

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Severn Trent Water Limited

Minworth Sludge Digestion and Combined Heat and Power Plant
Minworth Sewage Treatment Works
Kingsbury Road
Sutton Coldfield
Birmingham
B76 9DP

Variation application number

EPR/BP3631SW/V009

Consolidated permit number

EPR/BP3631SW

Minworth Sludge Digestion and Combined Heat and Power Plant

Permit number EPR/BP3631SW

Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

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.

This variation authorises the following changes:

- Addition of a new biogas upgrading plant as a directly associated activity, with two new emission points to air for the biogas upgrader odour control stack (A76) and the biogas upgrader exhaust stack (A77);
- Addition of two other emission points to air (A74 and A75) for emergency pressure relief valves for existing biogas holders. These emission points were omitted from the previous variation application.
- Diversion of some of the existing indigenous primary sludge stream through the existing Block A digesters prior to its treatment in the existing thermal hydrolysis process (THP) plant;
- Addition of a new sludge pump station and associated infrastructure to serve the existing Block A digesters and THP process;
- Addition of treatment and storage of digestate cake on an impermeable surface as a directly associated activity. This activity is not changing as a result of this variation and was previously undertaken and regulated at the installation. This represents an administrative change to the permit;
- Addition of a standby dewatering centrifuge for the existing THP process. This centrifuge is of the same design as the existing dewatering centrifuge; and
- Recommissioning of the existing sludge thickening belts serving the Block A digesters.

This variation does not result in any changes to the permitted annual throughput of wastes at the installation.

The other main features of the site remain as follows:

The Minworth Sludge Digestion and Combined Heat and Power Plant treats sewage sludge and trade waste by anaerobic digestion to produce a stabilised sludge product and biogas. The sludge product is taken off site for land spreading or to alternative outlets. The biogas is exported to the gas grid via gas to grid facilities, and also combusted to generate heat and power for use in the installation and the wider waste water treatment works (WWTW).

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.

Status log of the permit		
Description	Date	Comments
Application BP3631SW (under PPC 2000)	Duly made 24/07/06	Permit ref: EPR/BP3631SW/A001
Additional information received	02/03/07 04/06/07 16/07/07	
Permit determined EPR/BP3631SW	04/10/07	
Variation LP3637XD issued	06/08/08	Permit ref: EPR/BP3631SW/V002
Application EPR/BP3631SW/V003 (under EPR 2007)	Duly made 03/03/10	
Additional Information Received	03/03/10 08/07/10 13/08/10 19/08/10 20/08/10	
Variation issued EPR/BP3631SW/V003 (under EPR 2010)	04/11/10	
Agency variation determined EPR/BP3631SW/V004	25/06/13	Agency variation to implement the changes introduced by IED.
Application EPR/BP3631SW/V005 (Variation)	Duly made 17/01/14	Application to extend the permit boundary, decommission 2 Waukesha engines (7.75MW) and add 3 new Jenbacher engines (10.125MW) and associated storage and air virtual stack.
Variation issued EPR/BP3631SW/V005	21/03/14	Variation notice issued to Severn Trent Water Limited.
Application EPR/BP3631SW/V006 (Variation)	Duly Made 09/05/14	Application to extend the permit boundary, include biomethane upgrade facility in the permit and update tables S1.1, S1.3 and S4.1 of the permit.
Variation issued EPR/BP3631SW/V006	02/07/14	Variation notice issued to Severn Trent Water Limited.
Application received EPR/BP3631SW/V007	Duly made 30/01/17	Application for the addition of EWC code 19 02 10 to table S3.4.
Variation determined EPR/BP3631SW/V007	28/03/17	Varied permit issued to Severn Trent Water Limited.
Application received EPR/BP3631SW/V008	Duly made 23/01/18	
Additional Information Received	22/06/18	Updated waste acceptance procedures.
Variation determined EPR/BP3631SW/V008	18/12/18	Varied permit issued to Severn Trent Water Limited.
Application received EPR/BP3631SW/V009	Duly made 17/10/19	Application to vary the permit to: <ul style="list-style-type: none"> • Add a new biogas upgrading plant, new sludge pump station, and standby dewatering centrifuge; • Divert some of the existing indigenous

Status log of the permit		
Description	Date	Comments
		<p>primary sludge stream through the existing Block A digesters; and</p> <ul style="list-style-type: none"> • Recommission the existing sludge thickening belts serving the Block A digesters.
Additional information received	23/10/19	Additional information regarding the assessment of noise risk associated with the variation.
Additional information received	11/11/19	Response to the Schedule 5 notice dated 07/11/19, including odour management information.
Additional information received	18/11/19	Response to the Schedule 5 notice dated 07/11/19, including H1 assessment for the gas upgrading plant.
Variation determined EPR/BP3631SW/V009 PAS billing reference: PP3008PL	26/11/19	Varied permit issued to Severn Trent Water Limited.

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 regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies and consolidates

Permit number

EPR/BP3631SW

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

**Minworth Sludge Digestion and Combined Heat and Power Plant
Minworth Sewage Treatment Works
Kingsbury Road
Sutton Coldfield
Birmingham
B76 9DP**

to the extent set out in the schedules.

The notice shall take effect from 26/11/19.

Name	Date
Maxine Evans	26/11/19

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/BP3631SW

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BP3631SW/V009 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 at

**Minworth Sludge Digestion and Combined Heat and Power Plant
Minworth Sewage Treatment Works
Kingsbury Road
Sutton Coldfield
Birmingham
B76 9DP**

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

Name	Date
Maxine Evans	26/11/19

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

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

1.2 Energy efficiency

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

1.3 Efficient use of raw materials

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

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

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

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

2 Operations

2.1 Permitted activities

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

2.2 The site

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

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.4 Waste shall only be accepted if:
- (a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3 and S2.4; 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.
- 2.3.7 The programme of servicing and tuning of all spark ignition engines shall be refined and monitored such that consistent low variation performance at near optimum emission levels can be demonstrated.

2.4 Hazardous waste storage and treatment

- 2.4.1 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

2.5 Improvement programme

- 2.5.1 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.
- 2.5.2 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, S3.2 and S3.3;
- (b) process monitoring specified in table S3.4.

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

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 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 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

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

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

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

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

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

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately —
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately —
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

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

4.3.4 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.

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

Where the operator is a registered company:

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

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

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

In any other case:

- (a) the death of any of the named operators (where the operator consists of more than one named individual);
- (b) any change in the operator's name(s) or address(es); and

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

4.3.6 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.

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

4.4 Interpretation

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

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "immediately", in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
AR1	Section 5.4 Part A (1) (b) (i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving one or more of the following activities, and excluding activities covered by Council Directive 91/271/EEC	Biological treatment by anaerobic digestion of non-hazardous waste. R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes). R13: Storage of wastes pending any of the operations R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).	From receipt of waste to the delivery of biogas, digestate and liquor, including: <ul style="list-style-type: none"> • Storage and handling; • Primary digesters; • Secondary digesters; • Centrate Liquor Treatment Plant. Waste types suitable for acceptance are limited to those specified in Tables S2.2, S2.3 and S2.4.
AR2	Section 5.3 Part A(1) a) (i) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving biological treatment;	Biological treatment by anaerobic digestion of hazardous waste R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).	From receipt of hazardous waste to the transfer of treated wastes to further treatment, recovery or disposal of hazardous waste. Waste types suitable for acceptance are limited to those specified in Tables S2.2, S2.3 and S2.4.
Directly Associated Activity			
AR3	Physico-chemical treatment of non-hazardous waste.	R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).	From receipt of the waste to the production of treated waste, including: <ul style="list-style-type: none"> • Gravity belt thickeners; • Centrifuges; • Dewatering Plant. Waste types suitable for acceptance are limited to non-hazardous wastes.
			From receipt of waste to production of pre-treated waste, using thermal hydrolysis pre-treatment. Waste types suitable for acceptance are limited to non-hazardous wastes.

Table S1.1 activities			
AR4	Gas upgrading	Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and volatile organic compounds) in two biomethane to grid plants for injection into the National Grid.	From the receipt of biogas produced at the on-site anaerobic digestion process to injection into the National Grid.
AR5	Steam and electrical power supply	R1: Use principally as a fuel to generate energy	From 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 5 combined heat and power (CHP) engines with an aggregated thermal input not exceeding 16.875 MWth. Combustion of biogas produced at the on-site anaerobic digestion process in 3 composite boilers with an aggregated thermal input not exceeding 11.001 MWth. Combustion of biogas in 1 auxiliary dual fuel boiler with a thermal input not exceeding 4.375 MWth and combustion of biogas in 3 auxiliary CHP engines with an aggregated thermal input not exceeding 7.818 MWth.
AR6	Regeneration of Siloxane filter	Dilution and dispersion of siloxane and other VOCs in an air virtual stack and PpTek siloxane filter exhaust stack.	Only to be used for the regeneration of siloxane filters for existing and new Jenbacher engines with a thermal rating of 3.375 MWth.
AR7	Raw material storage	Storage of raw materials	From receipt of raw materials to dispatch for use within the facility.
AR8	Surface water collection	Collection of site surface water.	The collection of site surface water for transfer to the head of the sewage treatment works
AR9	Sludge storage	Storage of sludge prior to treatment.	From receipt of raw materials to dispatch for treatment.
AR10	Gas flare	Flaring of excess biogas.	Only under emergency circumstances, or when the power units are not in operation.

Table S1.1 activities			
AR11	Treatment and storage of digestate cake	<p>R3: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).</p> <p>R13: Storage of wastes pending any of the operations R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).</p>	Storage and treatment of digestate cake on an impermeable surface with sealed drainage system; including mixing with lime, if necessary, to achieve pathogen kill prior to despatch of site.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application EPR/BP3631SW/A001	The response to section 2.1, excluding 2.1.3 and 2.1.5, and 2.2 in the Application.	31/03/06
Schedule 4 Notice Request dated 04/06/07	All sections	02/03/07
Receipt of additional information to the application dated 16/07/07	All sections	16/07/07
Receipt of additional information pertaining to the variation application	Email response detailing containment measures for all process activities associated with the installation of three new CHP combustion units.	23/01/14
Receipt of additional information pertaining to the variation application	Email response detailing the operation of an air virtual stack.	12/03/14
Application EPR/BP3631SW/V006	Responses to Part C2 section 2 of the application form; Part C3 section 3 of the application form. Responses to the Environment Agency "not duly made" letter dated 08/05/2014 with the exception of the revised site boundary plan.	09/05/14
Application EPR/BP3631SW/V008	Sections 3, 4 and 5 of Minworth Thermal Hydrolysis Process Environmental Permit Variation Application dated 12 September 2017.	19/09/17
Email detailing updated waste acceptance procedures.	All parts	22/06/18
Application EPR/BP3631SW/V009	Supporting information to the variation application described in the document "Variation Application EPR/BP3631SW.V009 – Block A Digesters Intermediate THP Conversion" dated 16/05/2019.	20/05/19
Response to Schedule 5 Notice dated 07/11/2019.	Operating techniques for odour management described in the responses to questions 2-5 of the Notice.	11/11/19

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC1 (from EPR/BP3631SW)	<p>The operator shall submit a report in writing to the Agency detailing the emissions to air from the CHP facilities within the installation. The composition of biogas used for combustion shall be defined for the results obtained. The report shall also include proposed methodologies to be used to carry out the monitoring of air emissions and performance measures identified within Tables S3.1, S4.1 and S4.4. The methodologies for the monitoring of emissions to air under Table S4.1 shall comply with the requirements of Agency monitoring guidance documents: M1, Sampling Requirements for Stack Emission Monitoring; M2 – Monitoring of Stack Emissions to Air; and Section 2.10 of Agency Combustion Technical Guidance Note.</p> <p>The plan shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete
IC2 (from EPR/BP3631SW)	<p>The Operator shall submit a scaled drawing of the installation to the Agency. The drawing shall detail the surfacing of all areas within the installation boundary, including the provision of bunding to tanks. It shall also identify any locations where flexible/temporary pipe work is used within the installation and the measures in place to prevent fugitive emissions from these during operation and dismantling.</p> <p>Where improvements are identified as part of the SPMP and developing site infrastructure the drawing shall make reference to this.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure.</p>	Complete
IC3 (from EPR/BP3631SW/V003)	<p>The Operator shall review the level of NO_x and SO₂ emissions following completion of the monitoring exercise carried out in accordance with improvement condition IC1 to determine actual values for the releases to air.</p> <p>The Operator shall use this detailed release data to establish the actual impact on air quality through the use of an appropriate air dispersion model. The results of the review and modelling shall be submitted to the Agency in a written report.</p>	Complete
IC4 (from EPR/BP3631SW)	<p>A written plan shall be submitted to the Agency detailing proposals for a groundwater monitoring programme for the detection of leaks from the primary and secondary digester tanks. The proposals shall include the monitoring of groundwater upstream and downstream at each tank.</p> <p>The proposals shall also identify trigger levels to highlight increase in groundwater concentrations of sludge related contaminants between the upstream and downstream groundwater levels, which will initiate investigations into the source of the increase.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure.</p> <p>The programme shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC5 (from EPR/BP3631SW/V003)	<p>The Operator shall undertake a review to identify all options for reducing the emissions to air to the benchmark standards in the Environment Agency Technical Guidance Note for Combustion (or LFGN 08). The assessment should ensure that the releases to air do not result in a significant contribution to an exceedance of an air quality standard, 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.</p> <p>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. It should include 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.</p> <p>The operator shall submit a written report 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.</p> <p>The programme shall be implemented by the operator from the date of approval in writing by the Environment Agency.</p>	Complete
IC6 (from EPR/BP3631SW)	<p>The Operator shall complete the development of a Site Energy Management Plan, having regard to the requirements set out in Section 2.7 of the IPPC Sector Guidance Note for Combustion Activities. A copy of the plan shall be supplied in writing for approval to the Environment Agency.</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>	Complete
IC7 (from EPR/BP3631SW)	<p>The operator shall develop an Accident Management Plan in accordance with Section 2.8 of IPPC Sector Guidance Note for the Recovery and Disposal of Hazardous and non-Hazardous Waste. Upon completion of the plan a summary document shall be submitted to the Agency in writing for approval.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the Accident Management Plan.</p>	Complete
IC8 (from EPR/BP3631SW)	<p>The Operator shall develop a written Site Closure Plan with regard to the requirements set out in Section 2.11 of the Agency Guidance Note for the Recovery and Disposal of Hazardous and non-Hazardous Waste. Upon completion of the plan, a summary of the document shall be submitted to the Agency in writing for approval.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p>	Complete
IC9 (from EPR/BP3631SW)	<p>A written procedure shall be submitted to the agency detailing the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	or accreditation in accordance with condition 3.6.3. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure. The procedure shall be implemented by the operator from the date of approval in writing by the Agency.	
IC10 (from EPR/BP3631SW)	The operator shall undertake a review of the Environmental Management Systems operated on site with regard to the requirements of section 2.3 of the IPPC Sector Guidance Note for Combustion Activities. A copy of the review shall be submitted to the Agency, in writing. Where improvements are identified a timetable for their implementation shall be submitted to the Agency for approval. The plan shall be implemented by the operator from the date of approval in writing by the Environment Agency.	Complete
IC11 (from EPR/BP3631SW)	The Operator shall review the condition of all sub-surface pipe work and storage measures including sumps, storage tanks and vessels (but excluding digester tanks), in relation to their potential to cause fugitive emissions to surface and ground water. The review shall take into account the requirements of Section 2.2.5 of the Agency Guidance Note IPPC S5.06, dated December 2004 and shall include a full and accurate drainage plan of the site, including the route of boiler condensate drainage. A summary of the findings and a copy of the plan shall be submitted to the Agency for approval. A time-scale for implementation of any improvements identified shall be approved in writing by the Agency. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the review. Any proposed improvements shall be implemented by the Operator from the date of approval by the Agency in writing.	Complete
IC12 (from EPR/BP3631SW)	The operator shall undertake a review of the waste pre-acceptance and acceptance procedures operated on site with regard to the requirements of section 2.1.2 and 2.1.3 of the IPPC Sector Guidance Note for the Recovery and Disposal of Hazardous and non-Hazardous Waste. A copy of the review shall be submitted to the Agency, in writing. Where improvements are identified a timetable for their implementation shall be submitted to the Agency for approval. The plan shall be implemented by the operator from the date of approval in writing by the Environment Agency.	Complete
IC13 (from EPR/BP3631SW)	Written proposals shall be submitted to the Agency for providing digesters containing liquids or sludges whose emission to water or land could cause pollution with secondary containment, or other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container. The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the proposals. The programme shall be implemented by the Operator from the date of approval in writing by the Agency.	Complete
IC14	The Operator shall undertake a waste minimisation audit in accordance with Section 2.4.2 of the Sector Guidance Note	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
(from EPR/BP3631SW)	<p>IPPC S5.06, dated December 2004.</p> <p>The audit shall be submitted to the Agency in writing with a timetable of improvements to be undertaken, for approval by the Agency.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the review.</p> <p>The improvements shall be implemented from the date of approval in writing by the Agency.</p>	
IC15 from EPR/BP3631SW/V005)	<p>Following a monitoring assessment of the impact of emissions to air from the air virtual stack to verify the assumptions made in the application. The Operator shall submit a report to the Environment Agency for approval detailing the results of the monitoring programme and an assessment of the impacts from the emissions against the relevant EQS/EAL standard.</p> <p>The assessment shall include the monitoring of releases to air from the air virtual stack during the siloxane filter regeneration process having regard to the Environment Agency's technical guidance M2. As a minimum, two separate analysis campaigns shall be completed. Monitoring parameters shall include oxides of nitrogen, oxides of sulphur, carbon monoxide, hydrogen sulphide, silicon dioxide, volatile methyl siloxanes, benzene, Class A VOC and Class B VOC.</p>	Complete
IC16 from EPR/BP3631SW/V005)	<p>Following the completion of IC15, the Operator shall submit to the Environment Agency for approval proposals for monitoring the impact of the emissions to air from the air virtual stack (A13) to determine the saturation profile of the siloxane filters. The proposal shall include the methods and predictions relied upon to ensure that the expiration and re-loading of the siloxane filters are optimised.</p> <p>The Operator shall implement the monitoring measures on approval by the Environment Agency.</p>	Complete
IC17 from EPR/BP3631SW/V005)	<p>The Operator shall submit a report to the Environment Agency for approval containing proposals for setting emission limits at all air emission points. The proposals shall have regard to previous emissions data generated at the installation and the Environment Agency's technical guidance M2. The report shall include a risk assessment of the proposed emission limits in line with the Environment Agency's guidance H1 Annex F.</p> <p>The report shall also outline the methods and predictions to be implemented and applied at the site in order to ensure that that consistent low variation performance at near optimum emission levels can be demonstrated for all emission sources.</p>	Complete
IC17a from EPR/BP3631SW/V006)	The requirements of conditions IC17 shall apply to emission points A65 – A72.	Complete
IC18 from EPR/BP3631SW/V006)	<p>Following a monitoring assessment of the impact of emissions to air from the biofilter exhaust stack to verify the assumptions made in the application, the operator shall submit a report to the Environment Agency for approval, detailing the results of the monitoring programme and an assessment of the impacts from the emissions against the relevant EQS/EAL standard.</p> <p>The assessment shall include the monitoring of releases to air</p>	Complete

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	from the biofilter exhaust stack during the commissioning of the biomethane to grid facility having regard to the Environment Agency's technical guidance M2. As a minimum, two separate analysis campaigns shall be completed. Monitoring parameters shall include total sulphur, hydrogen sulphide, ammonia, hydrogen chloride, hydrogen fluoride, total halogenated hydrocarbons, xylenes (all isomers) and arsenic.	
IC19 from EPR/BP3631SW/V006)	<p>Following the completion of IC18, the Operator shall submit to the Environment Agency for approval, proposals for monitoring the impact of the emissions to air from the biofilter exhaust stack (A65). The proposal shall include the methods and predictions relied upon to ensure that the biofilter is operating in an optimum manner and is performing in accordance with the design specification of < 1mg/Nm³ H₂S in the exhaust.</p> <p>The Operator shall implement the monitoring measures on approval by the Environment Agency.</p>	Complete
IC20	<p>The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the release of pollutants to air from the gas upgrading plant (emission point A76). The study shall include the monitoring of point source releases to air from the biogas upgrading plant during normal operation, having regard to the Environment Agency technical guidance M2 and to MCERTS standards.</p> <p>As a minimum, two separate monitoring campaigns in a year shall be completed as follows:</p> <ul style="list-style-type: none"> • one initial monitoring survey six months following commissioning of the biogas upgrading plant and another monitoring survey six months thereafter <p>The pollutants to be monitored shall include:</p> <ul style="list-style-type: none"> • total volatile organic compounds; and • hydrogen sulphide 	27/05/2020 or otherwise agreed in writing by the Environment Agency
IC21	<p>Following the completion of IC20, the operator shall undertake a quantitative emissions impact assessment of all point source releases to air, using the information obtained through the emissions monitoring. The emissions impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p> <p>The emissions impact assessment shall, as a minimum, include:</p> <ul style="list-style-type: none"> • reports showing details of the monitoring undertaken and the results obtained; • results of the assessment of long and short term impacts from the emissions in accordance with Environment Agency Guidance – Air emissions risk assessment for your environmental permit • a completed H1 assessment software tool <p>If the H1 assessment shows potential long or short term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified.</p>	27/06/2020 or otherwise agreed in writing by the Environment Agency
IC22	The operator shall submit an odour management plan to the Environment Agency for written agreement. The plan shall take into account the appropriate measures for odour control specified in Environment Agency Draft Technical Guidance for Anaerobic Digestion (Reference LIT 8737, November 2013) and	27/05/2020 or otherwise agreed in writing by the Environment

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	H4 - Odour Management. Once the odour management plan has been agreed with the Environment Agency, the installation must be operated in accordance with this management plan.	Agency

Schedule 2 – Waste types, raw materials and fuels

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

Maximum quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludges from washing and cleaning – 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
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 01	sludges from washing and cleaning, 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
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 03 99	sludge from production of edible fats and oils, seasoning residues, molasses residues, residues from production of potato, corn or rice starch only

Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)	
Maximum quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
02 04	wastes from sugar processing
02 04 03	sludges from on-site effluent treatment
02 04 99	other wastes
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing including solid and liquid dairy products, milk, food processing wastes, yoghurt, whey
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing including condemned food, food processing wastes, biscuits, chocolate, yeast, bread, bakery wastes
02 06 03	sludges from on-site effluent treatment
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials including brewing waste, food processing waste, fermentation waste
02 07 02	wastes from spirits distillation including spent grains, fruit and potato pulp, sludge from distilleries
02 07 04	materials unsuitable for consumption or processing including brewing waste, food processing waste, fermentation waste, beer, alcoholic drinks, fruit juice
02 07 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
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 01	Wastes from wood processing and the production of panels and furniture
03 01 01	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
03 03	wastes from pulp, paper and cardboard production and processing
03 03 02	green liquor sludge
03 03 08	paper and cardboard – not allowed if any non-biodegradable coating or preserving substance is present
03 03 10	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation (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)

Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)	
Maximum quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
04	Wastes from the leather, fur and textile industries
04 01	wastes from the leather and fur industry
04 01 01	fleshings and lime split wastes
04 01 05	tanning liquor free of chromium
04 01 07	sludges not containing chromium
04 02	wastes from the textile industry
04 02 10	organic matter from natural products, e.g. grease, wax
07	Wastes from the leather, fur and textile industries
07 01	Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 08*	glycerol waste from bio-diesel manufacture from non-waste vegetable oils only
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01	packaging (including separately collected municipal packaging waste)
15 01 01	paper and cardboard packaging – not allowed if any non-biodegradable coating or preserving substance is present
15 01 02	biodegradable plastic packaging – must be independently certified to BS EN 13432
15 01 03	Untreated wooden packaging – not allowed if any non-biodegradable coating or preserving substance is present
15 01 05	composite packaging – must conform to BS EN 13432 and not allowed if any non-biodegradable coating or preserving substance is present
16	Wastes not otherwise specified in the list
16 10	aqueous liquid wastes destined for off-site treatment
16 10 02	liquor/leachate from a composting process that accepts waste input types listed in this table, Table S2,2, only
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	waste types listed 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

Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)	
Maximum quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
19 05	Wastes from the aerobic treatments of wastes
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)
19 06	wastes from anaerobic treatment of waste
19 06 03	liquor from anaerobic treatment of municipal waste (from a process that treats wastes which are listed in this table, 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)
19 08	wastes from waste water treatment plants not otherwise specified
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
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 06	solutions and sludges from regeneration of ion exchangers
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	waste types listed in this table, Table S2.2, that have been subjected to mechanical treatment only

Table S2.2 Permitted waste types and quantities for anaerobic digestion (Group A)	
Maximum quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard – not allowed if any non-biodegradable coating or preserving substance is present. Excludes laminates such as Tetrapaks.
20 01 08	kitchen and canteen waste
20 01 25	edible oil and fat
20 01 38	untreated wood where no non-biodegradable coating or preserving substance is present
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 03	other municipal wastes
20 03 01	mixed municipal waste – 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

Table S2.3 Permitted waste types and quantities for anaerobic digestion (Group B)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste ; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 02	wastes from preserving agents
02 05	wastes from the dairy products industry
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
02 06	wastes from the baking and confectionery industry
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
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 03	wastes from chemical treatment
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 03	wastes from pulp, paper and cardboard production and processing
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
04	Wastes from the leather, fur and textile industries
04 01	wastes from the leather and fur industry
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
04 02	wastes from the textile industry
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
06	Wastes from inorganic chemical processes
06 05	sludges from on-site effluent treatment

Table S2.3 Permitted waste types and quantities for anaerobic digestion (Group B)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste ; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
07	Wastes from organic chemical processes
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 01*	Aqueous washing liquids and mother liquors
07 01 11*	sludges from on-site effluent treatment containing hazardous substances
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
08 03	wastes from MFSU of printing inks
08 03 07	aqueous sludges containing ink
08 03 08	aqueous liquid waste containing ink
08 03 14*	ink sludges containing hazardous substances
08 03 15	ink sludges other than those mentioned in 08 03 14
16	Wastes not otherwise specified in the list
16 01	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)
16 01 14*	antifreeze fluids containing hazardous substances
16 01 15	antifreeze fluids other than those mentioned in 16 01 14
16 03	off-specification batches and unused products
16 03 05*	Organic wastes containing hazardous substances
16 03 06	organic wastes other than those mentioned in 16 03 05
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 06	wastes from anaerobic treatment of waste
19 06 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
19 07	landfill leachate
19 07 02*	landfill leachate containing hazardous substances
19 07 03	landfill leachate other than those mentioned in 19 07 02
19 08	wastes from waste water treatment plants not otherwise specified
19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09
19 08 11*	sludges containing hazardous substances from biological treatment of industrial waste water

Table S2.3 Permitted waste types and quantities for anaerobic digestion (Group B)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste ; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works.)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 14*	acids
20 01 15*	alkalines
20 01 30	detergents other than those mentioned in 20 01 29

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 05	drilling muds and other drilling wastes
01 05 04	freshwater drilling muds and wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
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
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludges from washing and cleaning
02 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
02 02	
02 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 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
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste ; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
02 07 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 01	wastes from wood processing and the production of panels and furniture
03 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
03 03	wastes from pulp, paper and cardboard production and processing
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
04	Wastes from the leather, fur and textile industries
04 02	wastes from the textile industry
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 14*	wastes from finishing containing organic solvents
04 02 15	wastes from finishing other than those mentioned in 04 02 14
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 07	wastes from natural gas purification and transportation
05 07 02	wastes containing sulphur
06	Wastes from inorganic chemical processes
06 01	wastes from the manufacture, formulation, supply and use (MFSU) of acids
06 01 06*	other acids
06 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
06 02	wastes from the MFSU of bases
06 02 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
06 03	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
06 05	sludges from on-site effluent treatment
06 05 02*	sludges from on-site effluent treatment containing hazardous substances

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste ; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
06 06	wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes
06 06 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
06 10	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture
06 10 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
06 13	wastes from inorganic chemical processes not otherwise specified
06 13 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
07	Wastes from organic chemical processes
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 04*	other organic solvents, washing liquids and mother liquors
07 01 08*	other still bottoms and reaction residues
07 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres
07 02 01*	aqueous washing liquids and mother liquors
07 02 04*	other organic solvents, washing liquids and mother liquors
07 02 08*	other still bottoms and reaction residues
07 02 11*	sludges from on-site effluent treatment containing hazardous substances
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 14*	wastes from additives containing hazardous substances
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
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 01*	aqueous washing liquids and mother liquors
07 03 04*	other organic solvents, washing liquids and mother liquors
07 03 08*	other still bottoms and reaction residues
07 03 11*	sludges from on-site effluent treatment containing hazardous substances
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

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste ; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
07 04	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
07 04 01*	aqueous washing liquids and mother liquors
07 04 04*	other organic solvents, washing liquids and mother liquors
07 04 08*	other still bottoms and reaction residues
07 04 11*	sludges from on-site effluent treatment containing hazardous substances
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
07 05	wastes from the MFSU of pharmaceuticals
07 05 01*	aqueous washing liquids and mother liquors
07 05 04*	other organic solvents, washing liquids and mother liquors
07 05 08*	other still bottoms and reaction residues
07 05 11*	sludges from on-site effluent treatment containing hazardous substances
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
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
07 06 01*	aqueous washing liquids and mother liquors
07 06 04*	other organic solvents, washing liquids and mother liquors
07 06 08*	other still bottoms and reaction residues
07 06 11*	sludges from on-site effluent treatment containing hazardous substances
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
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 01*	aqueous washing liquids and mother liquors
07 07 04*	other organic solvents, washing liquids and mother liquors
07 07 08*	other still bottoms and reaction residues
07 07 11*	sludges from on-site effluent treatment containing hazardous substances
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

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks
08 01	wastes from MFSU and removal of paint and varnish
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 19*	aqueous suspensions containing paint or varnish containing organic solvents or other hazardous substances
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
08 03	wastes from MFSU of printing inks
08 03 12*	waste ink containing hazardous substances
08 03 13	waste ink other than those mentioned in 08 03 12
08 04	wastes from MFSU of adhesives and sealants (including water proofing products)
08 04 13*	aqueous sludges containing adhesives or sealants containing organic solvents or other hazardous substances
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
08 04 15*	aqueous liquid waste containing adhesives or sealants containing organic solvents or other hazardous substances
08 04 16	aqueous liquid waste containing adhesives or sealants other than those mentioned in 08 04 15
10	Wastes from thermal processes
10 02	wastes from the iron and steel industry
10 02 11*	wastes from cooling-water treatment containing oil
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
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy
11 01	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)
11 01 12	aqueous rinsing liquids other than those mentioned in 11 01 11
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 01	waste hydraulic oils
13 01 12*	readily biodegradable hydraulic oils
13 03	waste insulating and heat transmission oils
13 03 09*	readily biodegradable insulating and heat transmission oils
13 05	oil/water separator contents
13 05 07*	oily water from oil/water separators
16	Wastes not otherwise specified in the list
16 05	gases in pressure containers and discarded chemicals
16 05 08*	discarded organic chemicals consisting of or containing hazardous substances
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 09*	wastes containing other hazardous substances
16 07 99	wastes not otherwise specified – Washwaters not containing substances at levels that will inhibit biological treatment
16 10	aqueous liquid wastes destined for off-site treatment
16 10 01*	aqueous liquid wastes containing hazardous substances
16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01
16 10 03*	aqueous concentrates containing hazardous substances
16 10 04	aqueous concentrates other than those mentioned in 16 10 03
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 01	wastes from incineration or pyrolysis of waste
19 01 06*	aqueous liquid wastes from gas treatment and other aqueous liquid wastes
19 01 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste ; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 05*	sludges from physico/chemical treatment containing hazardous substances
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
19 05	wastes from aerobic treatment of solid wastes
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 03	liquor from anaerobic treatment of municipal waste
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 05	liquor from anaerobic treatment of animal and vegetable waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	wastes from waste water treatment plants not otherwise specified
19 08 99	wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 10	combustible waste (refuse derived fuel)
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	wastes from soil and groundwater remediation
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 05*	sludges from groundwater remediation containing hazardous substances
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05

Table S2.4 Permitted waste types and quantities for anaerobic digestion (Group C)	
Maximum Quantity	Annual throughput of waste at the site (aggregated for all activities) shall not exceed: 430,000 tonnes of non-hazardous waste; and 34,750 tonnes of hazardous waste (These quantities do not include indigenous UWWTD derived sludge from within the waste water treatment works)
Exclusions	Wastes which are not biodegradable shall not be accepted.
Waste code	Description
19 13 07*	aqueous liquid wastes and aqueous concentrates from groundwater remediation containing hazardous substances
19 13 08	aqueous liquid wastes and aqueous concentrates from groundwater remediation other than those mentioned in 19 13 07
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 01	separately collected fractions (except 15 01)
20 01 99	other fractions not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment
20 03	other municipal wastes
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 99	municipal wastes not otherwise specified – Aqueous process waters and washwaters not containing substances at levels that will inhibit biological treatment

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
A6; A7; A11 referenced in New CHP Site Boundary Plan dated 16/01/14	Jenbacher Engines 6, 7 & 8 (2.606MW net thermal input each) - Engine Exhausts. [Note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual	BS EN 14792: 2005 plus service intervals every 1000 hours (+/- 100 hours) with weekly Testos readings
		Sulphur dioxide	No limit set			--
		Carbon monoxide	No limit set			service intervals every 1000 hours (+/- 100 hours) with weekly Testos readings
		Total VOCs	No limit set			service intervals every 1000 hours (+/- 100 hours)
A9 referenced in New CHP Site Boundary Plan dated 16/01/14	Dual Fuel Boiler Stack	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	No limit set	--	--	As agreed in writing with the Environment Agency.
		Carbon monoxide				
		Sulphur dioxide				
		Total VOCs				
A13 referenced in New CHP Site Boundary Plan dated 16/01/14	Air virtual stack	Total VMS	No limit set	--	--	As agreed in writing with the Environment Agency.
		Total VOCs				

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
A14a, A14b, A14c Multi-flue stack designated emission points shown on Figure B3 in Appendix B of Minworth Thermal Hydrolysis Permit Variation Application dated 12 September 2017	Jenbacher Engines 10, 11 and 12 exhausts [Note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual	BS EN 14792: 2005 plus service intervals every 1000 hours (+/- 100 hours) with weekly Testos readings
		Sulphur dioxide	No limit set			--
		Carbon monoxide	No limit set			service intervals every 1000 hours (+/- 100 hours) with weekly Testos readings
		Total VOCs	No limit set			service intervals every 1000 hours (+/- 100 hours)
A14d, A14e Multi-flue stack designated emission points shown on Figure B3 in Appendix B of Minworth Thermal Hydrolysis Permit Variation Application dated 12 September 2017	Jenbacher Engines 13 and 14 exhausts [Note 1]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³	Hourly average	Annual	BS EN 14792
		Carbon monoxide	1400 mg/m ³			BS EN 14791
		Sulphur dioxide	60 mg/m ³ [Note 2]			BS EN 15058
		Total VOCs	1000 mg/m ³			BS EN 12619:2013
A14f, A14g, A14 h Multi-flue stack designated emission points shown on Figure B3	Composite boiler 3 off exhausts	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	No limit set	--	--	--
		Carbon monoxide				

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
in Appendix B of Minworth Thermal Hydrolysis Permit Variation Application dated 12 September 2017		Sulphur dioxide				
		Total VOCs				
A15 Shown on Figure B3 in Appendix B of Minworth Thermal Hydrolysis Permit Variation Application dated 12 September 2017	First unit of twin unit biogas flare [Note 3]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	Hourly average	[Note 4]	BS EN 14792
		Carbon monoxide	50 mg/m ³			BS EN 14791
		VOC's (as carbon)	10 mg/m ³			BS EN 12619:2013
A16 Shown on Figure B3 in Appendix B of Minworth Thermal Hydrolysis Permit Variation Application dated 12 September 2017	Second unit of twin unit biogas flare [Note 3]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150 mg/m ³	Hourly average	[Note 4]	BS EN 14792
		Carbon monoxide	50 mg/m ³			BS EN 14791
		VOC's (as carbon)	10 mg/m ³			BS EN 12619:2013
A17 Shown on Figure B3 in Appendix B of Minworth Thermal Hydrolysis Permit Variation Application dated 12 September 2017	PpTek siloxane filter exhaust stack	No parameter set	No limit set	--	--	As agreed in writing with the Environment Agency.
A20	Sludge Reception Well – Odour	No parameter set	No limit set	--	--	Permanent access point not required

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
	Control Unit.					
A21	Balancing Tank No 1 - Odour Control Unit.	No parameter set	No limit set	--	--	Permanent access point not required
A22	Balancing Tank No 2 - Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A23	Balancing Tank No 3 - Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A24	Sludge Thickening Centrifuge- Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A25	No 2 Sludge Facility- Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A26	Imported Tanker Sludge Facility- Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A27	Reception Tanks 1,2 and 3- Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A28	Tanker trade (food) well and tanks - Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A29	Acetic acid - Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A30	Imported sludge thickening building – Odour Control Unit	No parameter set	No limit set	--	--	Permanent access point not required
A31 to A47	Pressure Release Valves located on the roof of	No parameter set	No limit set	--	--	Permanent access point not required

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
	each digester					
A49, A50, A51, A52, A53, A54, A55, A56, A57, A58, A59, A60, A61, A62, A63, A64	Digester vent tubes	Biogas	No limit set	--	--	--
A65	Biofilter Exhaust Stack	Hydrogen Sulphide	No limit set	--	Note 5	As agreed in writing with the Environment Agency
		Methane				
A66	Flare	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	No limit set	-	Note 5	As agreed in writing with the Environment Agency
		Carbon monoxide				
		Sulphur dioxide				
		Total VOCs				
A67, A68	Activated carbon filter purge vents	Methane	No limit set	-	Note 5	As agreed in writing with the Environment Agency
		Hydrogen sulphide				
		Carbon dioxide				

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
A69, A70, A71, A72	Gas compressors	Methane	No limit set	--	Note 5	As agreed in writing with the Environment Agency.
		Hydrogen sulphide				
		Carbon dioxide				
A73 Shown on Figure B3 in Appendix B of Minworth Thermal Hydrolysis Permit Variation Application dated 12 September 2017	Odour control plant emission stack	Hydrogen sulphide	No limit set	--	--	Permanent access point not required.
A74 Shown on Figure A3 in Appendix A of "Variation Application EPR/BP3631 SW.V009 – Block A Digesters Intermediate THP Conversion" dated 16/05/2019.	Pressure relief valve for existing biogas holder	No parameter set	No limit set	--	--	Permanent access point not required.
A75 Shown on Figure A3 in Appendix A of "Variation Application EPR/BP3631 SW.V009 – Block A Digesters Intermediate THP Conversion" dated 16/05/2019.	Pressure relief valve for existing biogas holder	No parameter set	No limit set	--	--	Permanent access point not required.

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
A76 Shown on Figure A4 in Appendix A of "Variation Application EPR/BP3631 SW.V009 – Block A Digesters Intermediate THP Conversion" dated 16/05/2019.	Biogas upgrading plant – exhaust for odour control system	No parameter set	No limit set	--	--	Permanent access point not required.
A77 Shown on Figure A4 in Appendix A of "Variation Application EPR/BP3631 SW.V009 – Block A Digesters Intermediate THP Conversion" dated 16/05/2019.	Biogas upgrading plant – upgrader exhaust stack	No parameter set	No limit set	--	--	Permanent access point not required.

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 section 4.5.1 of LFTGN08 v2 2010 shall apply.

Note 2 – For Jenbacher Engines 13 and 14, the emission limit for sulphur dioxide shall be based on 15% oxygen.

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

Note 4 – Monitoring to be undertaken in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours). Record of operating hours to be submitted annually to the Environment Agency.

Note 5 – see condition 2.3.7 and Improvement Conditions 17, 17a, 18 and 19.

Table S3.2 Point source emissions to water (other than sewer)– emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
Surface drainage discharge from New CHP unit to the River Tame as shown in New drainage plan in EPR/BP3631SW/V005	Concrete areas of the new CHP area	No parameter set	--	--	--	--

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site—emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 as indicated in Drawing MW5 where the Returns to Incoming Flow Line crosses the Installation boundary. Discharged to the head of the works.	Sludge liquor returns, condensate knockout pots, boiler blow-down and surface water run-off.	No parameter set	--	--	--	--
S1 as shown in "new drainage plan in EPR/BP3631SW/V005	Biogas condensate	No parameter set	--	--	--	--
S1 as shown in "new drainage plan in EPR/BP3631SW/V005	Engine coolant	No parameter set	--	--	--	--
S1 as shown in "new drainage plan in EPR/BP3631SW/V005	Sludge from biofilter; biogas condensate and surface water runoff from BTG facility	No parameter set	--	--	--	--
S1 as shown in "new drainage plan in EPR/BP3631SW/V005	Centrate	No parameter set	--	--	--	--
S1 as shown in "new drainage plan in EPR/BP3631SW/V005	Filter effluent	No parameter set	--	--	--	--

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Biogas from	Flow	Continuous	In accordance	--

Table S3.4 Process monitoring requirements				
Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Digesters			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	--
CHP Engines	Hours of operation	Continuous	None specified	--
Boilers	Hours run on fuel oil	Annual	None specified	--
Boilers	Hours run on biogas	Annual	None specified	--
Standby fuel (fuel oil)	Volume used (m ³)	Annual	None specified	--
Standby flare	Hours in operation	Annual	None specified	--
Digester and storage tanks	Integrity checks	Weekly	Visual assessment	--
Biofilter	Temperature	As required	Temperature probe	In accordance with plan submitted to EA under IC19.
	Moisture	As required	None specified	
	Thatching/compaction	As required	None specified	
Siloxane filters	--	--	--	In accordance with plan submitted to EA under IC16.

Schedule 4 – Reporting

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

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A6, A7, A11, A14a, A14b, A14c, A14d, A14e, A15*, A16*	Annually	1 January
H ₂ S (as sulphur) content of biogas	Biogas as supplied to the engine	Quarterly	1 January, 1 April, 1 July, 1 October
*Require reporting if utilised > 10% of the year.			

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

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

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Air	Form Air1 or other form as agreed in writing by the Environment Agency	09/08/07
Water usage	Form WaterUsage1 or other form as agreed in writing by the Environment Agency	09/08/07

Table S4.4 Reporting forms		
Media/parameter	Reporting format	Date of form
Energy usage	Form Energy1 or other form as agreed in writing by the Environment Agency	09/08/07
Other performance indicators	Form Performance1 or other form as agreed in writing by the Environment Agency	09/08/07
Waste returns	E-waste Return Form or other form as agreed in writing by the Environment Agency	--

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

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

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
taken, to stop the emission	
Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“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.

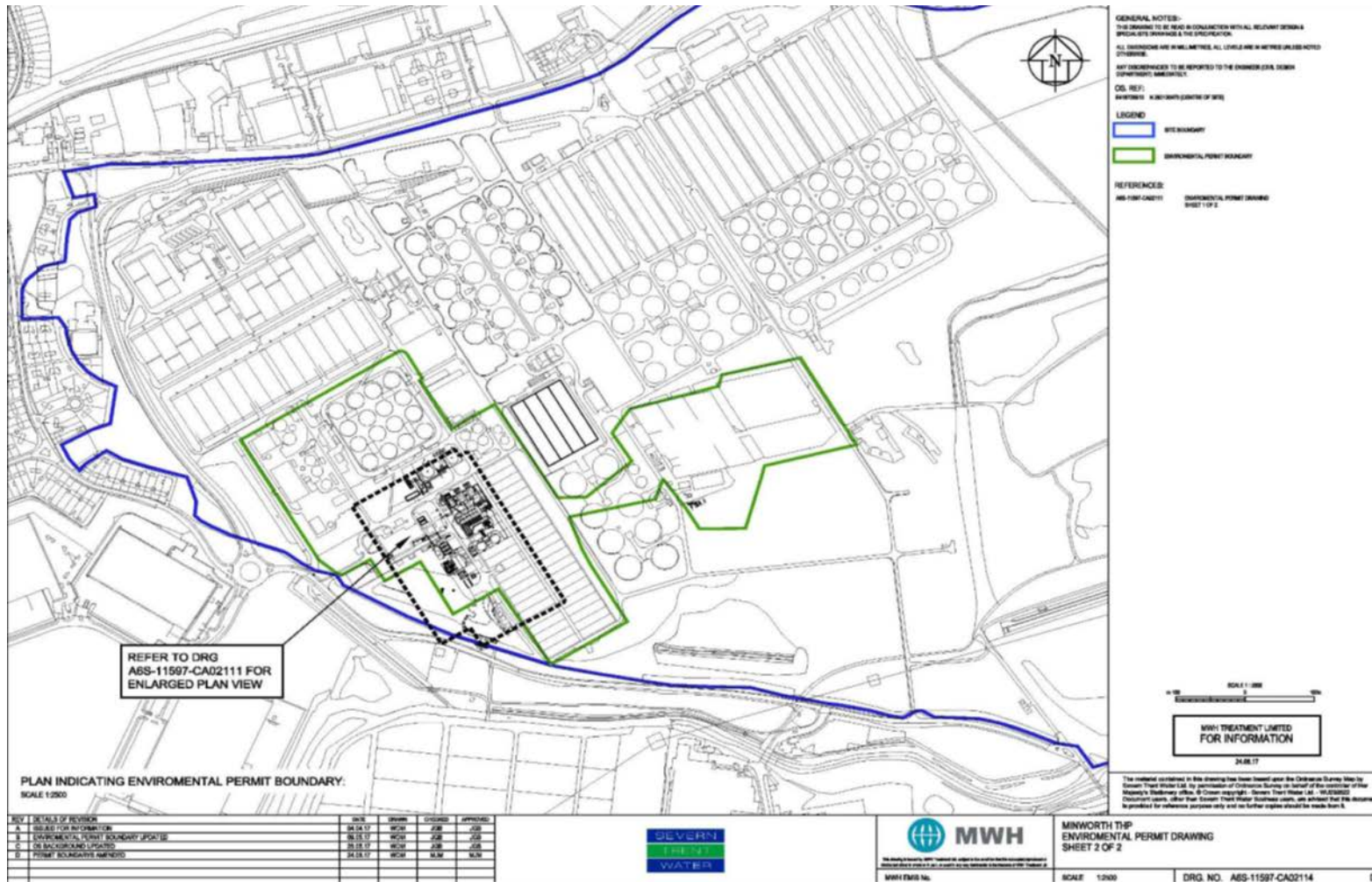
“year” means calendar year ending 31 December.

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 and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

Schedule 7 – Site plan



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END OF PERMIT

Permit number
 EPR/BP3631SW