

# Notice of variation and consolidation with introductory note

**The Environmental Permitting (England & Wales) Regulations 2016**

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Severn Trent Water Limited

Stoke Bardolph Sewage Treatment Works

Severn Trent Water Ltd

Stoke Lane

Stoke Bardolph

Nottingham

Nottinghamshire

NG14 5HL

**Variation application number**

EPR/ZP3898EL/V003

**Consolidated permit number**

EPR/ZP3898EL

# Stoke Bardolph Sewage Treatment Works

## Permit number EPR/ZP3898EL

### Introductory note

#### **This introductory note does not form a part of the notice.**

The following notice gives notice of the variation of environmental permits EPR/ZP3898EL and EPR/WP3333LU referred to in the status logs below and the replacement of those permits with a consolidated environmental permit.

The consolidation of the 2 permits brings together the biological treatment and combustion of biogas in to one permit. EPR/ZP3898EL is the leading permit and the activities will continue under this permit. EPR/WP3333LU has ceased upon issue of this variation.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

The Industrial Emissions Directive (IED) was transposed in England and Wales by the Environmental Permitting (England and Wales) (Amendment) Regulations 2013 on 27 February 2013. This variation implements the changes brought about by the IED for “existing facilities operating newly prescribed activities” and completes the transition of this facility from a waste operation to an IED Installation.

Stoke Bardolph STW is located approximately 6.5km to the East of Nottingham. The site treats the sewage of domestic customers, trade waste, and accepts waste from smaller, lower capacity, sewage treatment works.

Waste is imported by Severn Trent where it will undergo one of 3 treatment processes:

#### Anaerobic digestion (AD)

Both indigenous UWWTD derived sludge (from the waste water treatment works on site) and imported waste can be accepted directly in to an anaerobic co-digestion treatment process. This permit only covers the imported waste, the indigenous UWWTD sludge is controlled by separate regulations. Therefore the quantities and waste types permitted by this permit only apply to imported waste. This biological treatment of this waste is regulated as an installation activity, S5.4 A (1) (b) (i).

Following approval by the operator, liquid/sludge waste is discharged in to a mixing/holding tank. Waste is transferred to one of four primary digesters (21,600m<sup>3</sup> total capacity) where it undergoes anaerobic treatment for 10-12 days. The biogas produced is captured and transferred to a gas storage tank (floating roof).

Biogas is combusted in three Jenbacher 2.7MWth CHP engines (A1, A2, and A12) that run on biogas only. The heat and power produced is either used on site or is exported to the grid. As part of this application one of the Jenbacher engines (A12) has replaced one of the Deutz 2.4MWth engines (A4). This has been assessed under this variation. The remaining Deutz CHP engine (A3) has also been removed from the permit under this variation.

Two 2MWth dual fuel boilers are also present on site and an auxiliary flare stack burns biogas which cannot be handled by the engines or boilers.

Following the primary digesters the digestate is stored in four secondary digester tanks before being mixed with a polymer coagulant and dewatered by centrifuge. The supernatant liquor is directed back to the head of the STW for aerobic treatment. The sludge cake is transferred to a cake pad where it is conditioned to achieve pathogen kill.

Any liquid, site drainage or condensate produced is directed to the head of the STW.

### Aerobic treatment (Waste operation)

Waste can be discharged directly in to the pipeline at the head of the sewage treatment works. The waste will undergo aerobic treatment under the UWWTD. The biological treatment of this waste is not regulated by this permit, only its import. The final effluent released by the STW is regulated under a separate discharge consent.

### Dewatering (Waste operation)

Digested sludge can be imported for dewatering purposes. It shares the same facilities as the AD treatment process following the digestion of the waste.

Key sensitive receptors include humans in nearby settlements, there are residential dwellings approximately 200m from the North West boundary of the installation adjacent to the rail line. There are 19 Local Nature Reserves or Local Wildlife Sites within 2km of the installation, there are no SSSIs. There are no SAC, SPA or Ramsar sites within 10km of the installation. There are no Air Quality Management Areas (AQMAs) within 2km of the site. The River Trent is located approximately 780m from the East of the installation.

The operator has an EMS to ISO 14001 (Certificate E4230).

The schedules specify the changes made to the permit.

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

<b>Status log of the permit for EPR/ZP3898EL</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application received EAWML 100423 (EPR/ZP3898EL/A001)	Duly made 28/03/08	
Licence determined EAWML 100423	17/11/08	Permit issued to Severn Trent Water Limited
Variation EPR/ZP3898EL/V002 received	30/12/09	Application for administrative change to include 2 new waste discharge points
Variation EPR/ZP3898WL/V002 issued	19/03/10	
Received notification of change of company registered office address	29/09/10	
Issue of updated permit pages to show change of company registered office address	13/10/10	
Variation application received EPR/ZP3898EL/V003	Duly made 19/09/14	Application to vary and update the permit to modern conditions.
Additional information received	28/04/17	Additional air dispersion modelling, updated application form and supporting information submitted
Additional information received	20/06/17	Information on number and capacity of primary and secondary digesters and gas storage tank type.
Additional information received	19/07/17	Confirmation that emission point to air A3 is no longer used.
Variation determined EPR/ZP3898EL (Billing ref: KP3536WN)	20/12/17	Varied and consolidated permit issued in modern condition format.

<b>Status log of the permit for EPR/WP3333LU (CHP permit)</b>		
<b>Description</b>	<b>Date</b>	<b>Description</b>
Application WP3333LU (EPR/WP3333LU/A001)	Duly made 18/04/06	
Request for additional Information	16/05/06	Received 24/05/06
Request for additional Information	01/06/06	Received 07/06/06
Schedule 4 Information Request	28/07/06	Received 11/09/06
Request for additional Information	19/10/06	Received 24/10/06
Request for additional Information	20/10/06	Received 30/10/06
Request for additional Information	21/12/06	Received 28/06/07
Permit determined	11/10/07	
Variation application EPR/WP3333LU/V002 (PAS ref: FP3832XK)	Duly made 20/05/08	Variation to remove emission point A7, the thermal oxidation unit vent, and add emission point A11, the condensing chimney.  Addition of emission points A9, emergency vent stack, and A10, gas holder pressure/vacuum relief valve, which were not listed in the original permit.
Variation determined EPR/WP3333LU	26/08/08	<ul style="list-style-type: none"> <li>• Improvement conditions are included to demonstrate performance of the chimney and confirm environmental impact.</li> <li>• Revised deadlines for improvement conditions (already agreed with operator)</li> <li>• Insertion of a limit for H<sub>2</sub>S in biogas</li> <li>• Correction of errors included in the original permit.</li> </ul>
Received notification of change of company registered office address	29/09/10	Notification of change of registered address
Issue of updated permit pages to show change of company registered office address	21/10/10	Issue of updated registered address.
Agency variation determined EPR/WP3333LU/V003 (EAWML 400055) (PAS ref: YP3234ZY)	08/04/13	Agency variation to implement the changes introduced by IED
Variation application received EPR/WP3333LU/V004	Duly made 19/09/14	Application to vary and update the permit to modern conditions and to consolidate with EPR/ZP3898EL
Variation determined	20/12/17	Now consolidated in to EPR/ZP3898EL. Permit number EPR/WP3333LU ceases to exist.

End of introductory note.

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulations 18 and 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates environmental permits

### Permit numbers

EPR/ZP3898EL  
EPR/WP3333LU

### Issued to

**Severn Trent Water Limited** (“the operator”)

whose registered office is

**Severn Trent Centre  
2 St. John's Street  
Coventry  
CV1 2LZ**

company registration number 02366686

to operate a regulated facility at

**Stoke Bardolph Sewage Treatment Works  
Severn Trent Water Ltd  
Stoke Lane  
Stoke Bardolph  
Nottingham  
Nottinghamshire  
NG14 5HL**

to the extent set out in the schedules.

The notice shall take effect from 20/12/2017

**The number of the consolidated permit is EPR/ZP3898EL.**

Name	Date
Rebecca Warren	20/12/2017

Authorised on behalf of the Environment Agency

## **Schedule 1**

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2016

### Permit number

**EPR/ZP3898EL**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/ZP3898EL/V003 authorising,

**Severn Trent Water Limited** ("the operator"),

whose registered office is

**Severn Trent Centre**

**2 St. John's Street**

**Coventry**

**CV1 2LZ**

company registration number 02366686

to operate an installation and waste operations at

**Stoke Bardolph Sewage Treatment Works**

**Severn Trent Water Ltd**

**Stoke Lane**

**Stoke Bardolph**

**Nottingham**

**Nottinghamshire**

**NG14 5HL**

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

Name	Date
Rebecca Warren	20/12/2017

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 For the following activities referenced in schedule 1, table S1.1, A1 to A11, 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 For the following activities referenced in schedule 1, table S1.1, A1 to A11, 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 tables S2.2, S2.3, S2.4 and S2.5; 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.
- 3.3.2 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 table S3.1;
  - (b) process monitoring specified in table S3.2.
- 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 S3.1 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 For the following activities referenced in schedule 1, table S1.1, A1 to A11, 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 For the following activities referenced in schedule 1, table S1.1, A1 to A11, 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 For the following activities referenced in schedule 1, table S1.1, A12 and A13, the Environment Agency shall be notified without delay following the detection of:
- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
  - (b) the breach of a limit specified in the permit; or
  - (c) any significant adverse environmental effects.
- 4.3.4 Any information provided under condition 4.3.3 shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.5 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.
- 4.3.6 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- 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:
- (c) any change in the operator's name or address; and
  - (d) any steps taken with a view to the dissolution of the operator.

In any other case:

- (e) the death of any of the named operators (where the operator consists of more than one named individual);
  - (f) any change in the operator's name(s) or address(es); and
  - (g) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.
- 4.3.7 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.
- 4.3.8 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 For the following activities referenced in schedule 1, table S1.1, A1 to A11, 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.
- 4.4.3 For the following activities referenced in schedule 1, table S1.1, A12 and A13, 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

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity and WFD Annex I and II operations</b>	<b>Limits of specified activity and waste types</b>
A1	S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	R3: Recycling/ reclamation of organic substances which are not used as solvents	From receipt of waste from blending and mixing tanks (A3) through to digestion and recovery of by-products (digestate).  Anaerobic digestion of waste in 4 primary digestion tanks followed by burning of biogas produced from the process.  Waste types suitable for acceptance are limited to those specified in Tables S2.2, S2.3 and S2.4.
<b>Directly Associated Activity</b>			
A2	Storage of waste	R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Storage of non-hazardous imported tankered waste prior to despatch for blending and mixing.  Waste types suitable for acceptance are limited to those specified in Tables S2.2, S2.3 and S2.4.
A3	Blending and mixing of imported waste prior to recovery	R3: Recycling/ reclamation of organic substances which are not used as solvents	From the receipt of non-hazardous waste to despatch for anaerobic digestion (A1) for recovery.  Blending and mixing of imported tankered waste with UWWTD derived sludge from within the works in tanks on an impermeable surface with sealed drainage.  Waste types suitable for acceptance are limited to those specified in Tables S2.2, S2.3 and S2.4.
A4	Digestate storage	R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Storage of digestate produced at the on-site anaerobic digestion process in 4 storage tanks on an impermeable surface with sealed drainage system prior to treatment.
A5	Digestate treatment	R3: Recycling/ reclamation of organic substances which are not used as solvents	Treatment of digestate in a tank on an impermeable surface with sealed drainage system, including screening to remove contraries, centrifuge or pressing and addition of thickening agents (polymers) or drying.

<b>Table S1.1 activities</b>			
A6	Treatment and storage of cake	R3: Recycling/ reclamation of organic substances which are not used as solvents  R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Storage and treatment of digestate cake on an impermeable surface with sealed drainage system, including mixing with lime to achieve pathogen kill prior to despatch off site.
A7	Gas treatment and storage	Treatment and storage of biogas produced from on-site anaerobic digestion of permitted waste in a stand-alone tank.	Storage of biogas produced at the on-site anaerobic digestion process.  Gas cleaning by biological or chemical scrubbing prior to use within the facility if required.
A8	Steam and electrical power supply	R1: Use principally as a fuel to generate energy	From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases.  Combustion of biogas produced at the on-site anaerobic digestion process in 3 combined heat and power (CHP) engines with an aggregated thermal input not exceeding 8.1 MWth.  Combustion of biogas in 2 auxiliary dual fuel boilers with a thermal input not exceeding 4 MWth.
A9	Auxiliary flare operation	D10: Incineration on land	From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases.  Use of auxiliary flare required only during periods of breakdown or maintenance of the CHP engines and/or auxiliary boilers.
A10	Raw material storage	Storage of raw materials: fuel oil, lubrication oil, water treatment chemicals, glycol, polymer (dry powder), ferrous chloride, ferric sulphate, antifoam, and lime.	From the receipt of raw materials to despatch for use within the facility
A11	Surface water collection	Collection of site surface and process water/liquor.	The collection of site surface and process water/liquor for re-use within the facility or transfer to the head of the sewage treatment works.



<b>Table S1.1 activities</b>		
<b>Activity reference</b>	<b>Description of activities for waste operations</b>	<b>Limits of activities</b>
A12	D13: Blending or mixing prior to submission to any of the operations numbered D1 to D12	Deposit of imported tankered waste to the head of the sewage treatment works pending aerobic treatment at the sewage treatment works.  Waste types suitable for acceptance are limited to those specified in Tables S2.2, S2.3 and S2.4.
A13	R3: Recycling/reclamation of organic substances which are not used as solvents  R13: Storage of waste pending the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	From the receipt of digested sludge to dispatch off site for recovery.  Treatment of digestate on an impermeable surface with sealed drainage system, including screening to remove contraries, maceration, centrifuge or pressing and addition of thickening agents (polymers) or drying and mixing with lime to achieve pathogen kill.  Waste types suitable for acceptance are limited to those specified in Table S2.5

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application (from EPR/WP3333LU/V002)	The response to section 2.1 and 2.2 in the Application	18/04/06
Schedule 4 Notice Request dated 28/07/06 (from EPR/WP3333LU/V002)	Entire response, except the answer to question 5	11/09/06
Request for further information dated 21/12/06 (from EPR/WP3333LU/V002)	Entire response	28/06/07
Variation application (from EPR/WP3333LU/V002)	Document: "Application for a variation to Stoke Bardolph IPPC Permit WP3333LU 03/03/08"	07/03/08
Application (from EPR/ZP3898EL/V002)	The response to sections 2.1 and 2.2	28/03/08
Response to request for further information dated 08/07/08 (from EPR/WP3333LU/V002)	Entire response	23/07/08
Application (from EPR/ZP3898EL/V003)	Part C4 – All parts and supporting documents unless superseded by the updated application forms submitted 28/04/17: <ul style="list-style-type: none"> <li>• Part C3 – Section 3a (technical standards);</li> <li>• Part C3 – Section 3d, Table 6 (information of specific sectors).</li> </ul>	19/09/14

<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Further information submitted for application EPR/ZP3898EL/V003	Severn Trent Water's waste acceptance procedures document ' <i>Standard Procedure, Business Services – Tankered Trade Waste (TTW)</i> ', dated Jan 2016 (Ref TWSS004 TTW Approval Process v3) or subsequent variations as agreed in writing with the Environment Agency.	12/02/16

<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1 (from EPR/WP3333LU/V002)	<p>The Operator shall undertake an assessment of the containment measures. This shall include proposals to improve:</p> <ul style="list-style-type: none"> <li>• The containment measures to limit the environmental impact of the Jenbacher oil storage tanks specifically the shingle areas surrounding the tanks.</li> <li>• The containment measures within the engine house, specifically the sump and automatic float pump, which discharges to an external holding tank.</li> <li>• The containment measures for the collection and routing of the condensate to the site drainage.</li> <li>• The delivery and storage of heavy fuel oil.</li> </ul> <p>The assessment shall take into account the requirements of section 2.2.9 of the Agency IPPC Guidance Note for Combustion Activities V2.03, July 2005 and Box 5 of the H7 Guidance – Application Site Report and Site Protection and Monitoring Programme.</p> <p>A written report summarising the findings shall be submitted to the Agency for approval. A timescale for the implementation of any improvements shall be agreed with the Agency in writing.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p>	Completed
IC2 (from EPR/WP3333LU/V002)	<p>The Operator shall develop a monitoring plan to be submitted to the Agency in writing, that shall detail the proposed methodologies to be used within the installation to carry out the monitoring of air emissions and performance measures identified within Tables S3.1, S4.1 and S4.4. The methodology for the monitoring of emissions to air from emission points A1 – A7 shall comply with the requirements of Agency monitoring guidance documents:</p> <ul style="list-style-type: none"> <li>- M1 – Sampling Requirements For Stack Emissions Monitoring;</li> <li>- M2 – Monitoring Of Stack Emissions To Air; and</li> <li>- Section 2.10 of Agency Combustion Technical Guidance Note.</li> </ul> <p>The plan shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Completed
IC3 (from EPR/WP3333LU/V002)	<p>The Operator shall submit a written Accident Management Plan for approval by the Environment Agency. The plan shall have regard to the requirements set out in section 2.8 of IPPC Sector Guidance Note for Combustion Activities V2.03, July 2005</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval in writing by the Environment Agency.</p>	Completed

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC4 (from EPR/WP3333LU/V002)	The Operator shall review the installation's Environment Management System. Severn Trent Water plc EMS protocols shall be fully extended to the CHP installation, having regard to the requirements set out in section 2.3 of IPPC Sector Guidance Note for Combustion Activities V2.03, July 2005. Written evidence shall be supplied to the Environment Agency for approval. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of this evidence.	Completed
IC5 (from EPR/WP3333LU/V002)	The Operator shall carry out an environmental impact assessment for NO <sub>x</sub> , SO <sub>2</sub> and any other emission identified through IC12 as potentially significant using an appropriate air dispersion model. The assessment shall use representative release data obtained through the monitoring exercises carried out in accordance with IC2 and IC9. The results of the assessment shall be submitted to the Agency in a written report.	Completed
IC6 (from EPR/WP3333LU/V002)	The Operator shall complete the development of the Installation Energy Management Plan, having regard to the requirements set out in 2.7 of the IPPC Sector Guidance Note for Combustion Activities. Written evidence shall be supplied for approval to the Environment Agency. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan. The plan shall be implemented by the operator from the date of approval by the Environment Agency.	Completed
IC7 (from EPR/WP3333LU/V002)	The Operator shall develop a Site Closure Plan having regard to the requirements set out in Section 2.11 of the IPPC Sector Guidance Note for Combustion Activities V2.03, July 2005. Upon completion of the plan a summary of the document shall be submitted to the Environment Agency in writing for approval. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.	Completed
IC8 (from EPR/WP3333LU/V002)	The Operator shall undertake a review to identify all appropriate options for reducing the emissions to air to at least the benchmark standards in the Agency Technical Guidance Note for Combustion and to ensure that the releases to air do not result in a significant contribution to an exceedance of an Air Quality Objective or European Union Limit Value. Where an exceedance of an EU limit Value is predicted and the operations would provide a significant contribution to the exceedance then the review shall assess whether it is necessary to implement measures beyond indicative BAT in order to ensure that the contribution is minimised.  The review shall include, but not be limited to, the primary and secondary measures for the reduction of the relevant pollutants listed in the Agency Technical Guidance Note for Combustion (or other appropriate guidance), identification of the most appropriate stack height for dispersion of the waste gases and either pre-treatment of fuel or abatement of releases to air post combustion as appropriate. Where measures can be undertaken to limit the impact on air quality in the short term whilst long term solutions are implemented then the report should include proposals for both short term and long term measures as appropriate.	Completed

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	The operator shall submit a written report, for approval by the Environment Agency, detailing the elements of the review and its conclusions and shall include a programme for implementation of the appropriate measures, including a timetable for their implementation.	
IC9 (from EPR/WP3333LU/V002)	<p>The Operator shall develop a monitoring plan to be submitted to the Agency in writing, to characterise the releases to air from A11. The proposed monitoring shall include sampling under expected worst case conditions. The methods and techniques used for the monitoring shall comply with the requirements of Agency monitoring guidance documents:</p> <ul style="list-style-type: none"> <li>- M1 – Sampling Requirements For Stack Emissions Monitoring;</li> <li>- M2 – Monitoring Of Stack Emissions To Air; and</li> <li>- Section 2.10 of Agency Combustion Technical Guidance Note.</li> </ul> <p>The plan shall be implemented by the operator following approval of the plan by the Agency.</p>	Completed
IC10 (from EPR/WP3333LU/V002)	<p>The Operator shall develop a monitoring plan to be submitted to the Agency in writing, to characterise the condensate collected from the condensing chimney. The plan shall contain proposals for monitoring volume and nature of the liquid.</p> <p>The plan shall be implemented by the operator following approval of the plan by the Agency.</p>	Completed
IC11 (from EPR/WP3333LU/V002)	<p>The Operator shall submit a report in writing to the Agency detailing the results of the monitoring carried out on the condensing chimney condensate, carried out in accordance with IC10. The report shall include a proposal for an appropriate permanent disposal route for the condensate, together with timescales, which shall be implemented following written approval from the Agency</p>	Completed
IC12 (from EPR/WP3333LU/V002)	<p>The Operator shall carry out an environmental impact assessment of the releases to air from A11, following completion of the monitoring exercise carried out in accordance with IC9. The impact assessment shall use representative release data, obtained through the monitoring exercises carried out in accordance with IC9, and the H1 tool, or other appropriate assessment method.</p> <p>The results of the impact assessment shall be submitted to the Agency in a written report.</p>	Completed
IC13	<p>The operator shall revise their <i>waste acceptance procedures</i> as referred to in Table S1.2 of this permit and submit it to the Environment Agency for approval. The procedures shall detail 3 levels of assessment for determining if a waste is suitable to be accepted into the anaerobic digestion treatment process. The 3 levels of assessment shall refer to:</p> <ul style="list-style-type: none"> <li>• ‘Group A wastes’ - as listed in Table S2.2 of this permit;</li> <li>• ‘Group B wastes’ - as listed in Table S2.3 of this permit;</li> <li>• ‘Group C wastes’ - as listed in Table S2.4 of this permit.</li> </ul> <p>The revised procedures shall take in to account the requirements of:</p> <ul style="list-style-type: none"> <li>• sections 2.1.1 and 2.1.2 of <i>Sector Guidance Note IPPC S5.06 – Guidance for the Treatment of Hazardous and Non-Hazardous Waste</i>; and</li> </ul>	20/01/18

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<ul style="list-style-type: none"> <li>• <i>How to comply with your environmental permit, Additional Guidance for: Anaerobic Digestion – Reference LIT8737 – Report Version 1.0, November 2013.</i></li> <li>• <i>Framework for Assessing Suitability of Wastes Going to Anaerobic Digestion, Composting and Biological Treatment – Framework Guidance note, July 2013.</i></li> </ul> <p>Once approved the procedures shall be incorporated in to the document '<i>Standard Procedure, Business Services – Tankered Trade Waste (TTW)</i>' referred to in Table S1.2 (operating techniques) of this permit.</p>	
IC14	<p>The operator shall submit a revised odour management plan 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 – <i>Guidance for the Treatment of Hazardous and Non-Hazardous Waste</i>. The plan shall also incorporate all the required detailed information as specified in the Environment Agency's Horizontal Guidance H4 – <i>Odour Management</i>.</p> <p>The plan must contain dates for implementation of individual measures.</p>	31/03/18
IC15	<p>The Operator shall submit a drainage plan to the Environment Agency. The plan shall detail surface water drainage and process water drainage, including imported effluent pipelines (details of the UWWT process are not necessary).</p>	31/03/18

## Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Fuel oil	Sulphur content not exceeding 0.1% by mass.

Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)	
<b>Maximum quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 01	sludges from washing and cleaning – food processing waste, food washing waste
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
02 01 07	wastes from forestry
02 01 99	residues from commercial mushroom cultivation
<b>02 02</b>	<b>wastes from the preparation and processing of meat, fish and other foods of animal origin</b>
02 02 01	sludges from washing and cleaning, process water, food washing waste
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, animal gut contents
<b>02 03</b>	<b>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</b>
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, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only

<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)</b>	
<b>Maximum quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>02 04</b>	<b>wastes from sugar processing</b>
02 04 03	sludges from on-site effluent treatment
02 04 99	other wastes
<b>02 05</b>	<b>wastes from the dairy products industry</b>
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
<b>02 06</b>	<b>wastes from the baking and confectionery industry</b>
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
<b>02 07</b>	<b>wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)</b>
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 05	sludges from on-site effluent treatment
02 07 99	spent grains, hops and whisky filter sheets/cloths, yeast and yeast-like residues, sludge from production process
<b>03</b>	<b>Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard</b>
<b>03 01</b>	<b>Wastes from wood processing and the production of panels and furniture</b>
03 01 01	Untreated waste bark and cork
03 01 05	Untreated sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
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 (de-inked only)
03 03 11	Sludges from on-site effluent treatment other than those mentioned in 03 03 10 (Only allowed if not mixed with, or does not contain, de-inking sludge)

<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)</b>	
<b>Maximum quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>04</b>	<b>Wastes from the leather, fur and textile industries</b>
<b>04 01</b>	<b>wastes from the leather and fur industry</b>
04 01 01	fleshings and lime split wastes
04 01 05	tanning liquor free of chromium
04 01 07	sludges not containing chromium
<b>04 02</b>	<b>wastes from the textile industry</b>
04 02 10	organic matter from natural products, e.g. grease, wax
<b>15</b>	<b>Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</b>
<b>15 01</b>	<b>packaging (including separately collected municipal packaging waste)</b>
15 01 01	paper and cardboard packaging – not allowed if any non-biodegradable coating or preserving substance is present
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
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 10</b>	<b>aqueous liquid wastes destined for off-site treatment</b>
16 10 02	liquor/leachate from a composting process that accepts waste input types listed in this table, Table S2.2, only
<b>19</b>	<b>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</b>
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	waste types listed in this table, Table S2.2, that have been mixed together only
19 02 06	sludge types from waste listed in this table, Table S2.2, that have been heat treated only
19 02 10	glycerol not designated as hazardous i.e. excludes EWC code 19 02 08
<b>19 05</b>	<b>Wastes from the aerobic treatments of wastes</b>
19 05 01	Non-composted fraction of municipal and similar wastes (Acceptable only if derived solely from input types allowed by this table, Table S2.2, and remains segregated from, and uncontaminated by, any other waste type)
19 05 02	Non-composted fraction of animal and vegetable waste (Acceptable only if derived solely from input types allowed by this table, Table S2.2, and remains segregated from, and uncontaminated by, any other waste type)
19 05 03	Off-specification compost (Acceptable only if derived solely from input types allowed by this table, Table S2.2, and remains segregated from, and uncontaminated by, any other waste type)



<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)</b>	
<b>Maximum quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 03	liquor from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table, Table S2.2, 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, Table S2.2, 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, Table S2.2, 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, Table S2.2, only)
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 01	screenings
19 08 02	sewage grit (waste from de-sanding) only
19 08 05	sludges from treatment of urban waste water
19 08 09	grease and oil mixture containing edible oils and fats
19 08 12	sludges from industrial biological treatment
19 08 99	Centrate liquor only
<b>19 09</b>	<b>wastes from the preparation of water intended for human consumption or water for industrial use</b>
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 06	solutions and sludges from regeneration of ion exchangers
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 12	waste types listed in this table, Table S2.2, that have been subjected to mechanical treatment only
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
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	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
<b>20 02</b>	<b>garden and park wastes (including cemetery waste)</b>
20 02 01	biodegradable waste

<b>Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)</b>	
<b>Maximum quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>20 03</b>	<b>other municipal wastes</b>
20 03 01	mixed municipal waste – separately collected biowastes
20 03 02	waste from markets – allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 99	cesspool waste and other sewage sludge only

<b>Table S2.3 Permitted waste types and quantities for anaerobic digestion (Group B)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 03</b>	<b>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</b>
02 03 02	wastes from preserving agents
<b>02 05</b>	<b>wastes from the dairy products industry</b>
02 05 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances that will inhibit biological treatment e.g. EA emergency spillage containment
<b>02 06</b>	<b>wastes from the baking and confectionery industry</b>
02 06 02	wastes from preserving agents
02 06 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment e.g. Interceptor waste
<b>02 07</b>	<b>wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)</b>
02 07 03	wastes from chemical treatment
<b>03</b>	<b>Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard</b>
<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
03 03 05	de-inking sludges from paper recycling
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 99	wastes not otherwise specified – Washwaters not containing substances at levels that will inhibit biological treatment e.g. from plant cleaning
<b>04</b>	<b>Wastes from the leather, fur and textile industries</b>
<b>04 01</b>	<b>wastes from the leather and fur industry</b>
04 01 09	wastes from dressing and finishing
04 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment e.g. Interceptor waste
<b>04 02</b>	<b>wastes from the textile industry</b>
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>06</b>	<b>Wastes from inorganic chemical processes</b>
<b>06 05</b>	<b>sludges from on-site effluent treatment</b>
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02

<b>Table S2.3 Permitted waste types and quantities for anaerobic digestion (Group B)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>07</b>	<b>Wastes from organic chemical processes</b>
<b>07 01</b>	<b>wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals</b>
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
<b>08</b>	<b>Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks</b>
<b>08 03</b>	<b>wastes from MFSU of printing inks</b>
08 03 07	aqueous sludges containing ink
08 03 08	aqueous liquid waste containing ink
08 03 15	ink sludges other than those mentioned in 08 03 14
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 01</b>	<b>end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)</b>
16 01 15	antifreeze fluids other than those mentioned in 16 01 14
<b>16 03</b>	<b>off-specification batches and unused products</b>
16 03 06	organic wastes other than those mentioned in 16 03 05
<b>19</b>	<b>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</b>
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>19 07</b>	<b>landfill leachate</b>
19 07 03	landfill leachate other than those mentioned in 19 07 02
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 30	detergents other than those mentioned in 20 01 29

<b>Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>01</b>	<b>Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals</b>
<b>01 05</b>	<b>drilling muds and other drilling wastes</b>
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>02</b>	<b>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</b>
<b>02 01</b>	<b>wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</b>
02 01 01	sludges from washing and cleaning
02 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>02 02</b>	<b>wastes from the preparation and processing of meat, fish and other foods of animal origin</b>
02 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>02 03</b>	<b>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</b>
02 03 03	wastes from solvent extraction
02 03 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>02 05</b>	<b>wastes from the dairy products industry</b>
02 05 01	materials unsuitable for consumption or processing
<b>02 06</b>	<b>wastes from the baking and confectionery industry</b>
02 06 01	materials unsuitable for consumption or processing
<b>02 07</b>	<b>wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)</b>
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	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

<b>Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>03</b>	<b>Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard</b>
<b>03 01</b>	<b>wastes from wood processing and the production of panels and furniture</b>
03 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
<b>04</b>	<b>Wastes from the leather, fur and textile industries</b>
<b>04 02</b>	<b>wastes from the textile industry</b>
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 15	wastes from finishing other than those mentioned in 04 02 14
<b>05</b>	<b>Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal</b>
<b>05 01</b>	<b>wastes from petroleum refining</b>
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
<b>05 07</b>	<b>wastes from natural gas purification and transportation</b>
05 07 02	wastes containing sulphur
<b>06</b>	<b>Wastes from inorganic chemical processes</b>
<b>06 01</b>	<b>wastes from the manufacture, formulation, supply and use (MFSU) of acids</b>
06 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>06 02</b>	<b>wastes from the MFSU of bases</b>
06 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>06 03</b>	<b>wastes from the MFSU of salts and their solutions and metallic oxides</b>
06 03 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>06 06</b>	<b>wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes</b>
06 06 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>06 10</b>	<b>wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture</b>
06 10 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

<b>Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>06 13</b>	<b>wastes from inorganic chemical processes not otherwise specified</b>
06 13 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>07</b>	<b>Wastes from organic chemical processes</b>
<b>07 01</b>	<b>wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals</b>
07 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>07 02</b>	<b>wastes from the MFSU of plastics, synthetic rubber and man-made fibres</b>
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>07 03</b>	<b>wastes from the MFSU of organic dyes and pigments (except 06 11)</b>
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 03 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>07 04</b>	<b>wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides</b>
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
07 04 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>07 05</b>	<b>wastes from the MFSU of pharmaceuticals</b>
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment e.g. Materials unsuitable for sale
<b>07 06</b>	<b>wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics</b>
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11
07 06 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment e.g. Materials unsuitable for sale
<b>07 07</b>	<b>wastes from the MFSU of fine chemicals and chemical products not otherwise specified</b>
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11
07 07 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

<b>Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>08</b>	<b>Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks</b>
<b>08 01</b>	<b>wastes from MFSU and removal of paint and varnish</b>
08 01 12	waste paint and varnish other than those mentioned in 08 01 11
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17
08 01 20	aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19
08 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>08 03</b>	<b>wastes from MFSU of printing inks</b>
08 03 13	waste ink other than those mentioned in 08 03 12
<b>08 04</b>	<b>wastes from MFSU of adhesives and sealants (including water proofing products)</b>
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15
<b>10</b>	<b>Wastes from thermal processes</b>
<b>10 02</b>	<b>wastes from the iron and steel industry</b>
10 02 12	wastes from cooling-water treatment other than those mentioned in 10 02 11
10 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>11</b>	<b>Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy</b>
<b>11 01</b>	<b>wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)</b>
11 01 12	aqueous rinsing liquids other than those mentioned in 11 01 11
<b>16</b>	<b>Wastes not otherwise specified in the list</b>
<b>16 05</b>	<b>gases in pressure containers and discarded chemicals</b>
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
<b>16 07</b>	<b>wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)</b>
16 07 99	wastes not otherwise specified – Washwaters not containing substances at levels that will inhibit biological treatment



<b>Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>16 10</b>	<b>aqueous liquid wastes destined for off-site treatment</b>
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01
16 10 04	aqueous concentrates other than those mentioned in 16 10 03
<b>19</b>	<b>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</b>
<b>19 01</b>	<b>wastes from incineration or pyrolysis of waste</b>
19 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>19 05</b>	<b>wastes from aerobic treatment of solid wastes</b>
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
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 03	liquor from anaerobic treatment of municipal waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 05	liquor from anaerobic treatment of animal and vegetable waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>19 12</b>	<b>wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
<b>19 13</b>	<b>wastes from soil and groundwater remediation</b>
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
19 13 08	aqueous liquid wastes and aqueous concentrates from groundwater remediation other than those mentioned in 19 13 07

<b>Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>20</b>	<b>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</b>
<b>20 01</b>	<b>separately collected fractions (except 15 01)</b>
20 01 99	other fractions not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
<b>20 03</b>	<b>other municipal wastes</b>
20 03 02	waste from markets
20 03 03	street-cleaning residues – Aqueous fraction not containing substances at levels that will inhibit biological treatment
20 03 99	municipal wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

<b>Table S2.5 Permitted waste types and quantities for dewatering of digested sludge</b>	
<b>Maximum Quantity</b>	Annual throughput of waste at the site (aggregated for all activities) shall not exceed <b>499,500 tonnes</b> . (These quantities do not include indigenous UWWTD derived sludge from within Stoke Bardolph Sewage Treatment Works)
<b>Exclusions</b>	Wastes which are not biodegradable shall not be accepted.
<b>Waste code</b>	<b>Description</b>
<b>19</b>	<b>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</b>
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>
19 08 05	sludges from treatment of urban waste water
<b>19 06</b>	<b>wastes from anaerobic treatment of waste</b>
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
<b>19 09</b>	<b>wastes from the preparation of water intended for human consumption or water for industrial use</b>
19 09 02	sludges from water clarification

## 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 as shown on site plan in Schedule 7	Jenbacher CHP engine 1 [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m <sup>3</sup>			BS EN 14791
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	1000 mg/m <sup>3</sup>			BS EN 12619:2013
A2 as shown on site plan in Schedule 7	Jenbacher CHP engine 2 [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m <sup>3</sup>			BS EN 14791
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	1000 mg/m <sup>3</sup>			BS EN 12619:2013
A5 as shown on site plan in Schedule 7	Auxiliary boilers 1	No parameter set	--	--	--	--
A6 as shown on site plan in Schedule 7	Auxiliary boilers 2	No parameter set	--	--	--	--
A8 as shown on site plan in Schedule 7	Auxiliary flare stack [note 2]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	150 mg/m <sup>3</sup>	Hourly average	[note 3]	BS EN 14792
		Carbon monoxide	50 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	10 mg/m <sup>3</sup>			BS EN 12619:2013

**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
A9 as shown on site plan in Schedule 7	Biogas storage relief vent	No parameter set	--	--	Record of operating hours or as otherwise agreed in writing with the Environment Agency	--
A10 as shown on site plan in Schedule 7	Gas holder pressure relief valve	--	--	--	--	--
A11 as shown on site plan in Schedule 7	Biogas filtration system condensing stack	--	--	--	--	--
A12 as shown on site plan in Schedule 7	Jenbacher CHP engine 3 [note 1]	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	Annual	BS EN 14792
		Sulphur dioxide	350 mg/m <sup>3</sup>			BS EN 14791
		Carbon monoxide	1400 mg/m <sup>3</sup>			BS EN 15058
		Total VOCs	1000 mg/m <sup>3</sup>			BS EN 12619:2013
Odour control units (OCU)	Granular activated carbon OCU	No parameter set	--	--	--	--
Pressure relief valves	Digesters and digestate storage tanks	No parameter set	--	--	Record of operating hours or as otherwise agreed in writing with the Environment Agency	--
Vents from tank(s)	Oil/Fuel Storage tank(s)	No parameter set	--	--	--	--

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.

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

Note 3 – Monitoring to be undertaken in the event the auxiliary flare has been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted annually to the Environment Agency.

<b>Table S3.2 Process monitoring requirements</b>				
<b>Emission point reference or source or description of point of measurement</b>	<b>Parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>	<b>Other specifications</b>
Biogas from Digesters	Flow	Continuous	In accordance with EU weights and measures Regulations or as otherwise agreed in writing with the Environment Agency	--
	Methane	Continuous	None specified	Gas monitors to be calibrated in accordance with manufacturer's recommendations
	Hydrogen sulphide	Continuous	None specified	--
Waste reception building; Digesters and storage tank(s)	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary
Granular activated carbon odour control units (OCU)	Key process parameters to include pH, temperature and air flow	In accordance with manufacturer's recommendations.	None specified	OCUs shall be regularly checked and maintained to ensure appropriate temperature and moisture content.  OCUs to be replaced when saturated in accordance with manufacturer's recommendations.
Digester and storage tank	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.

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A1, A2, A8, A12	Every 12 months	1 January

Parameter	Units
Electricity generated	MWh
Whole digestate	tonnes
Liquid digestate	tonnes or m <sup>3</sup>
Solid digestate	tonnes

Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes or m <sup>3</sup>
Energy usage	Annually	MWh
Raw material usage	Annually	tonnes or m <sup>3</sup>
Auxiliary flare operation	Annually	hours
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours

Media/parameter	Reporting format	Date of form
Air	Form Air1 or other form as agreed in writing by the Environment Agency	20/12/17
Water usage	Form WaterUsage1 or other form as agreed in writing by the Environment Agency	20/12/17
Energy usage	Form Energy1 or other form as agreed in writing by the Environment Agency	20/12/17
Other performance indicators	Form Performance1 or other form as agreed in writing by the Environment Agency	20/12/17
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	

<b>(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</b>	
<b>To be notified within 24 hours of detection</b>	
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>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified within 24 hours of detection unless otherwise specified below</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	



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

<b>(c) Notification requirements for the detection of any significant adverse environmental effect</b>	
<b>To be notified within 24 hours of detection</b>	
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.

“ADQP” means Anaerobic Digestion Quality Protocol

“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 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“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

“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.

“treated wood” means any wood that has been chemically treated (e.g. to enhance or alter the performance of the original wood). Treatments may include penetrating oils, tar oil preservatives, water-borne preservatives, organic-based preservatives, boron and organo-metallic based preservatives, boron and halogenated flame retardants and surface treatments (including paint and veneer).

“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.

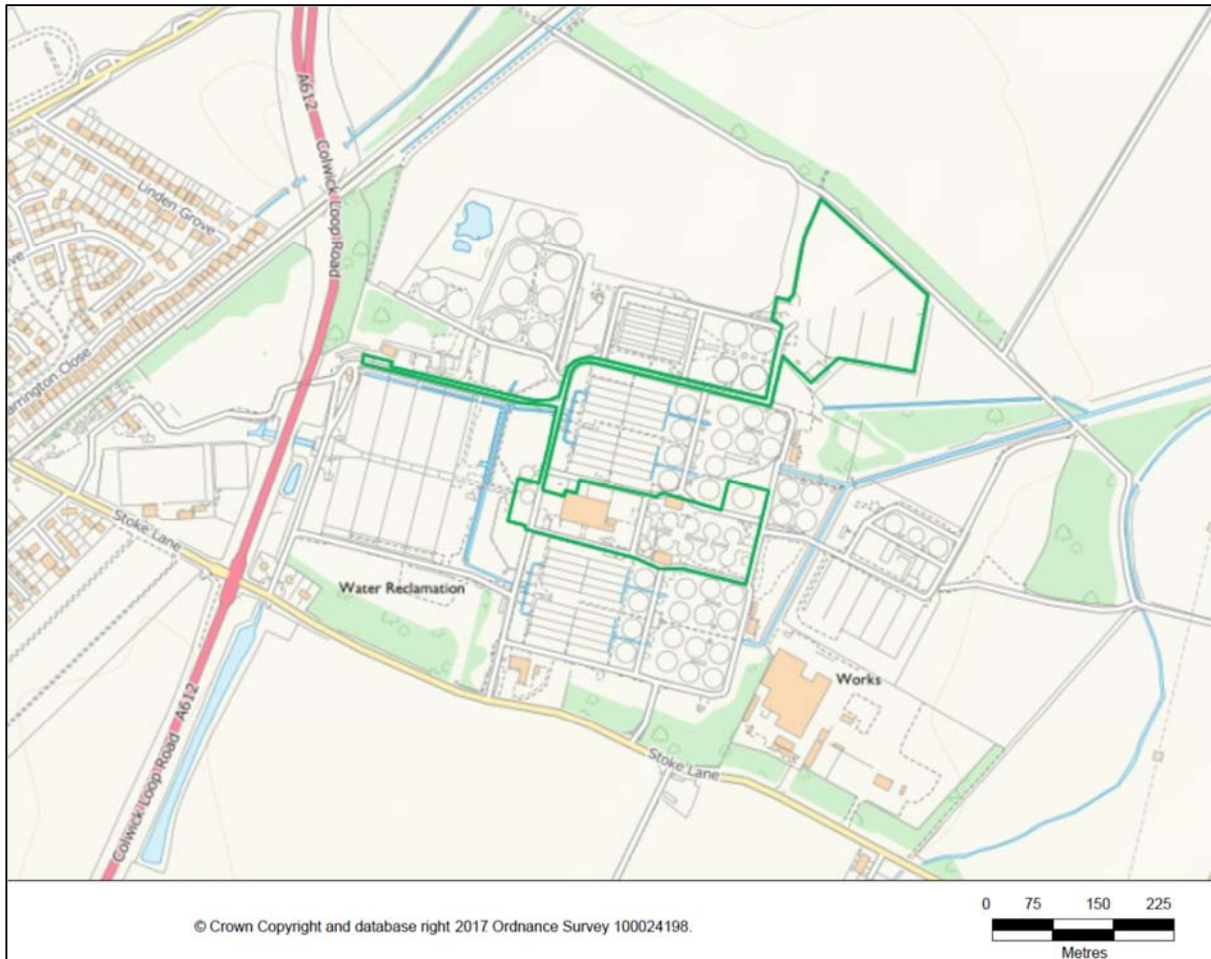
“year” means calendar year ending 31 December.

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 fuels, 3% or 5% for 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.

# Schedule 7 – Site plan



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END OF PERMIT

Permit Number: **EPR/ZP3898EL**

Operator: **Severn Trent Water Limited**

Facility: **Stoke Bardolph Sewage  
Treatment Works**

Form Number: **Air1/20/12/17**

**Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY**

<b>Emission Point</b>	<b>Substance / Parameter</b>	<b>Emission Limit Value</b>	<b>Reference Period</b>	<b>Result [1]</b>	<b>Test Method [2]</b>	<b>Sample Date and Times [3]</b>	<b>Uncertainty [4]</b>
A1	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
	Sulphur dioxide	350 mg/m <sup>3</sup>	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m <sup>3</sup>	1 hour period		BS EN 12619:2013		
A2	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
	Sulphur dioxide	350 mg/m <sup>3</sup>	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m <sup>3</sup>	1 hour period		BS EN 12619:2013		
A8	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	150 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
	Carbon monoxide	50 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
	Total VOCs	10 mg/m <sup>3</sup>	1 hour period		BS EN 12619:2013		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
A12	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	1 hour period		BS EN 14792		
	Sulphur dioxide	350 mg/m <sup>3</sup>	1 hour period		BS EN 14791		
	Carbon monoxide	1400 mg/m <sup>3</sup>	1 hour period		BS EN 15058		
	Total VOCs	1000 mg/m <sup>3</sup>	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.

Signed .....

Date.....

(Authorised to sign as representative of Operator)

**Permit Number: EPR/ZP3898EL**

**Operator: Severn Trent Water Limited**

**Facility: Stoke Bardolph Sewage  
Treatment Works**

**Form Number: WaterUsage1/20/12/17**

**Reporting of Water Usage for the year**

<b>Water Source</b>	<b>Usage (m3/year)</b>	<b>Specific Usage (m3/unit output)</b>
Mains water		
<b>TOTAL WATER USAGE</b>		

Operator's comments:

Signed .....

Date.....

(authorised to sign as representative of Operator)

**Permit Number: EPR/ZP3898EL**

**Operator: Severn Trent Water Limited**

**Facility: Stoke Bardolph Sewage Treatment Works**

**Form Number: Energy1/20/12/17**

**Reporting of Energy Usage for the year**

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	MWh		
Biogas	tonnes or m <sup>3</sup>		
Biomethane	tonnes or m <sup>3</sup>		
Natural Gas	MWh		
Recovered Fuel Oil	tonnes		
Gas Oil	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/ZP3898EL**

**Operator: Severn Trent Water Limited**

**Facility: Stoke Bardolph Sewage  
Treatment Works**

**Form Number: Performance1/20/12/17**

**Reporting of other performance indicators for the period DD/MM/YYYY to DD/MM/YYYY**

<b>Parameter</b>	<b>Units</b>
Total raw material used	tonnes
CHP engine usage	hours
CHP engine efficiency	%
Auxiliary flare operation	hours
Electricity exported	MWh
Auxiliary boiler usage	hours

Operator's comments:

Signed .....

Date.....

(Authorised to sign as representative of Operator)