agency
		Sulphur dioxide	350 mg/m^3	Hourly average	Annual	
		Carbon monoxide	1400 mg/m^3	Hourly average	Annual	
		Total VOCs	1000 mg/m^3	Hourly average	Annual	
A3 [Point A3 on site plan in Schedule 7]	CHP engine IR3 [Note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	Annual	As per TGN M2 or other methods as agreed in writing with the Environment Agency
		Sulphur dioxide	350 mg/m^3	Hourly average	Annual	
		Carbon monoxide	1400 mg/m^3	Hourly average	Annual	

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**
		Total VOCs	1000 mg/m^3	Hourly average	Annual	
A4 [Point A4 on site plan in Schedule 7]	CHP engine IR4 [Note 1]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	Annual	As per TGN M2 or other methods as agreed in writing with the Environment Agency
		Sulphur dioxide	350 mg/m^3	Hourly average	Annual	
		Carbon monoxide	1400 mg/m^3	Hourly average	Annual	
		Total VOCs	1000 mg/m^3	Hourly average	Annual	
A5 [Point A5 on site plan in Schedule 7]	Emergency flare stack [Note 2]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Hourly average	[Note 3]	As per TGN M2 or other methods as agreed in writing with the Environment Agency
		Carbon monoxide	50 mg/m^3	Hourly average	[Note 3]	
		Total VOCs	10 mg/m^3	Hourly average	[Note 3]	
A6 [Point A6 on site plan in Schedule 7]	Reception Biofilter vent	No parameter set	No limit set	--	--	--
A7 [Point A4 on site plan in schedule 7]	Slurry tank Biofilter vent	No parameter set	No limit set	--	--	--

Note 1 - These limits are based on normal operating conditions and load (temperature 0°C (273 K), pressure: 101.3 kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply.

Note 2 - These limits are based on normal operating conditions and load. Temperature: 0°C (273K), pressure: 101.3 KPa and oxygen: 3 per cent (dry gas). The measurement uncertainty specified in LFTGN05 v2 2010 shall apply.

Note 3 - Monitoring to be undertaken as part of commissioning. Following this, monitoring to be undertaken in the event the flare has been operational for more than 10 per cent of a year (876 hours)

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 on site plan in schedule 7 Emission via Road sewer to River Tees To be sampled from discharging tank.	Uncontaminated site surface water	Dissolved Oxygen	5 mg/l Minimum	Spot	Each release to off-site drain.	As agreed in writing with the Environment Agency
		Visual appearance	Clear and not significantly coloured	Spot	Each release to off-site drain.	As agreed in writing with the Environment Agency

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 Digester and Storage tanks	Flow	Continuous	In accordance with EU Weights and Measures Regulations	Or otherwise as agreed in writing with the Environment Agency.
Biogas from Digester and Storage tanks	Methane Hydrogen sulphide	Continuous	--	Gas monitors calibrated every 6 months to manufacturers requirements
Biofilter and/or equivalent abatement system	Temperature, moisture and thatching/ compaction	Daily	Temperature probe , not specified for other parameters	Biofilter and/or equivalent abatement system shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Records to be available for inspection by the Environment Agency on request.
Process waste input	Animal waste input (kg)	Daily	--	Site weighbridge receipt records to be available for inspection by the Environment Agency on request.
All tanks greater than 600m^3 volume	Integrity checks	Weekly	External visual assessment	Records to be available for inspection by the Environment Agency on request.

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**
All tanks greater than 600m^3 volume	Integrity checks	After 5 years from commissioning end and subsequently 3 yearly.	Internal inspection by a suitably qualified structural engineer	Including visual assessment, corrosion and thickness testing Records to be available for inspection by the Environment Agency on request.
Representative sample of each digester contents	Volatile Fatty Acid concentration	Weekly or otherwise as agreed in writing with the Environment Agency	Gas Chromatography or other method as agreed with the Environment Agency	Retrospective analysis for confirmation of digester feedstock control.
Representative sample of each digester contents	Total Alkalinity	Weekly or otherwise as agreed in writing with the Environment Agency	Titration or other method as agreed with the Environment Agency	Retrospective analysis for confirmation of digester feedstock control.
Representative sample of each digester contents	Carbon:Nitrogen ratio	Weekly or otherwise as agreed in writing with the Environment Agency	Elemental Analysis or other method as agreed with the Environment Agency	Retrospective analysis for confirmation of digester feedstock control.

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Emissions to air Parameters as required by condition 3.3.1.	A1, A2, A3, A4 + A5 if appropriate	Annual	01/01/15
Emissions to water Parameters as required by condition 3.3.1	W1	Annual	01/01/15
Process Monitoring. Parameters as required by condition 3.3.1	Digester content analyses	Quarterly	01/01/15

Table S4.2: Annual production/treatment	
Parameter	**Units**
Electricity generated	MWh
Total digestate transferred off site	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
CHP gas engine usage	Annually	hours
CHP engine efficiency	Annually	%
Biogas usage	Annually	tonnes or m^3
Emergency flare operation	Annually	hours
Electricity usage	Annually	MWh
Electricity exported	Annually	MWh
Water usage	Annually	m^3
Raw material usage	Annually	tonnes
Diesel Oil usage	Annually	tonnes

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air	Form Air 1 or other form as agreed in writing by the Environment Agency	2014
Water	Form Water 1 or other form as agreed in writing by the Environment Agency	2014
Process Monitoring	Form Process 1 or other form as agreed in writing by the Environment Agency	2014
Other performance indicators	Form Performance 1 or other form as agreed in writing by the Environment Agency	2014
Waste returns	Form WMS1	2014

Schedule 5 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 4.3.1 and 4.3.2 of this Permit.

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 Environmental Permitting Regulations.

Part A

Permit Number	
Name of Operator	
Location of Facility	
Time and date of the emission	

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

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

Time periods for notification following detection of a breach of a limit	
Parameter	**Notification period**
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:	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B

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 or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the Permitted Installation 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.

"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.

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

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

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

"D" means a disposal operation provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

"digestate" means material resulting from an anaerobic digestion process

"disposal". Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

"emissions to land" includes emissions to groundwater.

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

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

"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 protection zones 1 and 2" have the meaning given in the document titled "Groundwater Protection: Policy and Practice" published by the Environment Agency in 2006.

"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.

"nearest sensitive receptors" means the nearest place to the composting operations where people are likely to be for prolonged or frequent periods. This term would therefore apply to dwellings (including any associated gardens) and to workplaces where workers would frequently be present. It does not apply to the operators of composting facilities or their staff while carrying out the composting operation as their health is covered by Health and Safety legislation.

Pests" means Birds, Vermin and Insects.

“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 on waste.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England)Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

Drafting note: only use above definition for chapter 5 installations

“year” means calendar year ending 31 December.

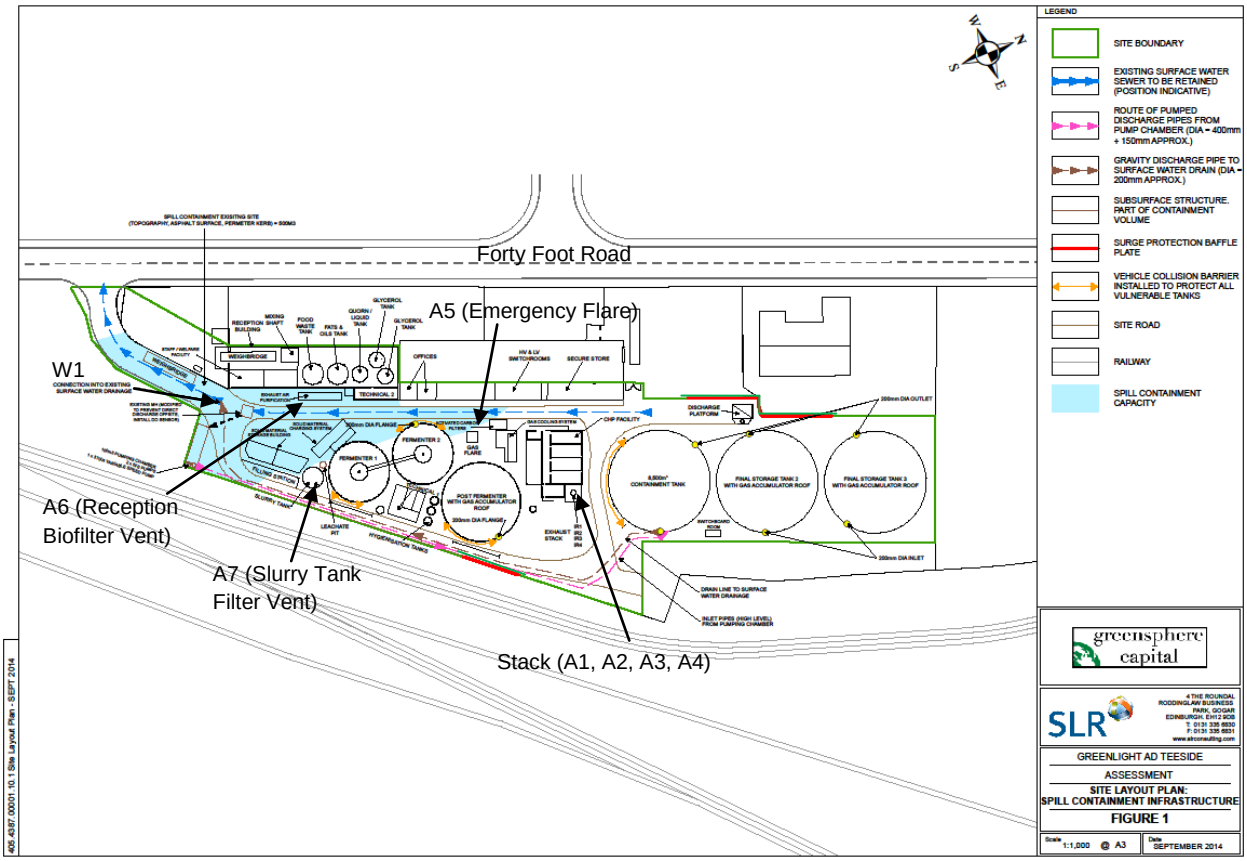
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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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END OF PERMIT

Permit Number: EPR/YP3433VR Operator: BioConstruct NewEnergy Limited

Facility: Teesside AD Power Plant Form Number: Air1/2014

Reporting of emissions to air for the period to (use DD/MM/YYYY)

Emission Point	Substance/Parameter	Emission Limit Value	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty[4]
A1	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3					
A2							
A3							
A4							
A1	Sulphur dioxide	350 mg/m^3					
A2							
A3							
A4							
A1	Carbon Monoxide	1400 mg/m^3					
A2							
A3							
A4							
A1	Total VOCs	1000 mg/m^3					
A2							
A3							
A4							
A5[5]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3					

Emission Point	Substance/Parameter	Emission Limit Value	Reference Period	Result[(1)]	Test Method[(2)]	Sample Date and Times[(3)]	Uncertainty[(4)]
	Carbon Monoxide	50 mg/m^3					
	Total VOCs	10 mg/m^3					

1) The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
2) Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal techniques is stated, for example gas chromatography.
3) For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
4) The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.
5) Monitoring to be undertaken as part of commissioning. Following this, monitoring to be undertaken in the event the flare has been operational for more than 10 per cent of a year (876 hours)

Signed …… Date……..
(Authorised to sign as representative of Operator)

Permit Number: EPR/YP3433VR Operator: BioConstruct NewEnergy Limited

Facility: Teesside AD Power Plant Form Number: Water1/2014

Reporting of emissions to water for the period to (use DD/MM/YYYY)

Emission Point	Substance/Parameter	Emission Limit Value	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty[4]
W1	Dissolved Oxygen	5 mg/l Minimum					

1) The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
2) Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal techniques is stated, for example gas chromatography.
3) For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
4) The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..

(Authorised to sign as representative of Operator)

Permit Number: EPR/YP3433VR Operator: BioConstruct NewEnergy Limited

Facility: Teesside AD Power Plant Form Number: Process1/2014

Reporting of process monitoring for the period to (use DD/MM/YYYY)

Point of Measurement	Substance/Parameter	Reference Period	Result[1]	Test Method[2]	Sample Date and Times[3]	Uncertainty[4]
Digester 1	Volatile Fatty Acid Concentration					
Digester 2						
Digester 1	Total Alkalinity					
Digester 2						
Digester 1	Carbon:Nitrogen ratio					
Digester 2						

1) The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
2) Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal techniques is stated, for example gas chromatography.
3) For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
4) The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..

(Authorised to sign as representative of Operator)

Permit Number: EPR/YP3433VR Operator: BioConstruct NewEnergy Limited

Facility: Teesside AD Power Plant Form Number: Performance/2014

Reporting of performance parameters for the period to (use DD/MM/YYYY)

Parameter	Result	Units
CHP gas engine usage		Hours
CHP engine efficiency		%
Biogas usage		Tonnes or m^3
Emergency flare operation		Hours
Electricity usage		MWh
Electricity exported		MWh
Water usage		M^3
Raw material usage		Tonnes
Diesel oil usage		Tonnes
Electricity generated		MWh
Total digestate transferred off site		Tonnes

Signed …… Date……..

(Authorised to sign as representative of Operator)