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Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Dwr Cymru Cyfyngedig

Five Fords WwTW CHP Facility
Cefn Road
Abenbury
Wrexham
Clwyd
LL13 0PA

Permit number
EPR/AP3139FT

Five Fords WwTW CHP Facility

Permit number EPR/AP3139FT

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The installation consists of two Combined Heat Power (CHP) engines with a combined thermal input capacity of 2.82 MW. Biogas will be combusted within the two gas engines that make up the CHP's and drive electrical generators. Heat will be recovered for use within the Five Fords WwTW for sewage sludge treatment. Cooling water from the CHP engines will pass through heat exchangers to produce hot water. Also part of the facility is a dual fuel – Biogas and Natural Gas, standby boiler, with a maximum thermal input capacity of 1.5 MW, which is available to produce hot water if required.

Biogas will be stored in a 1350m³ dual membrane gas storage bag, with continual gas detection linked to the site monitoring system, to identify if any leak occurs. Gas quality, Methane (CH₄) and Hydrogen Sulphide (H₂S) concentration, is monitored at the feed to the CHP to ensure optimum CHP operation. Gas flow rate to the CHP's, hot water boiler and waste gas burner is also measured and recorded.

NO_x emissions from the combustion process will be minimised through the design of the CHP engine, optimisation of the combustion process and regular maintenance.

SO_x emissions will be minimised through the use of low sulphur fuel and be controlled by the use of new CHP technology with a robust service plan in place to ensure the optimised operation of the plant. Levels of H₂S in the digester gas are expected to be less than 1500ppm, the CHP engines will be stopped if the levels of H₂S exceeds 1500ppm.

Volatile Methyl Siloxanes in the biogas are captured by the siloxane removal plant to prevent damage to the CHP engines. On regeneration of the absorbent media a small portion of the siloxane may be vented to air. The majority is condensed and returned to the WwTW.

There will be no direct discharges of wastewater to the public sewer or to controlled water. Any liquid waste stream from the installation will either be reused or discharged to the drainage system of the adjacent Five Fords WwTW and will undergo treatment through the works before discharge to the River Dee.

Monitoring of emissions from all combustion activities will be undertaken on an annual basis to confirm that actual levels in the exhaust gasses are in line with those identified. Continual monitoring of the gas feed to the CHP will be undertaken together with monitoring of electrical output and heat output.

The Five Fords CHP facility will be run in accordance with the DCWW Quality Management System (QMS). The QMS sets out the policies and procedures in place to cover operation, maintenance and monitoring of the Five Fords CHP Facility.

DCWW have an Environmental Management System (EMS) that is registered to ISO 14001 for waste water operational sites. Five Fords forms part of the scope of the EMS. The management system will apply to all DCWW operations and will be co-ordinated with the DCWW QMS in relation to the management and operation of the Five Fords site.

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

Status log of the permit		
Description	Date	Comments
Application EPR/AP3139FT/A0001	Duly made 14/11/11	Application for CHP facility.
Additional information received	08/12/11	Aermod data input file for the detailed air dispersion modelling
Additional information received	08/02/12	Related to the operation of siloxane removal plant
Permit determined	10/02/12	Permit issued to Dwr Cymru Cyfyngedig

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/AP3139FT

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

Dwr Cymru Cyfyngedig ("the operator"),
whose registered office is

Pentwyn Road
Nelson
Treharris
Mid Glamorgan
CF46 6LY

company registration number **02366777**

to operate an installation at

Five Fords WwTW CHP Facility
Cefn Road
Abenbury
Wrexham
Clwyd
LL13 0PA

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

Name	Date
M Bischer	10/02/12

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 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").

2.2 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 (a) 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.

- (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 specified in schedule 1, table S1.2 or otherwise required under this permit, 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.

2.3.2 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 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.

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

2.4 Improvement programme

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

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

3 Emissions and monitoring

3.1 Emissions to water, air or land

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

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

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 Monitoring

- 3.3.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1 and S3.2;
 - (b) process monitoring specified in table S3.3;
- 3.3.2 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.
- 3.3.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.3.4 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, S3.3 unless otherwise agreed in writing by the Environment Agency.

3.4 Odour

- 3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.4.2 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.

3.5 Noise and vibration

- 3.5.1 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.
- 3.5.2 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;
 - (b) implement the approved noise and vibration 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.

Schedule 1 - Operations

Table S1.1 activities

Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 1.1 A(1) (b) (iii): Unless carried on as part of a Part A(2) or Part B activity, burning any fuel manufactured from, or comprising, any other waste, in an appliance with a rated thermal input of 3 or more megawatts, but less than 50 megawatts.	Combined heat and power (CHP) production of hot water and electricity.	From receipt of raw materials to despatch of products and waste.
Directly Associated Activity			
A2	Operation of a Waste Gas Burner (flare Stack)	The flaring of biogas.	From the receipt of the biogas to the release of combustion products from the flare stack.
A3	Biogas storage	Storage of biogas arising from the Anaerobic Digestion process at Five Fords WwTW.	Storage of biogas prior to combustion in the CHP engines, supplementary firing in the boilers or flaring.
A4	Siloxane removal plant	A granular activated carbon filter, which will remove siloxane from the biogas prior to its combustion in the CHP's and the boiler.	The generation of gas from the anaerobic digester to the use of gas in the CHP's and boiler.
A5	Discharge of condensate	Condensate from the gas pipelines and gas storage bag and from the siloxane removal media regeneration process.	From collection to the point of discharge to the adjacent WwTW.

Table S1.2 Operating techniques

Description	Parts	Date Received
Application EPR/AP3139FT/A0001	Environmental permit supporting information document and Site Condition report	31/08/11
Additional information	Revised Air Quality Assessment and H1 Risk Assessment	08/11/11
Additional information	Email dated 08/02/12 providing further information relating to the operation of the siloxane removal plant	08/02/12

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC 1	The Operator shall propose a monitoring programme to establish emission levels of total VOCs and Non-Methane VOCs from emission points A1, A2 and A3, and submit the proposal in writing to the Agency for agreement.	01/06/2012
	On receiving approval from the Agency the Operator shall implement the approved programme and submit a written report containing the monitoring results to the Environment Agency.	30/09/2012
IC 2	The Operator shall carry out an assessment of the environmental impact of total VOC and non-methane VOCs from emission points A1, A2 and A3, using the results obtained from the monitoring required by IC1.	31/12/2012
	A written report detailing the assessment methodology used and findings of the environmental impact assessment shall be submitted to the Agency.	
IC 3	The Operator shall propose a monitoring programme to establish emission levels of SO ₂ from emission points A1, A2 and A3, and submit the proposal in writing to the Agency for agreement.	01/06/2012
	On receiving approval from the Agency the Operator shall implement the approved programme and submit a written report containing the monitoring results to the Environment Agency.	30/09/2012
IC 4	The Operator shall carry out an assessment of the environmental impact of total SO ₂ from emission points A1, A2 and A3, using the results obtained from the monitoring required by IC3.	31/12/2012
	A written report detailing the assessment methodology used and findings of the environmental impact assessment shall be submitted to the Agency.	

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels

Raw materials and fuel description	Specification
Natural Gas	-
Bio gas	-
Corrosion inhibitor	-
Lubricating Oil	-

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Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit ⁽¹⁾ (including unit) -these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method ⁽³⁾
A1 CHP Stack (1) (Point A1 on the Site Installation Boundary plan in schedule 7)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	1.41 MW CHP engine exhaust stack	500 mg/m ³	Hourly average	Annual	BS EN 14792
	Carbon Monoxide		1400 mg/m ³	Hourly average	Annual	BS EN 15058
	Sulphur Dioxide		No limit set ⁽²⁾	Hourly average	Annual	BS EN 14791
	Total VOC's		1000 mg/m ³	Hourly average	Annual	BS EN 12619 ⁽⁴⁾ BS EN 13526 ⁽⁵⁾
	NM VOC's		No limit set ⁽²⁾	Hourly average	Annual	BS EN 13649
A2 CHP Stack (2) (Point A2 on the Site Installation Boundary plan in schedule 7)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	1.41 MW CHP engine exhaust stack	500 mg/m ³	Hourly average	Annual	BS EN 14792
	Carbon Monoxide		1400 mg/m ³	Hourly average	Annual	BS EN 15058
	Sulphur Dioxide		No limit set ⁽²⁾	Hourly average	Annual	BS EN 14791
	Total VOC's		1000 mg/m ³	Hourly average	Annual	BS EN 12619 ⁽⁴⁾ BS EN 13526 ⁽⁵⁾
	NM VOC's		No limit set ⁽²⁾	Hourly average	Annual	BS EN 13649
A3 (Point A3 on the Site Installation Boundary plan in schedule 7)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	1.5 Dual fuel stand by boiler exhaust stack – operating on Biogas	500 mg/m ³	Hourly average	Annual	BS EN 14792
	Carbon Monoxide		1400 mg/m ³	Hourly average	Annual	BS EN 15058
	Sulphur Dioxide		No limit set ⁽²⁾	Hourly average	Annual	BS EN 14791
	Total VOC's		1000 mg/m ³	Hourly average	Annual	BS EN 12619 ⁽⁴⁾ BS EN 13526 ⁽⁵⁾
	NM VOC's		No limit set ⁽²⁾	Hourly average	Annual	BS EN 13649
	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	1.5 Dual fuel stand by boiler	No Limit set	Hourly average	Annual	BS EN 14792

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit ⁽¹⁾ (including unit) -these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method ⁽³⁾
	Carbon Monoxide	exhaust stack – operating on Natural gas	No Limit set	Hourly average	Annual	BS EN 15058
A4 (Point A4 on the Site Installation Boundary plan in schedule 7)	Siloxanes	Siloxane removal unit	No Limit Set	-	-	-
A5 (Point A5 on the Site Installation Boundary plan in schedule 7)	Combustion gases	Waste gas burner (Flare stack)	No Limit Set	-	-	-

(1). Reference conditions for SI engines are dry air, 273K, at a pressure of 101.3 kPa with an oxygen content of 5%.

(2). The Environment Agency may set emission limit values on completion of IC2 and IC4.

(3). Certification to the MCERTS performance standards indicates compliance with BS EN 15267-3

(4). At sites with low total VOC concentrations (up to 20 mg/m³).

(5). At sites with low to moderate total VOC concentrations (> 20 mg/m³).

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	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 (Point W1 on the Site Installation Boundary plan in schedule 7 – discharged to Five Fords WwTW)	-	Condensate from the gas pipelines and gas storage bag	No limit set	-	-	-
W2 (Point W2 on the Site Installation Boundary plan in schedule 7)	-	Condensate from the siloxane removal media regeneration process	No limit set	-	-	-

Table S3.3 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter [Note 1]	Monitoring frequency	Monitoring standard or method	Other specifications
Biogas as supplied to the engines	Hydrogen sulphide and Methane	continuous	Continuous in line monitor	Monitoring point in biogas feed line within the installation boundary
Gas Holder leak detection	Methane	continuous	Continuous in line monitor	Monitor detects between the two membranes of the gas holder

Note 1: There is no requirement to report process monitoring data. This information shall be made available at the installation for inspection.

Schedule 4 - Reporting

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

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A1, A2, A3	Annual	1 January
Hydrogen sulphide concentrations in biogas feed above 1500 ppm	Monitoring point in biogas feed line within the installation boundary	Every 3 months	1 January

Table S4.2: Annual production/treatment

Parameter	Units
Electrical energy generated	MWh
Thermal energy generated	MWh

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Fuel input to installation (biogas)	Annually	m ³
Fuel input to installation (Natural Gas)	Annually	Tonnes
CHP engine efficiency	Annually	%
Hours of operation for both engines and hours that engines operated in CHP mode	Annually	Hours
Hours run on biogas (steam raising boiler)	Annually	Hours
Hours run on Natural gas (steam raising boiler)	Annually	Hours
Operational hours of waste gas burner	Annually	Hours
Biogas burnt by waste gas burner	Annually	m ³

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	DD/MM/YY
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY

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/AP3139FT
Name of operator	Dwr Cymru Cyfyngedig
Location of Facility	Five Fords WwTW, Wrexham
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 **Dwr Cymru Cyfyngedig**

Schedule 6 - Interpretation

"*accident*" means an accident that may result in pollution.

"*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.

"*background concentration*" means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

"*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.

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

"*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 or background concentration limit..

"*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.

"*hazardous property*" has the meaning given in Schedule 3 of the Hazardous Waste (England and Wales) Regulations 2005 No.894 and the Hazardous Waste (Wales) Regulations 2005 No. 1806 (W.138).

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

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

"*Waste Framework Directive*" or "*WFD*" means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

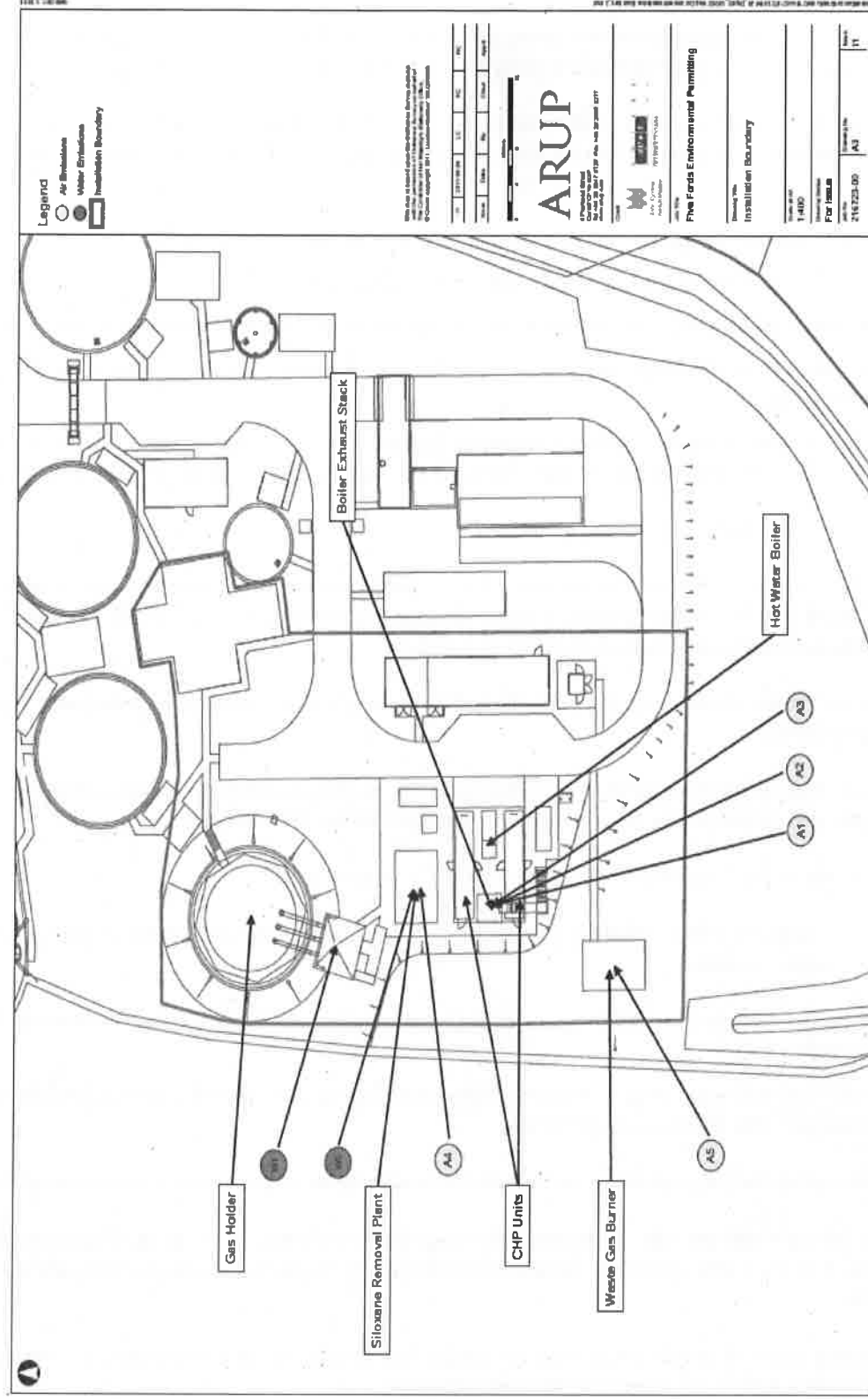
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

- (a) 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
- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

"*year*" means calendar year ending 31 December.

Schedule 7 - Site plan



END OF PERMIT