

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Severn Trent Green Power Limited
Coleshill Food Waste Anaerobic Digestion Plant
Coleshill Sewage Treatment Works
Marconi Way
Coleshill
Warwickshire
B46 1DA

Permit number

EPR/BP3537VX

Colehill Food Waste Anaerobic Digestion Plant

Permit number EPR/BP3537VX

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The Food Waste Anaerobic Digestion Facility will operate under Section 5.4 Part A (1)(b)(i) of the Environmental Permitting Regulations 2010. The facility will comprise of the anaerobic digestion plant (AD) plant and associated combined heat and power (CHP) plant (including an emergency flare and a temporary auxiliary boiler.) The facility is designed to process up to 48,500 tonnes of incoming feedstock per annum, consisting of biodegradable, organic food wastes from the commercial and industrial sectors, and energy crop in the form of silage. The site is located within Colehill Sewage Treatment Works (STW) in Warwickshire, situated immediately north of Colehill and 1km to the east of Water Orton.

Food waste brought on site will be deposited within recessed bunkers within the reception building. The waste undergoes pre-treatment to remove contaminants and to introduce liquid wastes and water in order to produce a 'soup' of blended waste ready for digestion. This blended waste is then pumped to primary and secondary digesters where it undergoes digestion at above 40°C for a period in excess of 60 days, followed by pasteurisation as required by the Animal By-Products Regulations. The by-product from the process (liquid digestate) will be stored in tanks prior to despatch off-site as a soil conditioner. The spreading of digestate on land is not included or authorised by this Environmental Permit.

Biogas drawn off from the digesters will be used to generate electricity and heat from two spark ignition CHP engines with an aggregated thermal input of 6MW. It is anticipated that the facility will generate in the region of 2.4MW of electrical output, in order to supply the AD facility and the STW works, and for export of any surplus electricity to the national grid. The heat produced from the engines will be recovered and integrated in the process heating requirements.

The waste reception building is connected via an air extraction system to a wet alkali scrubber and a woodchip and bark biofilter that will treat odorous air prior to discharge to atmosphere. The site will operate with a sealed drainage system with process effluent from the anaerobic digestion operation being re-circulated within the process. Uncontaminated roof and site surface water is discharged via interceptor to the nearby River Tame. Wastewater from the site welfare facilities and any excess uncontaminated roof and site surface water is discharged to the adjacent STW.

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/BP3537VX/A001	Duly made 15/09/14	Application for an anaerobic digestion facility with combustion of biogas.
Permit determined EPR/BP3537VX (Billing reference: BP3537VX)	12/12/14	Permit issued to Severn Trent Green Power Limited.

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BP3537VX

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

Severn Trent Green Power Limited ("the operator"),

whose registered office is

Severn Trent Centre

2 St. John's Street

Coventry

CV1 2LZ

company registration number 04501557

to operate an installation at

Coleshill Food Waste Anaerobic Digestion Plant

Coleshill Sewage Treatment Works

Marconi Way

Coleshill

Warwickshire

B46 1DA

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

Name	Date
Emma Pemberton	12/12/2014

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 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(s) 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, S3.2 and S3.3.
- 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.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

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

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2;
 - (b) process monitoring specified in table S3.4;
- 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 3.3.1 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 tables S3.1 and 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 "without delay", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities		
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
S5.4 A1 (b) (i)	<p>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</p> <p>Anaerobic digestion of permitted waste in 4 tanks followed by burning of biogas produced from the process</p> <p>R3: Recycling/reclamation of organic substances which are not used as solvents</p>	<p>From receipt of permitted waste through to digestion and recovery of by-products (digestate).</p> <p>Anaerobic digestion of permitted waste including pasteurisation and chemical addition.</p> <p>Pre-treatment of waste in an enclosed building and on an impermeable surface with sealed drainage system prior to anaerobic digestion including maceration, mixing and blending.</p> <p>Waste types as specified in Table S2.2.</p>
Directly Associated Activity		
Storage of waste	<p>Storage of permitted waste in an enclosed building and on an impermeable surface with sealed drainage system, prior to anaerobic digestion.</p> <p>Storage of waste arising from pre-treatment of feedstock destined for anaerobic digestion</p> <p>R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced)</p>	<p>Waste destined for anaerobic digestion:</p> <p>From receipt of waste to despatch for treatment at the on-site anaerobic digestion facility.</p> <p>Waste arising from pre-treatment of feedstock:</p> <p>From receipt of waste to despatch for recovery and/or disposal off-site.</p> <p>Waste types as specified in Table S2.2.</p>
Steam and electrical power supply	<p>Combustion of biogas in 2 combined heat and power (CHP) engines with an aggregated thermal input of 6 MWth</p> <p>R1: Use principally as a fuel to generate energy</p>	<p>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</p>
Emergency flare	<p>Use of an auxiliary flare required only during periods of breakdown or maintenance of the CHP engine(s)</p>	<p>From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases</p>
Heat treatment	<p>Pasteurisation of permitted waste using heat in 3 tanks</p>	<p>From the receipt of waste to recovery</p>
Raw material storage	<p>Storage of raw materials including lubrication oil, ferrous chloride, energy crop (silage) and harvested rainwater</p>	<p>From the receipt of raw materials to despatch for use within the facility</p>

Table S1.1 activities		
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
Gas storage	Storage of biogas produced from on-site anaerobic digestion of permitted waste in floating roof digesters	From the receipt of biogas to despatch for use within the facility
Digestate storage	Storage of liquid digestate in storage tank(s) or covered lagoon(s)	From the receipt of digestate produced from the on-site anaerobic digestion process to despatch for use off-site
Surface water collection and storage	Collection and storage of uncontaminated roof and site surface water	From the collection of uncontaminated roof and site surface water in rainwater tank and attenuation system to re-use within the facility or discharge off-site
Operation of temporary auxiliary boiler	Combustion of gas oil for the purpose of generating heat for use within the installation.	From the receipt of gas oil to combustion in boiler with the release of combustion gases

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	<p>Forms B2 and B3 and relevant supporting documentation, including</p> <p>Odour Management Plan, in response to section 3b, Table 3b – General Requirements, Part B3 of the application form</p> <p>Response to questions 2, 3, 7, 8, 9 and 12 of Environment Agency 'Not duly made' letter dated 28/08/14</p>	15/09/14

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	The Operator shall submit a written report to the Environment Agency on the commissioning of the installation. The report shall summarise the environmental performance of the plant as installed against the design parameters set out in the Application. The report shall also include a review of the performance of the facility against the conditions of this permit and details of procedures developed during commissioning for achieving and demonstrating compliance with permit conditions.	Within 4 months of the completion of commissioning.
IC2	The Operator shall submit to the Environment Agency for approval a written Site Closure Plan. The Plan shall demonstrate how, in its current state, the installation can be decommissioned to avoid any pollution risk and return the site of operation to a satisfactory state as identified in the Application Site Condition Report.	Within 12 months of the completion of commissioning.

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
1	Prior to the commencement of commissioning (or other date as agreed with the Environment Agency), the Operator shall send a summary of the site Environment Management System (EMS) to the Environment Agency and make available for inspection all documents and procedures which form part of the EMS. The EMS shall be developed in line with the requirements set out in Section 1 of How to comply with your environmental permit – Getting the basics right. The documents and procedures set out in the EMS shall form the written management system referenced in condition 1.1.1 (a) of the permit.
2	Prior to the commencement of commissioning (or other date as agreed with the Environment Agency), the Operator shall provide a written report for approval, confirming the specific details of their waste pre-acceptance and acceptance procedures, which shall take into account the appropriate measures in section 2.1.1 and 2.1.2 respectively of Sector Guidance Note IPPC S5.06 - Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste.
3	At least 2 weeks (or other date as agreed with the Environment Agency) prior to the commencement of commissioning, the operator shall submit a revised odour management plan (OMP) to the Environment Agency for written approval. The plan shall take into account the appropriate measures for odour control specified in section 2.2.6 of Sector Guidance Note IPPC S5.06 - Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste. The plan shall also include all the required information as specified in the Environment Agency Horizontal Guidance H4 - Odour Management. The operator shall ensure that the revised odour management plan includes detailed consideration of the following points: <ul style="list-style-type: none"> - care and maintenance of the air extraction system (including the fans) serving the reception building, and of the wet scrubber - care and maintenance of the biofilter in order to achieve and maintain the anticipated high odour abatement efficiency quoted in the application - door control procedures with respect to the waste reception building in order to minimise the potential for fugitive odour releases - venting of tankers during digestate filling operations in order to minimise the potential for fugitive odour releases.
4	At least 8 weeks (or other date as agreed with the Environment Agency) prior to the commencement of commissioning, the operator shall ensure that a review of the design, method of construction and integrity of the proposed site secondary containment is carried out by a qualified structural engineer. The review shall compare

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
	<p>the constructed secondary containment against the standards set out in Section 2.2.5 of Sector Guidance Note IPPC S5.06 - Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste and CIRIA C736 - Containment Systems for the Prevention of Pollution - secondary, tertiary and other measures for industrial and commercial premises.</p> <p>The review shall include but not be limited to:</p> <ul style="list-style-type: none"> - physical condition of the secondary containment; - the 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 standards set out in CIRIA C736; and - a preventative maintenance and inspection regime. <p>A written report of the review shall be submitted to the Environment Agency detailing the review's findings and recommendations. Remedial action shall be taken to ensure that the secondary containment meets the standards set out in the guidance documents and implement the maintenance and inspection regime.</p> <p>No site operations shall commence or waste accepted at the facility unless the Environment Agency has given prior written permission under this condition.</p>

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Gas oil	Not exceeding 0.1% sulphur w/w
Vegetable matter (energy crops)	Substantially free of non vegetable matter

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 48,500 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted: - consisting solely or mainly of dusts (except sawdust), powders, or loose fibres - wastes containing treated wood, wood-preserving agents or other biocides, persistent organic pollutants, Japanese Knotweed
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 <i>Restriction: Food processing waste and food washing waste only</i>
02 01 02	animal-tissue waste including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
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 <i>Restriction: Plant tissue waste only</i>
02 01 99	spent mushroom compost or discarded mushrooms from commercial mushroom cultivation only
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 01	sludges from washing and cleaning <i>Restriction: Process water and food washing waste only</i>
02 02 02	animal-tissue waste including blood, animal flesh, fish processing waste, fish carcasses, poultry 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 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

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 48,500 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted: - consisting solely or mainly of dusts (except sawdust), powders, or loose fibres - wastes containing treated wood, wood-preserving agents or other biocides, persistent organic pollutants, Japanese Knotweed
Waste code	Description
02 03 05	sludges from on-site effluent treatment
02 03 99	sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only
02 04	wastes from sugar processing
02 04 03	sludges from on-site effluent treatment <i>Restriction: Biological sludge only</i>
02 04 99	other biodegradable wastes
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 <i>Restriction: Biological sludge only</i>
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 <i>Restriction: Biological sludge only</i>
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 including 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	malt husks, malt sprouts, malt dust, spent grains, hops, 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 01	waste bark and cork <i>Restriction: Untreated only</i>
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04 <i>Restriction: Untreated wood only</i>
03 03	wastes from pulp, paper and cardboard production and processing
03 03 10	fibre rejects, fibre-, filler- and coating sludges from mechanical separation <i>Restriction: Only allowed if not mixed with, or does not contain, de-inking sludge</i>

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 48,500 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted: - consisting solely or mainly of dusts (except sawdust), powders, or loose fibres - wastes containing treated wood, wood-preserving agents or other biocides, persistent organic pollutants, Japanese Knotweed
Waste code	Description
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10 <i>Restriction: Only allowed if not mixed with, or does not contain, de-inking sludge</i>
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 <i>Restriction: Fleshings may also be described as leather shavings. Allowed 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.</i>
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 <i>Restriction: not allowed if any non biodegradable coating or preserving substance is present.</i>
15 01 03	wooden packaging <i>Restriction: Untreated wood only</i>
15 01 05	composite packaging <i>Restriction: Only allowed if comprised of packaging material otherwise allowed by the Anaerobic Digestate Quality Protocol</i>
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 <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05 <i>Restriction: Acceptable only if derived solely from physical treatment and/or pH adjustment of input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09 <i>Restriction: Glycerol not designated as hazardous only</i>
19 05	wastes from aerobic treatment of solid wastes
19 05 01	non-composted fraction of municipal and similar wastes <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 48,500 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted: - consisting solely or mainly of dusts (except sawdust), powders, or loose fibres - wastes containing treated wood, wood-preserving agents or other biocides, persistent organic pollutants, Japanese Knotweed
Waste code	Description
19 05 02	non-composted fraction of animal and vegetable waste <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 05 03	off-specification compost <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 05 99	liquor/leachate from a composting process and/or digestate from an aerobic digestion process that accepts waste input types allowed by the Anaerobic Digestate Quality Protocol
19 06	wastes from anaerobic treatment of waste
19 06 03	liquor from anaerobic treatment of municipal waste <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 06 04	digestate from anaerobic treatment of source segregated municipal waste <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 06 05	liquor from anaerobic treatment of animal and vegetable waste <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 06 06	digestate from anaerobic treatment of animal and vegetable waste <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
19 08	wastes from waste water treatment plants not otherwise specified
19 08 09	grease and oil mixture from oil/water separation containing edible oils and fats <i>Restriction: Grease and oil mixture containing only edible oils and fats only</i>
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11 <i>Restriction: Allowed only if uncontaminated by potentially polluting materials or substances harmful to anaerobic bacteria</i>
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 <i>Restriction: Acceptable only if derived solely from input types allowed by the Anaerobic Digestate Quality Protocol and remains segregated from, and uncontaminated by, any other waste type</i>
20	Municipal wastes (household waste and similar commercial, industrial and

Table S2.2 Permitted waste types and quantities for anaerobic digestion	
Maximum quantity	Annual throughput shall not exceed 48,500 tonnes
Exclusions	Wastes having any of the following characteristics shall not be accepted: - consisting solely or mainly of dusts (except sawdust), powders, or loose fibres - wastes containing treated wood, wood-preserving agents or other biocides, persistent organic pollutants, Japanese Knotweed
Waste code	Description
institutional wastes) including separately collected fractions	
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard <i>Restriction: Not allowed if any non biodegradable coating or preserving substance is present.</i>
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 <i>Restriction: Untreated wood. Not allowed if any non-biodegradable coating or preserving substance is present</i>
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste including animal faeces, manure, garden waste, horticultural waste, plant tissue, parks and garden waste, hedge and tree trimmings, grass cuttings and leafy materials only
20 03	other municipal wastes
20 03 01	mixed municipal waste <i>Restriction: Allowed only if separately collected biodegradable wastes otherwise allowed by the Anaerobic Digestate Quality Protocol</i>
20 03 02	waste from markets <i>Restriction: Allowed only if biodegradable fractions. Packaging wastes from market source allowed only if compostable packaging and plastic products made of biodegradable material independently certified to BS EN 13432</i>

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 A1a on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14]	CHP engine 1 [note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m ³			BS EN 14791
		Carbon monoxide	1400 mg/m ³			BS EN 15058
		Total VOCs	1000 mg/m ³			BS EN 12619:2013
A2 [Point A1b on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14]	CHP engine 2 [note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m ³			BS EN 14791
		Carbon monoxide	1400 mg/m ³			BS EN 15058
		Total VOCs	1000 mg/m ³			BS EN 12619:2013
A3 [Point A2 on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14]	Emergency flare [note 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	Hourly average	[note 3]	BS EN 14792
		Carbon monoxide	50 mg/m ³			BS EN 15058
		Total VOCs	10 mg/m ³			BS EN 12619:2013
A4 [Point A3 on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14]	Temporary auxiliary boiler	No parameter set	No limit set	--	--	--
A5 ['Biofilter' on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14]	Biofilter unit	No parameter set	No limit set	--	--	--
A6 to A9 [Points V1 to V4 on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14]	Digesters (Emergency relief vent)	No parameter set	No limit set	--	Record of operating hours, or as agreed with the Environment	--

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
					Agency	
A10 [Point V5 on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14]	Digestate storage tank (Emergency relief vent)	No parameter set	No limit set	--	Record of operating hours, or as agreed with the Environment Agency	--
<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 - 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 3 - Monitoring to be undertaken 12 months after commissioning of the emergency flare. Following commissioning, monitoring to be undertaken in the event the emergency 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 [Point S2 on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14] emission to River Tame	Uncontaminated roof and site surface water	Visible oil or grease	No significant trace present	Instantaneous	Daily	Visual assessment

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 [Point S1 on Dwg. No. 1000 C 020, rev. 4, dated 22.05.14] emission to Coleshill Sewage Treatment Works	Wastewater from site welfare facilities and excess uncontaminated roof and site surface water	No parameter set	No limit set	--	--	--

Table S3.4 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(s)	Flow	Continuous	In accordance with EU weights and measures Regulations	--
Biogas from Digester(s)	Methane	Continuous	--	Gas monitors to be calibrated every 6 months to manufacturer's recommendations
	Hydrogen sulphide	Continuous	Not applicable	
Waste reception building; Digester(s) and storage tank(s)	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary
Biofilter and/or equivalent abatement system	Temperature	As required	Temperature probe	Biofilter and/or equivalent abatement system shall be regularly checked and maintained to ensure appropriate temperature and moisture content
	Moisture	As required	None specified	
	Thatching/compaction	As required	None specified	
Digester and storage tank(s)	Integrity checks	Weekly	Visual assessment	--

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, A2, A3	Every 12 months	1 January
Emissions to water Parameters as required by condition 3.5.1	W1	Every 6 months	1 January, 1 July

Table S4.2 Annual production/treatment	
Parameter	Units
Electricity generated	MWh
Whole digestate	tonnes
Liquid digestate	tonnes or m ³
Solid digestate	tonnes

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes or m ³
Energy usage	Annually	MWh
Biogas usage	Annually	tonnes or m ³
Raw material usage	Annually	tonnes or m ³
Emergency flare operation	Annually	hours
Electricity exported	Annually	MWh
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours

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	01/12/14
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	01/12/14
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	01/12/14
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	01/12/14

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	EPR/BP3537VX
Name of operator	Severn Trent Green Power Limited
Location of Facility	Coleshill Sewage Treatment Works, Marconi Way, Coleshill, Warwickshire, B46 1DA
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	
Measures taken, or intended to be	

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

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

“Industry Standard Protocol” means “A standardised protocol for the monitoring of bioaerosols at open composting facilities” published by the Association for Organics Recycling and developed in conjunction with the Environment Agency.

“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.

“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.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- 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
- 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.

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



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