



Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

BioConstruct NewEnergy Limited

Imperial Park Anaerobic Digestion Plant
Imperial Avenue
Imperial Park
South Bank
Middlesbrough
TS6 6BA

Permit number

EPR/HP3230DJ

Imperial Park Anaerobic Digestion Plant

Permit number EPR/HP3230DJ

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows:

The site occupies an area of approximately 1.87 hectares and is located on Imperial Park in Middlesbrough, being centred on National Grid Reference NZ 5279 2109.

A main railway line runs to the immediate north of the site, with the large seaport of Teesport and the River Tees at a distance of 500 metres beyond that. Also on the River Tees lies the Teesmouth and Cleveland Coast SPA, Ramsar and SSSI site being 680 metres from the closest point of the site boundary.

The immediate area to the east and south of the site is predominantly used for industrial and commercial purposes. The nearest residential properties in this direction lie to the south on Upper Oxford Street, at a distance of approximately 370 metres from the site boundary.

To the west of the site lies an area of mixed commercial / industrial units together with a traveller's site on King George's Terrace at approximately 50 metres distant, with a large area used as a motocross park beyond that.

The site has been designed to treat up to 300 tonnes per day of liquid and solid waste via anaerobic digestion. The liquid waste arrives in sealed tankers and is pumped into one of the reception tanks via a stone trap where it is mixed / macerated. The reception tanks are located within a waste reception building that is provided with fast acting doors, kept under negative pressure and fitted with an extraction and odour abatement system.

The solid waste (seasonal green waste) is received in an outside reception area where it is loaded into the charging system for the digestion process. Any green waste not loaded into the charging system will be moved into the solid waste reception building by the end of the working day.

The anaerobic digestion takes place in two primary 'fermentation' tanks where the waste is held for approximately 44 days and a 'post fermentation' tank, where it is held for approximately 21 days to ensure maximum biogas capture. The resultant digestate waste is then pumped to pasteurisation tanks where the temperature is raised to 70 °C for a minimum of one hour. The heat treated digestate is then pumped to one of the digestate storage tanks prior to onward recovery, (intended for use as a soil improver).

The biogas produced by the digestion process passes through a de-sulphurisation (activated carbon scrubbing) process and is subsequently combusted in four combined heat and power gas engines, producing both heat for the digestion / pasteurisation process and electricity for export to the National Grid. The gas engines have a combined thermal input of 12.5 MW_{th} and a combined electrical generating output of approximately 5 MW_e.

In order to provide adequate dispersion, the combustion gases from the engines are to be vented to atmosphere via a combined 28.25 metre multi-flue exhaust stack. A separate emergency gas flare will be available to combust biogas should there be insufficient available capacity in the engines.

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/HP3230DJ/A001	Duly made 17/06/16	Application for an anaerobic digestion facility with combustion of biogas

Status log of the permit		
Description	Date	Comments
Additional information received	28/11/16	Additional information received regarding: <ul style="list-style-type: none"> - Odour management plan; - Waste types; - Waste reception and storage, (including drainage and bund design); - Process monitoring; - Flare design; and - Site condition/baseline report.
Permit determined	20/12/16	Permit issued to BioConstruct NewEnergy Limited

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/HP3230DJ

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

BioConstruct NewEnergy Limited (“the operator”),

whose registered office is

**54-58 Tanner Street
The Brandenburg Suite - Tanner Place
London
SE1 3PH**

company registration number **09112259**

to operate an installation at

**Imperial Park Anaerobic Digestion Plant
Imperial Avenue
Imperial Park
South Bank
Middlesbrough
TS6 6BA**

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

Name	Date
M Bischer	20/12/16

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

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

1.2 Energy efficiency

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

1.3 Efficient use of raw materials

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

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

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

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

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).
- 2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in red 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.

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 table S3.1.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

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

3.3 Odour

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

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

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

3.5 Monitoring

- 3.5.1 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 table S3.1; and
 - (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 the Environment Agency.
- 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 table S3.2 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

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

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
 - (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and

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

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

4.2 Reporting

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

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

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the annual production/treatment data set out in schedule 4 table S4.2; and
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

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

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

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

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

4.3 Notifications

4.3.1 In the event:

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

- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (c) the death of any of the named operators (where the operator consists of more than one named individual);
 - (d) any change in the operator's name(s) or address(es); and
 - (e) 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 "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
AR1	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 biological treatment.	R3: Recycling/reclamation of organic substances which are not used as solvents	<p>From receipt of waste through to digestion and recovery of by-products (digestate).</p> <p>Anaerobic digestion of waste in two primary fermentation tanks and one post fermentation tank followed by combustion of biogas produced from the process.</p> <p>Waste types suitable for acceptance are limited to those specified in schedule 2, table S2.2.</p> <p>Treatment of animal waste shall be limited to ten tonnes per day.</p>
Directly Associated Activity			
AR2	Storage of waste pending recovery	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of permitted waste to pre-treatment and despatch for anaerobic digestion on site.</p> <p>Storage of residual wastes from pre-treatment to despatch off-site for recovery.</p> <p>All wastes to be stored in accordance with the approved odour management plan.</p> <p>Waste types suitable for acceptance are limited to those specified in schedule 2, table S2.2.</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
AR3	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery.</p> <p>Pre-treatment of seasonal garden waste (waste code 20 02 01) by manual sorting on an impermeable surface with sealed drainage system.</p> <p>Mixture and maceration of waste in a sealed system, (waste reception tanks).</p> <p>Heat treatment (pasteurisation) of waste in five tanks for the purpose of recovery, (including pre-maceration and screening).</p> <p>Gas cleaning by biological or chemical scrubbing.</p> <p>Waste types suitable for acceptance are limited to those specified in schedule 2, table S2.2.</p>
AR4	Steam and electrical power supply	R1:Use principally as a fuel to generate energy	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases.</p> <p>Combustion of biogas in four combined heat and power (CHP) engines with an aggregated thermal input of 12.5 MW_{th}.</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
AR5	Auxiliary flare operation	D10: Incineration on land	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases.</p> <p>Use of one auxiliary flare required only during periods of breakdown or maintenance of the CHP engine(s).</p>
AR6	Raw material storage	Storage of raw materials including lubrication oil, antifreeze, iron chloride, activated carbon, diesel and anti-foaming agent	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of raw materials to despatch for use within the facility.</p>
AR7	Gas storage	Storage of biogas produced from on-site anaerobic digestion of permitted waste in roof space of digesters.	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.</p>
AR8	Digestate storage	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)	<p>Undertaken in relation to Activity AR1.</p> <p>From the receipt of digestate produced from the on-site anaerobic digestion process to despatch for use off-site.</p> <p>Storage of liquid digestate in four storage tanks</p>

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	<p>The following documents submitted in response to Part B3 of the application form:</p> <ul style="list-style-type: none"> – ‘BAT Statement’, (May 2016, ref: NT12050/005); 	14/06/16

Table S1.2 Operating techniques		
Description	Parts	Date Received
	<ul style="list-style-type: none"> - 'Operating Techniques' (May 2016, ref: NT12050/003); and - 'Odour Management Plan' (May 2016, ref: NT12687/001), <p>as superseded / supplemented by the additional information referenced in this table below.</p>	
Additional information	<p>The following parts of the letter received from Wardell Armstrong dated 28/11/16, ref: DB/ST/NT12050/004:</p> <ul style="list-style-type: none"> - Items 1.1, 1.2, 1.3 and 1.4 (b) relating to the Odour Management Plan - Item 3.1 relating to the quarantine area; and - Item 3.2 and associated appendices relating to the drainage and bund arrangements, (to include maintenance of the vehicular access 'flood gates' in accordance with the manufacturer's recommendations) 	28/11/16

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>The operator shall carry out a monitoring study in order to verify the assumptions made in the application in relation to the emission concentration of sulphur dioxide to air.</p> <p>The study shall include quantification of the actual sulphur dioxide emission concentration from the gas engine multi-flue stack, (emission points A1 to A4) by either:</p> <ul style="list-style-type: none"> - representative monitoring of sulphur dioxide stack emissions; or - calculation from the continuous hydrogen sulphide monitoring of the feed gas. 	28/02/17

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC2	<p>Using the emission concentration established in accordance with improvement condition IC1 above, the operator shall submit a risk assessment of sulphur dioxide emissions to air to the Environment Agency for review.</p> <p>This risk assessment shall be carried out in accordance with Environment Agency Guidance: 'Air emissions risk assessment for your environmental permit' and shall also include:</p> <ul style="list-style-type: none"> – details of how the sulphur dioxide emission concentration has been derived; – a proposed emission limit value and monitoring for sulphur dioxide if the process contribution or predicted environmental concentration is considered significant in relation to an environmental standard; and – a timetable for the implementation of any measures for further action that have been identified in the risk assessment. <p>Once agreed in writing by the Environment Agency, any emission limit value and monitoring shall be implemented and form part of schedule 3, table S3.1 of this permit.</p> <p>Any identified further actions shall be implemented as agreed in writing by the Environment Agency.</p>	<p>Within 1 month following completion of improvement condition IC1 above</p>
IC3	<p>The operator shall submit a report of the commissioning of the odour abatement system to the Environment Agency that shall include, but not be limited to:</p> <ul style="list-style-type: none"> – odour control and abatement systems performance; and – details of any additional procedures developed during commissioning for achieving satisfactory process control and compliance with permit conditions relating to odour. 	<p>Within 3 months following the completion of commissioning</p>
IC4	<p>The operator shall submit a report of the commissioning of the bund vehicular access 'flood gates' to the Environment Agency that shall include, but not be limited to:</p> <ul style="list-style-type: none"> – a review of the effectiveness of the functioning and containment provided by the flood gates; and – details of any additional procedures developed during commissioning for achieving satisfactory containment. 	<p>Within 3 months following the completion of commissioning</p>

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
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Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 109,500 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 – vegetables, fruit and other crops
02 01 02	animal tissue waste
02 01 03	plant tissue waste
02 01 06	animal faeces, urine and manure (including spoiled straw) only
02 01 07	wastes from forestry
02 01 99	residues from commercial mushroom cultivation
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	sludges from on-site effluent treatment
02 02 99	sludges from gelatine production, animal gut contents
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
02 03 99	sludge from production of edible fats and oils to include 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
02 04 99	other biodegradable wastes
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 109,500 tonnes
Waste code	Description
02 06 01	materials unsuitable for consumption or processing
02 06 03	sludges from on-site effluent treatment
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
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
02 07 99	spent grains, hops and whisky filter sheets/cloths, yeast and yeast-like residues, sludge from 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 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
03 03 08	paper and cardboard – not allowed if any non biodegradable coating or preserving substance is present
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
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 01 05	tanning liquor free of chromium
04 01 07	sludges not containing chromium
04 02	wastes from the textile industry
04 02 10	organic matter from natural products, e.g. 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 – not allowed if any non biodegradable coating or preserving substance is present. Excludes laminates such as Tetrapaks.
15 01 02	biodegradable plastic packaging – must be independently certified to BS EN 13432
15 01 03	untreated wooden packaging – not allowed if any non biodegradable coating or preserving substance is present
15 01 05	composite packaging – must conform to BS EN 13432 and not allowed if any non biodegradable coating or preserving substance is present
16	Wastes not otherwise specified in the list
16 10	aqueous liquid wastes destined for off-site treatment
16 10 02	liquor/leachate from a composting process that accepts waste input types listed in this table only

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 109,500 tonnes
Waste code	Description
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	waste types listed within this table, Table S2.2, that have been mixed together only
19 02 10	glycerol not designated as hazardous i.e. excludes EWC code 19 02 08
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
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 03	liquor from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table only)
19 06 04	digestate from anaerobic treatment of source segregated biodegradable waste (from a process that treats wastes which are listed in this table only)
19 06 05	liquor from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
19 06 06	digestate from anaerobic treatment of animal and vegetable waste (from a process that treats wastes which are listed in this table only)
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 oil and fats
19 08 12	sludges from biological treatment of industrial waste water
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 – not allowed if any non biodegradable coating or preserving substance is present. Excludes laminates such as Tetrapaks.
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 01 38	untreated wood where no non biodegradable coating or preserving substance is 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 waste – only separately collected biodegradable wastes of types listed within this table, Table S2.2
20 03 02	waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables

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 to A4 [Point A1 to A4 on site plan in Schedule 7]	Individual 28.25 metre high flues from CHP engines 1 to 4, contained within a common windshield/stack [note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual, (the first annual monitoring to be undertaken as part of the engine commissioning)	BS EN 14792
		Carbon monoxide	1400 mg/m ³			BS EN 15058
		Total VOCs	1000 mg/m ³			BS EN 12619:2013
		Sulphur dioxide [note 2]	350 mg/m ³	Hourly average	Annual	BS EN 14791
A5 [Point A5 on site plan in schedule 7]	Emergency flare stack with a combustion temperature of at least 1,000 °C and a residence time of at least 0.3 seconds [note 3]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	Hourly average	[note 4]	BS EN 14792
		Carbon monoxide	50 mg/m ³			BS EN 15058
		Total VOCs	10 mg/m ³			BS EN 12619:2013
Pressure relief valves	Digesters/Digestate storage tank(s)	No parameter set	No limit set	--	--	--
<p>Note 1 - These limits are based on normal operating conditions and load - temperature 0°C (273K); pressure: 101.3 kPa and oxygen: 5 per cent (dry gas). The measurement uncertainty specified in LFTGN08 v2 2010 shall apply.</p> <p>Note 2 – Sulphur dioxide limits and monitoring frequency subject to review in accordance with improvement condition IC2.</p> <p>Note 3 - 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.</p> <p>Note 4 - Initial monitoring to be undertaken as part of commissioning of the emergency flare. Following commissioning, monitoring to be undertaken in the event the auxiliary flare has been operational for more than 10 per cent of a year (876 hours).</p>						

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 to surface water sewer	Uncontaminated site surface water	No parameter set	No limit set	--	Weekly	Visual assessment – no visible oil or grease

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 Digesters	Flow	Continuous	In accordance with EU weights and measures Regulations	--
Biogas from Digesters	Methane	Continuous	None specified	Gas monitors to be calibrated every 6 months or in accordance with the manufacturer's recommendations.
	Hydrogen sulphide	Daily	None specified	--
Waste reception building; Digesters and storage tanks	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary.
Digesters and storage tanks	Integrity checks	Weekly	Visual assessment	--
Ultraviolet reactor and activated carbon filtration system	Key operating parameters to include air flow	In accordance with manufacturer's recommendations.	None specified	Odour abatement system shall be regularly checked and maintained to ensure appropriate operating parameters are maintained. Activated carbon filter(s) to be replaced prior to saturation in accordance with manufacturer's recommendations.

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 3.5.1.	A1 to A4, (A5 subject to the requirements of condition 3.5.1 / table S3.2	Every 12 months	1 January, 1 April, 1 July, 1 October

Table S4.2 Annual production/treatment	
Parameter	Units
Electricity generated	MWh
Whole digestate	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes or m ³
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m ³
Auxiliary flare operation	Annually	hours of operation
Pressure relief valves	Annually, unless otherwise agreed in writing by the Environment Agency	hours of operation
Electricity exported	Annually	MWh
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%

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	20/12/16
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	20/12/16
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	20/12/16
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	20/12/16
Waste returns	E-waste Return Form	--

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 malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
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 limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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) Notification requirements for the detection of any significant adverse environmental effect	
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.

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

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

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

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

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

“digestate” means material resulting from an anaerobic digestion process.

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

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

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 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.

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

“LFTGN05 v2 2010” means Environment Agency publication ‘Guidance for monitoring enclosed landfill gas flares, LFTGN05 v2 2010’.

“LFTGN08 v2 2010” means Environment Agency publication ‘Guidance for monitoring landfill gas engine emissions, LFTGN08 v2 2010’.

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

“pests” means Birds, Vermin and Insects.

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

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

“sealed drainage system” in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- no liquids will run off the surface otherwise than via the system

- all liquids entering the system are collected in a sealed sump, except where liquids may be lawfully discharged to foul sewer.

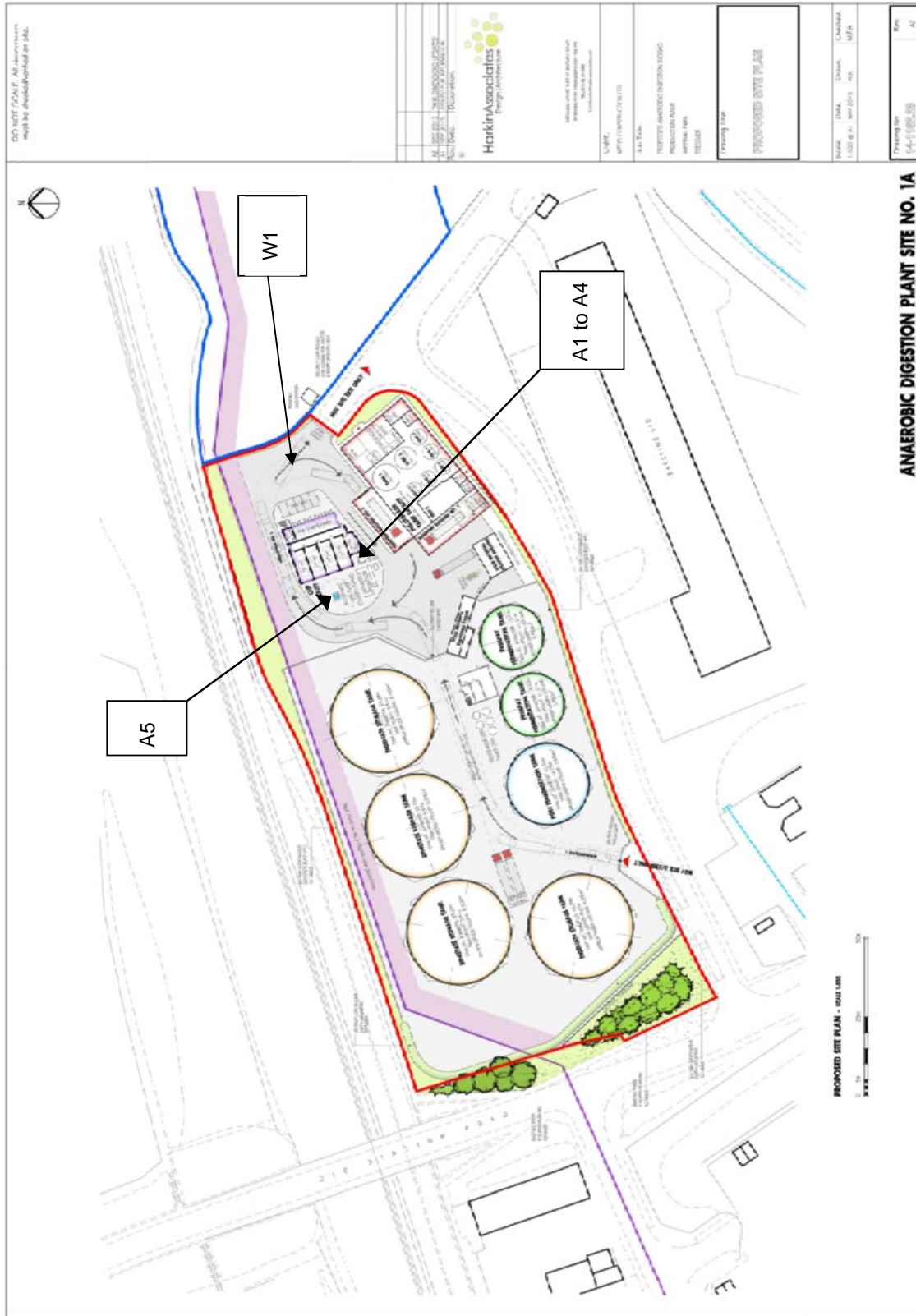
“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

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

“year” means calendar year ending 31 December.

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

Schedule 7 – Site plan



END OF PERMIT

Permit number
EPR/HP3230DJ
Issued 20/12/16

Permit Number: EPR/HP3230DJ

**Operator: BioConstruct New Energy
Limited**

Facility: Imperial Park AD Plant

Form Number: Air1 / 20/12/16

Reporting of emissions to air for the period from to

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	1 hour period		BS EN 14792		
	Sulphur dioxide [5]	350 mg/m ³	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m ³	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m ³	1 hour period		BS EN 12619:2013		
A2	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	1 hour period		BS EN 14792		
	Sulphur dioxide [5]	350 mg/m ³	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m ³	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m ³	1 hour period		BS EN 12619:2013		
A3	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	1 hour period		BS EN 14792		
	Sulphur dioxide [5]	350 mg/m ³	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m ³	1 hour period		BS EN 15058		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
	Total VOCs	1000 mg/m ³	1 hour period		BS EN 12619:2013		
A4	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	1 hour period		BS EN 14792		
	Sulphur dioxide [5]	350 mg/m ³	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m ³	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m ³	1 hour period		BS EN 12619:2013		
A5	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	1 hour period		BS EN 14792		
	Carbon monoxide	50 mg/m ³	1 hour period		BS EN 15058		
	Total VOCs	10 mg/m ³	1 hour period		BS EN 12619:2013		

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

[5] Unless otherwise agreed in accordance with improvement condition IC2

Signed

Date.....

(Authorised to sign as representative of Operator)

Permit Number: EPR/HP3230DJ

**Operator: BioConstruct New Energy
Limited**

Facility: Imperial Park AD Plant

Form Number: WaterUsage1 / 20/12/16

Reporting of Water Usage for the year

Water Source	Usage (m3/year)	Specific Usage (m3/unit output)
Mains water		

Operator's comments:

Signed

Date.....

(authorised to sign as representative of Operator)

Permit Number: EPR/HP3230DJ

Operator: BioConstruct New Energy Limited

Facility: Imperial Park AD Plant

Form Number: Performance1 / 20/12/16

Reporting of Energy Usage for the year

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	MWh		
Natural Gas	MWh		
Gas Oil	tonnes		
Recovered Fuel Oil	tonnes		
Biogas	tonnes		
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

Signed

Date.....

(Authorised to sign as representative of Operator)

Permit Number: EPR/HP3230DJ

Operator: BioConstruct New Energy Limited

Facility: Imperial Park AD Plant

Form Number: Performance1 / 20/12/16

Reporting of other performance indicators for the period to

Parameter	Units
Total raw material used	tonnes
CHP engine usage	hours
CHP engine efficiency	%
Emergency flare operation	hours
Electricity exported	MWh

Operator's comments:

Signed

Date.....

(Authorised to sign as representative of Operator)