# Notice of variation and consolidation with introductory note

## The Environmental Permitting (England & Wales) Regulations 2010

BWSC East Anglia Limited

Snetterton Biomass Plant
Chalk Lane
Snetterton
Norfolk
NR16 2JZ

### Variation application number

EPR/AP3037FL/V004

### Permit number

EPR/AP3037FL

# Snetterton Biomass Plant
# Permit number EPR/AP3037FL

## Introductory note

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

Under the Environmental Permitting (England & Wales) Regulations 2010 (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. Only the variations specified in schedule 1 are subject to a right of appeal.

The operator has applied for a substantial variation to their existing permit in order to make the following changes:

- Change of effluent disposal route. *The Installation has an onsite Effluent Treatment Process (dosing and settlement) which has been permitted to discharge to sewer. Due to infrastructure issues, this variation changes the final discharge to the River Thet (from that of sewer).*

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 EPR/AP3037FL/A001 received | Duly made 26/03/2012 | Application for a Biomass Combustion Combined Heat and Power facility. |
| Additional information received | 27/04/2012 | Confirmation of site National Grid Reference. |
| Additional information received | 15/06/2012 | Assessment of nitrogen and acid deposition on local habitats. |
| Permit EPR/AP3037FL | Determined 26/09/2012 | Permit issued to Iceni Energy Limited. |
| Application EPR/AP3037FL/V002 (variation) | Duly made 14/01/2014 | Variation to increase the plant capacity, biomass feedstock and ammonia emission limit. |
| Variation EPR/AP3037FL/V002 | Determined 17/03/2014 | Varied permit issued. |
| Application EPR/AP3037FL/V004 received | Duly made 11/06/2015 | Application for change of effluent discharge from that of Sewer to the River Thet. |
| Additional Information received | 23/11/2015 | Response to Schedule 5 Notice requiring further information. |
| Variation determined EPR/AP3037FL/V003 | 15/12/2015 | Agency initiated variation to include conditions required for compliance with Chapter III of the Industrial Emissions Directive.<br>Varied permit issued. |
| Variation determined EPR/AP3037FL/V004<br>(PAS Billing ref : TP3939AE) | Determined 16/03/2016 | Varied permit issued. |

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

### Permit number

**EPR/AP3037FL**

### Issued to

**BWSC East Anglia Limited** ("the operator")

whose registered office is

**20 - 22 Bedford Row**
**London**
**WC1R 4JS**

company registration number **07227486**

to operate a regulated facility at

**Snetterton Biomass Plant**
**Chalk Lane**
**Snetterton**
**Norfolk**
**NR16 2JZ**

to the extent set out in the schedules.

The notice shall take effect from 16/03/2016

| Name | Date |
|---|---|
| **SIMON HEWITT** | **16/03/2016** |

Authorised on behalf of the Environment Agency

## Schedule 1

The following conditions were varied as a result of the application made by the operator:

Condition 3.1.1

Condition 3.1.3

Condition 3.5.1

Condition 3.5.2

Condition 3.6.1

Condition 3.6.4

Condition 4.3.1

Condition 4.4.2

Table S1.1

Table S1.2

Table S1.3

Table S1.4

Table S3.3

Table S4.1

Table S4.4

## Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2010

### Permit number

**EPR/AP3037FL**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/AP3037FL/V004 authorising,

**BWSC East Anglia Limited** ("the operator"),

whose registered office is

**20 - 22 Bedford Row**
**London**
**WC1R 4JS**

company registration number **07227486**

to operate an installation at

**Snetterton Biomass Plant**
**Chalk Lane**
**Snetterton**
**Norfolk**
**NR16 2JZ**

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

| Name | Date |
|---|---|
| **SIMON HEWITT** | **16/03/2016** |

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.

### 1.2 Energy efficiency

1.2.1 The operator shall:

(a) take appropriate measures to ensure that energy is recovered with a high level of energy efficiency and 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.

1.2.2 The operator shall review the practicability of Combined Heat and Power (CHP) implementation at least every 2 years. The results shall be reported to the Agency within 2 months of each review.

### 1.3 Efficient use of raw materials

1.3.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

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

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

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

# 2 Operations

## 2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

## 2.2 The site

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

## 2.3 Operating techniques

2.3.1 The operator shall:

(a) subject to the conditions of this permit, operate the activities 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.

(b) 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, and implement the approved revised plan in place of the original from the date of approval or such other date as may be specified in that approval, unless otherwise agreed in writing by the Environment Agency.

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

2.3.3 Waste shall only be accepted if:

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

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

2.3.4 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.

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

## 2.4 Improvement programme

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

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

## 2.5 Pre-operational conditions

2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4 have been completed unless otherwise agreed in writing by the Environment Agency.

# 3 Emissions and monitoring

## 3.1 Emissions to water, air or land

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

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

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

## 3.2 Emissions of substances not controlled by emission limits

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

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan;

(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;

(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 Fire prevention

3.5.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.5.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;

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

## 3.6 Monitoring

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

(a) point source emissions specified in tables S3.1, S3.2 and S3.3.

3.6.2 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.

3.6.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing by the Environment Agency. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and have an MCERTS certified range which is not greater than 2.5 times the daily emission limit value (ELV) specified in schedule 3 table S3.1. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges.

3.6.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3, unless otherwise agreed in writing by the Environment Agency.

3.6.5 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1; the Continuous Emission Monitors shall be used such that;

(a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages:

- Sulphur dioxide 20%
- Oxides of nitrogen 20%
- Particulate matter 30%

(b) valid hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods and during periods of malfunction or breakdown of abatement) from the measured values after having subtracted the value of the confidence intervals in condition 3.6.5 (a);

(c) An invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. Any day, in which more than three hourly averages are invalid shall be invalidated. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing by the Environment Agency. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing by the Environment Agency.

(d) Valid data is collected when the unit is operating during periods when limits in table S3.1 apply. A valid hour is obtained if at least 40 minutes of CEM data are available within a fixed one hour clock period.

## 3.7 Monitoring for the purposes of the Large Combustion Plant Directive

3.7.1 All LCP monitoring required by this permit shall be carried out in accordance with the provisions of Annex VIII of the Large Combustion Plant Directive.

3.7.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in Schedule 4, the Operator shall:

a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and

b) implement the approved measures

3.7.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.

3.7.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.7.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.

3.7.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing by the Environment Agency.

## 3.8 Air Quality Management

3.8.1 The emissions from the activities shall not contribute significantly to any exceedence of EU air quality limit values or objectives of the Air Quality Strategy for England, Scotland, Wales and Northern Ireland for sulphur dioxide, oxides of nitrogen, nitrogen dioxide and particulate matter ($PM_{10}$ and $PM_{2.5}$).

# 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.

(d) raw materials and fuels usage 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.

## 4.3 Notifications

4.3.1 In the event:

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

(i) inform the Environment Agency,

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

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

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

(i) inform the Environment Agency, and

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

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

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

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

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

Where the operator is a registered company:

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

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

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

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

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

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

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

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

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

4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:

(b) a decision by the Secretary of State not to re-certify the agreement;

(c) a decision by either the operator or the Secretary of State to terminate the agreement; and

(d) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.3.8 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

## 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 listed in Schedule 1 of the EP Regulations** | **Description of specified activity** | **Limits of specified activity** |
| Section 1.1 A(1)(a) | Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts | The receipt of solid biomass at the facility to the discharge of combustion gases and the export of steam to the turbine. |
| Section 5.4 A(1)(a)(ii) | Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment. (Excludes activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment) | From the receipt of process effluent to its treatment within a dosing and settlement treatment plant pending discharge to the River Thet.<br>Discharge to river shall only be made when emission limits (table S3.3) are met, and when river flow is between 0.055 $m^3$/s and 8.3 $m^3$/s (as measured at Redbridge gauging station). |
| **Directly Associated Activity** | | |
| | Diesel Generator | Back-up power generation |
| | Diesel storage | Storage of Diesel fuel for use at start-up and shutdown of the boiler plant and for the back-up generator. |
| | The generation and export of electricity | The receipt of steam at the steam turbine to return of condensate to the main boiler and discharge from ion exchange resin regeneration to the cooling water return and the export of electricity to the national grid. |
| | Surface water drainage and process effluent | Handling and storage of site drainage from rainwater collection system, settlement lagoons, sumps and drains to discharge to the cooling water return |
| | Waste handling and storage | From receipt of waste from on-site activities to storage and despatch from site. |

| Table S1.2 Operating techniques | | |
|---|---|---|
| **Description** | **Parts** | **Date Received** |
| Application | All management and control techniques described in the application<br>Specifically:<br>• The Non-Technical summary,<br>• Operating Techniques - Technical Overview of Operation<br>• Section 2.3.3 - Environmental Management System<br>• Section 2.3.5 - Operations and Maintenance<br>• Section 2.5.3.5 - Water Quality and Resources<br>• Section 3.3 - Operating Techniques<br>• Section 3.4 - Monitoring | Duly Made<br>26/03/2012 |
| Application EPR/AP3037FL/V002 | Application forms Part C2 and C3 and referenced supporting information. | Duly Made<br>14/01/2014 |

| Table S1.2 Operating techniques | | |
|---|---|---|
| **Description** | **Parts** | **Date Received** |
| Application EPR/AP3037FL/V004 and additional information. | Application for substantial variation parts :- Forms C2, C3 (revised), W4048-150318 – EP Supporting Info, Environmental Risk Assessment, DEM7323-RT001-R09-00- Water Quality Assessment, Ecological Risk Assessment, H1v2_72, 2014.S2.K01.001.RA.Plant Effluent System, additional information provided 27th May 2015, S1901-0010-0003JRS and Clarification on Duly Making. | 11/06/2015 |
| Schedule 5 Response | All information including: 915 Buffer Tanks Location; 2014.S2.K01.002.R0 Trade Effluent System, MCM7593-RT001-R01-00, w4048-151123 – Treatment details. | 23/11/2015 |
| Additional information (email) | Clarification on monitoring / testing prior to discharge from Buffer Storage Tanks. | 25/02/2016 |

| Table S1.3 Improvement programme requirements | | |
|---|---|---|
| **Reference** | **Requirement** | **Date** |
| IC1 | A written report shall be submitted to the Environment Agency of the results of commissioning, providing details of the performance of the installation against the conditions of this Permit and also contain a summary of any minor operational changes to the information referred to in Table S1.2 proposed. The approved minor operational changes shall be implemented from the date of approval or such other date as may be specified in that approval. | 6 months after the completion of commissioning |
| IC2 | The operator shall submit a written proposal to the Environment Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point “1” as shown on the Site Plan at schedule 7 of this permit., identifying the fractions within the $PM_{10}$, $PM_{2.5}$ and $PM_{1.0}$ ranges. | 12 months after the completion of commissioning |
| IC3 | A written report shall be submitted to the Environment Agency of the results of an assessment of whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution for the activities covered by this permit. The report shall be in sufficient detail to allow a permit review. The report shall also contain a time-scale for the implementation of any individual measures identified to improve the performance of the installation, including emissions control performance, as appropriate following the review. | 48 months after the completion of commissioning |
| IC4 | The operator shall submit a written initial calibration report to the Environment Agency to confirm the results of calibration and verification testing that the performance of Continuous Emission Monitors for parameters as specified in Table S3.1 complies with the requirements of BS EN 14181, specifically the requirements of QAL1, QAL2 and QAL3. | 3 months after the completion of commissioning |

| Table S1.3 Improvement programme requirements | | |
|---|---|---|
| **Reference** | **Requirement** | **Date** |
| IC5 | The operator shall provide a detailed report containing a review of 12 months of monthly monitoring data (for the following pollutants) as required by table S3.3:-<br>• Arsenic<br>• Cadmium<br>• Chromium III<br>• Chromium VI<br>• Copper<br>• Lead<br>• Nickel<br>• Zinc<br>The report shall include an assessment of measured emissions in comparison to predicted emissions (as provided within application data).<br>*Where emission concentrations are higher than predicted, the operator shall provide i) a detailed justification for this, ii) a detailed assessment of impacts (using the actual data), and iii) submit improvement proposals (with timescales for their implementation) in order to remove such variances.*<br>The report shall seek written approval from the Environment Agency.<br>Limits and Monitoring requirements specified within table S3.3 may be subject to change (by the Environment Agency) following the completion of this condition. | 15 months after the completion of commissioning |

| Table S1.4 Pre-operational measures | |
|---|---|
| **Reference** | **Pre-operational measures** |
| PO1 | Prior to the commencement of commissioning; the Operator shall provide a written commissioning plan, including timelines for completion, for agreement by the Environment Agency. The commissioning plan shall include the expected emissions to the environment during the different stages of commissioning, the expected durations of commissioning activities and the actions to be taken to protect the environment and report to the Environment Agency in the event that actual emissions exceed expected emissions. Commissioning shall be carried out in accordance with the commissioning plan as agreed. |
| PO2 | At least six months (or such other date as agreed in writing by the Environment Agency) before any fuel is burned in the installation, a written procedure shall be submitted to the Environment Agency for approval. The procedure shall detail the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation in accordance with condition 3.5.3. |
| PO3 | Operations shall not commence on the installation, until the operator has submitted a report in writing to the Environment Agency for approval, demonstrating compliance with Chapter III of the Industrial Emissions Directive, and has obtained written approval from the Environment Agency. |
| PO4 | At least three months before commissioning (or such other date as agreed in writing by the Environment Agency), the operator shall provide written detailed design specifications and plans for the Effluent Treatment Plant to the Environment Agency for approval.<br>Where any variance occurs to the outline data provided within the application, the operator shall provide a detailed justification for such variance, including revised BAT assessment, impact assessment, operating techniques, and any other relevant documents. |

# Schedule 2 – Waste types, raw materials and fuels

| **Table S2.1 Raw materials and fuels** | |
|---|---|
| **Raw materials and fuel description** | **Specification** |
| Diesel oil | Sulphur 1.0 % w/w maximum |
| Biomass fuel | As defined in Article 2(11) of the Large Combustion Plant Directive and included in the application or otherwise approved in writing by the Agency |

| **Table S2.2 Permitted waste types and quantities for** use as fuels | |
|---|---|
| **Biomass Feedstock** | Maximum throughput of 280,000 tonnes per annum. |
| **EWC code** | **Description** |
| Relevant exempt biomass. | Waste biomass fuels exempt from the requirements of Chapter IV of the Industrial Emissions Directive (IED) as defined in Article 3(31) of the IED. |
| Relevant exempt waste. | Other fuels exempt from the requirements of Chapter IV of the Industrial Emissions Directive (IED) and approved in writing by the Environment Agency for use in the installation. |

# 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 / Reference period (excluding start up, shutdown and breakdown / malfunction of abatement)** | | **Monitoring frequency** | **Monitoring standard or method** |
| | | | **Maximum validated hourly average** | **Maximum daily average of validated hourly averages** | | |
| Combustion Exhaust Stack (Point 1 on Site Plant in Schedule 7) | Boiler | Particulate matter | 40 mg/Nm$^3$ | 20 mg/Nm$^3$ | Continuous | BS EN 14181 |
| | | Sulphur dioxide | 400 mg/Nm$^3$ | 200 mg/Nm$^3$ | | |
| | | Oxides of nitrogen | 400 mg/Nm$^3$ | 200 mg/Nm$^3$ | | |
| | | Hydrogen Chloride | No limit set | 25 mg/Nm$^3$ | Periodic Quarterly in first year. Then Biannual | BS EN 1911, Parts 1, 2 and 3 |
| | | Ammonia | | 10 mg/Nm$^3$ | | Procedural requirements of BS EN 14791 |

| Table S3.2 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** |
| - | - | - | - | - | - | - |

| Table S3.3 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** |
| W1 (599651,292389) to River Thet [as shown on application document W4048-d11-I00 Note1 | Effluent Treatment plant | Maximum Effluent Flow | 115.8 $m^3$/day | Total daily volume | Continuous | MCERTs |
| | | 15-minute instantaneous or averaged flow | No limit set. [record as $m^3$/s] | 15 minute | Continuous | |
| | | pH | 6 - 9 | Instantaneous | Continuous | BS ISO 10523 |
| | | Suspended Solids | 40 mg/l | 24-hour flow proportional sample | weekly for first 3 months of operation, then monthly thereafter | BS EN 872 |
| | | COD | 100 mg/l | | | BS 6068-2.34 |
| | | BOD | 30 mg/l | | | BS EN 1899-1 |
| | | Ammoniacal Nitrogen (expressed as N) | 20 mg/l (max) | | | SCA blue book 48 ISBN 0117516139 |
| | | | 15 mg/l (for 95% of all measured values of periodic samples taken over one month) | | | |
| | | Arsenic | No Limit Set Note2 | 24-hour flow proportional sample | weekly for first 2 months of operation, then monthly thereafter Note 2 | BS EN 26595 ISO 6595 BS |
| | | Cadmium | | | | BS EN ISO 5961 |
| | | Chromium III | | | | BS EN 1233 |
| | | Chromium VI | | | | BS EN 1233 |
| | | Copper | | | | BS 6068-2.29 ISO 8288 |
| | | Lead | | | | |
| | | Nickel | | | | |
| | | Zinc | | | | |

Note 1 Discharge to river Thet shall only be made when the river flow is between 0.055 $m^3$/s and 8.3 $m^3$/s (as measured at Redbridge gauging station).

Note 2 To be revised following the collection of 12 months of monitoring data as required by Improvement Condition IC5 (table S1.3).

# 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 3.6.1. | A1 | Every 6 months | 1 January, 1 July |
| Emissions to water, Parameters as required by condition 3.6.1. | W1 | Every 6 months Note 1 | 1 January, 1 July |
| Functioning and monitoring of the thermal treatment plant as required condition 4.2.2 | | Annual | 1 January |

Note 1 Reporting shall be monthly for the first 3 months of operation.

| Table S4.2: Annual production/treatment | |
|---|---|
| **Parameter** | **Units** |
| Total biomass thermally treated | Tonnes |
| Diesel product used | Litres |
| Electrical energy used on installation | kWh |
| Electrical energy exported to the National Grid | kWh |

| Table S4.3 Performance parameters | | |
|---|---|---|
| **Parameter** | **Frequency of assessment** | **Units** |
| Operating hours (turbine) | Annually | hours |
| Water usage | | $m^3$ / tonne of biomass treated |
| Electrical energy usage | | kWh / tonne of biomass treated |
| Total biomass combusted | | tonnes |
| Mass of furnace bottom ash produced | | |
| Mass of APC produced | | |

| Table S4.4 Reporting forms | | |
|---|---|---|
| **Media/parameter** | **Reporting format** | **Date of form** |
| Air | Form air 1 or other form as agreed in writing by the Environment Agency | 17/09/2012 |
| Water | Form water 1 or other form as agreed in writing by the Environment Agency | 13/01/2016 |
| Water usage | Form water usage 1 or other form as agreed in writing by the Environment Agency | 17/09/2012 |
| Energy usage | Form energy 1 or other form as agreed in writing by the Environment Agency | 17/09/2012 |
| Performance | Form performance 1 or other form as agreed in writing by the Environment Agency | 17/09/2012 |

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

## Part A

| | |
|---|---|
| Permit Number | **EPR/AP3037FL** |
| Name of operator | **BWSC East Anglia Limited** |
| Location of Facility | **Snetterton Biomass Plant** |
| 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 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.

"*annually*" means once every year.

"*agency recipient*" means -where this is "*SI*" - the Agency site inspector for the installation and where this is "*central office*" this is to an address of an Agency national function separately notified to the operator.

"*assessment year*" means any complete calendar year except that the first assessment year for the purposes of this permit shall run from the date fuel is first burned in the installation.

"*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 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.

*"biomass"* means:

a) vegetable matter from agriculture and forestry;
b) vegetable waste from the food processing industry, if the heat generated is recovered;
c) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered;
d) cork waste;
e) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste.

*"CEM"* means continuous emission monitor.

"*CEN*" means European Committee for Standardisation.

"*Climate Change Agreement*" means an agreement made between the Secretary of State and the operator, either directly or through the offices of any association of which he is a member, in which he agrees to secure energy efficiency improvements as set out in a plan agreed with the Secretary of State in that agreement in return for a discount from the amount he would otherwise pay as a Climate Change Levy.

"*Combustion Technical Guidance Note*" means How to comply with your environmental permit. Additional guidance for: Combustion Activities (EPR 1.01), March 2009 published by the Environment Agency.

*"commissioning"* means all activities between the end of construction of equipment and plant and its commercial operation date.

*"daily average"* for releases of substances to air means the arithmetic average without weighting of validated hourly averages over consecutive discrete periods of 24 hours as agreed by the Environment Agency during normal operation. Where the plant is operational for less than 24 hours, the daily average shall mean the average of all valid hourly averages provided the plant is operational for a minimum of 6 hours.

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

"*EWC Code*" means the code number from the European Waste Catalogue.

"*emissions to land*", includes emissions to groundwater.

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

"*FGD*" means flue gas desulphurisation

"*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.

"*ISO*" means International Organization for Standardization

"*installation*" means the process subject to this permission.

"*large combustion plant*" or "*LCP*" is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MWth or more, based on gross calorific value.

"*Large Combustion Plant Directive*" means Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants (O.J. L 309/1, 27.11.2001).

"*List of Wastes*" means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

"*MCERTS*" means the Agency's Monitoring Certification Scheme.

"*mcr*" *means* maximum continuous rating.

"*management system*" means Environmental Management System (EMS) complying with the Environment Agency's Horizontal Guidance Note H6, Environmental Management Systems published April 2010.

*"monitoring"* includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"*month*" means calendar month

"*ncv*" means net calorific value.

"*operational hours*" of an LCP is the time spent in whole hours between start up and shut down of the LCP.

"*oxides of nitrogen ($NO_x$)*" means nitric oxide (NO) plus nitrogen dioxide ($NO_2$) expressed as $NO_2$

*"permitted installation"* means the activities and the limits to those activities described in schedule 1 table S1.1 of this Permit.

"*quarter*" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"*SCR*" means Selective Catalytic Reduction.

"*shut down*" is defined as when the output from last unit within an LCP has fallen below the Stable Operating Point (SOP) in accordance with "Principles for Determining the Minimum Stable Generation (MSG) and SOP Thresholds for a Unit " Issue 3.0, 23 October 2006 or any subsequent revision to this protocol agreed in writing by the Agency

"*start up*" is defined as when the first unit within an LCP has started up in accordance with "Principles for Determining MSG and SOP Thresholds for a Unit "Issue 3.0, 23 October 2006 or any subsequent revision to this protocol agreed in writing by the Agency

"*waste code*" means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

*"Waste Framework Directive (WFD)"* means Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (O.J. L312/3, 22.11.2008).

*"Waste Incineration Directive (WID)"* means Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste (O.J. L 332, 28.12.2000).

"*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;

# Schedule 7 – Site plan


**END OF PERMIT**