

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Cardiff Combined Heat and Power
(CHP) Facility

Dwr Cymru Cyfyngedig
Cardiff East Wastewater Treatment
Works
Tide Fields Road
Rover Way
Tremorfa
Cardiff
CF24 2RX

Permit number
EPR/FP3232KG

Cardiff CHP Facility

Permit Number EPR/FP3232KG

Introductory note

This introductory note does not form a part of the permit

The main features of the facility are as follows.

Installation

The main purpose of the activity is the combustion of biogas to produce heat and electricity. The production of both heat and electricity in this way is more commonly known as combined heat and power (CHP). The biogas to be combusted at the facility is generated by the digesters at the adjacent Cardiff Waste Water Treatment Works (WwTW) located at National Grid Reference ST 211 755.

This permit is required to authorise the operation of the CHP engines which is an activity covered by the description in Section 1.1 Part A(1)(b)(iii) (burning fuel comprising waste in an appliance with a rated thermal input of 3 or more megawatts, but less than 50 megawatts) in Part 2 to Schedule 1 of the Environmental Permitting Regulations.

The facility will include three CHP units, each unit comprising a CHP gas engine, composite boiler and steam delivery pipe work with a combined thermal capacity of 11.235 MW. Each unit has a thermal input capacity of 3.745MW, an electrical generating capacity of 1.56 MW each and a thermal generating capacity of 0.84 MW.

Biogas will be combusted in the three CHP gas engines that make up the CHP units and drive electrical generators. Heat will be recovered for use in the Cardiff WwTW for sewage sludge treatment. Hot exhaust gases will be used to generate steam in the composite boilers and cooling water from the CHP will pass through heat exchangers to produce hot water.

The three composite boilers are each linked to a CHP unit, and steam delivery pipe work. The exhaust from the CHP gas engine, together with combustion of natural gas, will provide the heat to raise the steam necessary. Each boiler has a natural gas thermal capacity of 2.5MW.

Efficiency

The electrical efficiency of the system will be up to 40% of the energy liberated through the combustion of the biogas at full load and approximately 80% overall efficiency (including cooling of exhaust gas to produce steam). The CHP has been sized in relation to the biogas available and for combustion and to maximise electrical output and match the thermal requirements of the WwTW, therefore maximising efficiency.

Storage

Biogas generated by the digesters associated with the WwTW is stored in two dual membrane gas storage bags with a volume of 2000m³ each.

Emissions

NOx emissions from the combustion process will be minimised through the design of the CHP engine and by undertaking regular maintenance to ensure the engine is tuned correctly.

SOx emissions will be minimised through the use of low sulphur fuel. The sulphur levels in the biogas will be kept at a low level due to the dosing of ferric sulphide at the WwTWs which is undertaken as part of the WwTW treatment process.

There will be no direct discharges of wastewater either to the public sewer or to controlled water. Any liquid stream from the installation will either be reused or discharged to the internal drains of the adjacent WwTW.

The facility will pose negligible risk to odorous releases, and there will be no significant releases of biogas under normal operating circumstances. The only source of odours would be from the release of biogas. However, adequate containment measures and procedures are in place to prevent any such releases.

The equipment will not cause any noise nuisance. All equipment that is to be installed is specified to have a noise emission less than 75 dB (A) at 1m. Where necessary equipment is enclosed in acoustic containment and there are no sensitive receptors within close proximity to the installation boundary.

Monitoring

Emissions to air will be monitored as part of the routine maintenance programme. Monitoring of the gas feed to the CHP will be undertaken together with monitoring of electrical and heat output. Comparison of gas flows and electrical and heat output will be used to confirm the process efficiency.

Management:

The Cardiff CHP installation will be run in accordance with the Kelda Water Services (Wales) Ltd Quality Management System (QMS). The QMS sets out the policies and procedures in place to cover operation, maintenance and monitoring of the Cardiff CHP Facility.

The Environmental Management System is certified to ISO 14001 and applies to all Kelda Water Services operations and will be co-ordinated with the Kelda Water Services QMS in relation to the management and operation of the Cardiff facility.

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

Status Log of the permit		
Detail	Date	Response Date
Application EPR/FP3232KG/A001		Duly Made 27/11/09
Notice for Further Information	Dated 11/03/10	Received electronically 07/04/10
Confirmation of carbon monoxide limit	Sent electronically 20/04/10	Received electronically 29/04/10
Permit determined	26/05/10	

End of Introductory Note

Permit

Permit number

EPR/FP3232KG

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 a facility comprising an installation at

Cardiff East Wastewater Treatment Works

Tide Fields Road

Rover Way

Tremorfa

Cardiff

CF24 2RX

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

Name

Date

	26 th May 2010
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Peter Kelly

Authorised on behalf of the Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The activities shall be managed and operated:
- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.
- 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 Accident management plan

- 1.2.1 The operator shall:
- (a) maintain and implement an accident management plan;
 - (b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
 - (c) make any appropriate changes to the plan identified by a review.

1.3 Energy efficiency

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every 4 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.

1.4 Efficient use of raw materials

- 1.4.1 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 4 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.

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

1.5.1. The operator shall:

- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
- (b) review and record at least every 4 years whether changes to those measures should be made; and
- (c) take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is 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 2 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 Agency.

(b) If notified by the Agency that the activities are giving rise to pollution, the operator shall submit to the 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 Agency.

2.3.2 No raw materials or fuels listed in schedule 3 table S3.1 shall be used unless they comply with the specifications set out in that table.

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 4 tables S4.1, S4.2 and S4.3.
- 3.1.2 The limits given in schedule 4 shall not be exceeded.

3.2 Fugitive emissions of substances

- 3.2.1 Fugitive emissions of substances (excluding odour, noise and vibration) 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 fugitive 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 Agency that the activities are giving rise to pollution, submit to the Agency for approval within the period specified, a fugitive emissions management plan;
 - (b) implement the approved fugitive emissions management plan, from the date of approval, unless otherwise agreed in writing by the Agency.
- 3.2.3 All liquids, 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 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 Agency that the activities are giving rise to pollution outside the site due to odour, submit to the 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 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 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 Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the 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 Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Agency, undertake the monitoring specified in the following tables in schedule 4 to this permit:
- (a) point source emissions specified in tables S4.1, S4.2 and S4.3;
 - (b) process monitoring specified in table S4.4.
- 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) unless otherwise agreed in writing by the 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 4 tables S4.1, S4.2 and S4.3 unless otherwise specified in that schedule.

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 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 All records, plans and the management system required to be maintained by this permit shall be held on the site where practicable, or other location agreed in writing and controlled by the operator.

4.2 Reporting

4.2.1 All reports and notifications required by the permit shall be sent to the Agency using the contact details supplied in writing by the Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Agency by 31 January (or other date agreed in writing by the 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 5 table S5.2; and
- (c) the performance parameters set out in schedule 5 table S5.3 using the forms specified in table S5.4 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 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 5 table S5.1;
- (b) for the reporting periods specified in schedule 5 table S5.1 and using the forms specified in schedule 5 table S5.4 ; 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 4 years, submit to the Agency, within 6 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 The Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution;
- (b) the breach of a limit specified in the permit; or
- (c) any significant adverse environmental effects.

4.3.2 Any information provided under condition 4.3.1 shall be confirmed by sending the information listed in schedule 6 to this permit within the time period specified in that schedule.

4.3.3 Where the 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 Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The 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.

4.3.5 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 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 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 Agency shall be notified within 1 month of:

- (a) a decision by the Secretary of State not to re-certify the agreement;
- (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
- (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

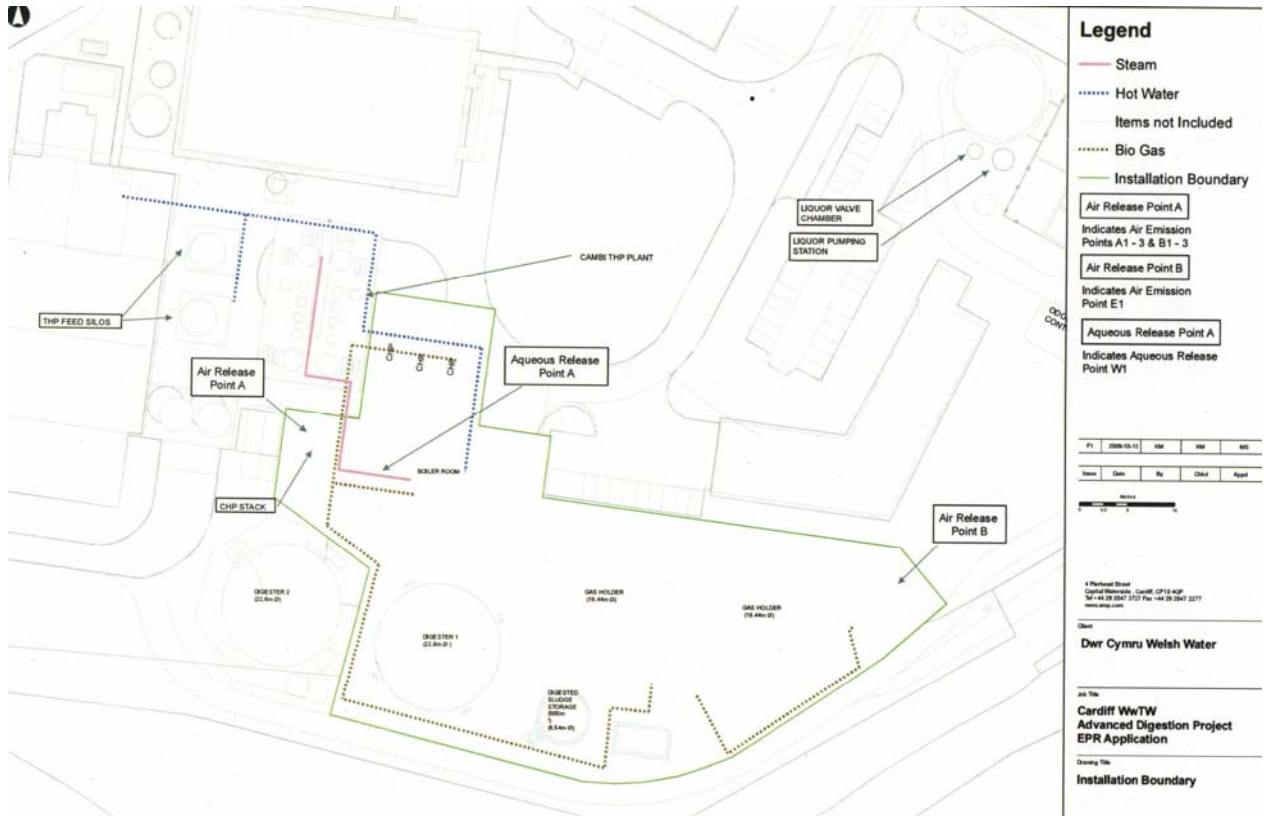
- 4.4.1 In this permit the expressions listed in schedule 7 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “without delay”, in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities			
Activity 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)	<p>The combustion of biogas in three combined heat and power (CHP) engines, each with a rated thermal input of 3.745 megawatts (MW) for the recovery of energy in the form of steam, electrical power and hot water.</p> <p>Generation of steam by passing the exhaust gases from the CHP engine through the boilers to generate steam. Each boiler has a natural gas thermal capacity of 2.5MW.</p>	<p>From receipt of biogas from the gas holders to the production of steam, electrical power and hot water.</p> <p>The CHP engines shall consist of no more than three spark ignition engines with a combined thermal capacity of 11.235MW.</p> <p>The boilers shall use natural gas for supplementary firing and shall consist of no more than three boilers with a combined natural gas thermal capacity of 7.5MW.</p>
Directly Associated Activities			
A2	Biogas storage and supply system	Storage of biogas arising from the WwTW.	From receipt of gas into the holders to supply to the listed activity.
A4	Operation of the waste gas burner	Emergency means of biogas disposal by flaring	From receipt of biogas to the release of combustion products from the flare stack.
A5	Water treatment and conditioning	Condensate and boiler blow down drainage systems.	From collection to the point of discharge to the adjacent WwTW.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	Section 2 (Techniques for Pollution Control) of the Application Supporting Information Document provided in response to section 5a – technical standards, Part B of the Application form.	27/11/09
Response to Schedule 5 Notice dated 11/03/10	<p>Response to question 7 detailing operation of the waste gas burner.</p> <p>Response to question 8 detailing biogas storage</p>	07/04/10

Schedule 2 - Site plan



Schedule 3 - Waste types, raw materials and fuels

Table S3.1 Raw materials and fuels	
Raw materials and fuel description	Specification
–	–

Schedule 4 – Emissions and monitoring

Table S4.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (including unit) [Note1]	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Combined stack, Air Release Point A on site plan in Schedule 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	CHP1 engine	500mg/m ³	Hourly mean	Annually [Note 2]	BS EN 14792
	Carbon Monoxide		1100mg/m ³	Hourly mean	Annually [Note 2]	BS EN 15058
	Sulphur Dioxide		340mg/m ³	Hourly mean	Annually [Note 2]	BS EN 14791
A2 [Combined stack, Air Release Point A on site plan in Schedule 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	CHP2 engine	500mg/m ³	Hourly mean	Annually [Note 2]	BS EN 14792
	Carbon Monoxide		1100mg/m ³	Hourly mean	Annually [Note 2]	BS EN 15058
	Sulphur Dioxide		340mg/m ³	Hourly mean	Annually [Note 2]	BS EN 14791
A3 [Combined stack, Air Release Point A on site plan in Schedule 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	CHP3 engine	500mg/m ³	Hourly mean	Annually [Note 2]	BS EN 14792
	Carbon Monoxide		1100mg/m ³	Hourly mean	Annually [Note 2]	BS EN 15058
	Sulphur Dioxide		340mg/m ³		Annually [Note 2]	BS EN 14791
A4 [Combined stack, Air Release Point A (B1) on site plan in Schedule 2]	No parameters set	Composite Boiler 1	No limit set	–	–	Permanent sampling access not required
A5 [Combined stack, Air Release Point A (B2) on site plan in Schedule 2]	No parameters set	Composite Boiler 2	No limit set	–	–	Permanent sampling access not required
A6 [Combined stack, Air Release Point A (B3) on site plan in Schedule 2]	No parameters set	Composite Boiler 3	No limit set	–	–	Permanent sampling access not required

A7 [Air Release Point B (E1) on site plan in Schedule 2]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Waste gas burner	150mg/m ³	Hourly mean	Annually [Note 3]	BS EN 14792
	Carbon Monoxide		50mg/m ³	Hourly mean	Annually [Note 3]	BS EN 15058
	Sulphur Dioxide		360mg/m ³		Annually [Note 3]	BS EN 14791
	Operational Temperature		>1000 °C [Note 4]		Annually [Note 3]	BS EN 13284-1
A8	No parameters set	Pressure relief valves	No limit set	–	–	–

Note 1: These limits do not apply during start up and shut down.

Note 2: The first annual monitoring shall be undertaken during the commissioning of the Installation.

Note 3: Annual monitoring is only required when the waste gas burner operates in excess of 10% of the time, taken on an annual assessment period.

Note 4: This is an indicative performance limit. An alternative minimum temperature may be acceptable providing the Operator can demonstrate that the other emission limit values are met at this lower temperature

Table S4.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference Period	Monitoring frequency	Monitoring standard or method
–	–	–	–	–	–	–

Table S4.3 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
S1 [Aqueous Release Point A (W1) on site plan in Schedule 2, emission to on-site Cardiff WwTW]	No parameters set	Waste waters, process waters (condensate and boiler blow down) and site drainage	–	–	–	–

Table S4.4 Process monitoring requirements

Emission point reference or source or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications [Note 2]
Biogas	Methane content	[Note 1]	[Note 1]	To obtain calorific value
Biogas	Hydrogen sulphide content	[Note 1]	[Note 1]	
CHP engines (1,2 & 3)	Hours run on biogas	–	–	
Composite Boilers (1,2 & 3)	Hours run on biogas	–	–	
Composite Boilers (1,2 & 3)	Hours run on natural gas	–	–	
Waste gas burner	Gas flow	–	[Note 1]	
Gas holders	Leak detection	–	[Note 1]	

Note 1: Monitoring frequency and standards to be agreed in writing with the Agency.

Note 2: There is no requirement to report process monitoring data. This information shall be made available at the installation for inspection.

Schedule 5 - Reporting

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

Table S5.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air	A1, A2 and A3	Annually	January 2010
Parameters as required by condition 3.5.1.	A7 [Note 1]		

Note 1: Reporting in accordance with the requirements set out in Table S4.1 of this permit.

Table S5.2: Annual Fuel Usage

Parameter	Units
Total fuel input (biogas)	m ³
Total fuel input (natural gas)	MWh

Table S5.3 Performance parameters

Parameter	Frequency of assessment	Units
Power output - heat	Annually	MWh
Power output - electricity	Annually	MWh
Energy Efficiency	Annually	MWh/m ³ biogas
Water usage	Annually	m ³
Water generated	Annually	m ³ /MWh
Operational time of waste gas burner	Annually	% of operational time

Table S5.4 Reporting forms

Media/parameter	Reporting format
Air	Form A1 or other form as agreed in writing by the Agency
Performance indicators	Form P1 or other form as agreed in writing by the Agency

Schedule 6 - 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/FP3232KG
Name of operator	Dwr Cymru Cyfyngedig
Location of Facility	Cardiff
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission 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 7 - Interpretation

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

"*annually*" means once every year.

"*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.

"*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.

"*fugitive emission*" means an emission to air, water or land from the activities from a localised or diffuse source which is not controlled by an emission 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.

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

"*Natural gas*" means naturally occurring methane with no more than 20% by volume of inert or other constituents.

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

"*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:

- (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;
- (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; and
- (c) in relation to spark ignition engines; an oxygen content of 5%, dry, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, for liquid and gaseous fuels.

END OF PERMIT

Permit Number: EPR/FP3232KG Operator: Dwr Cymru Cyfyngedig

Facility: Cardiff CHP Form Number: A1

Reporting of emissions to air for the period from to

Emission Point	Substance / Parameter	Emission	Result	Test Method ^[1]	Sample Date and Times ^[2]	Uncertainty ^[3]
		Limit Value				
A1	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³		BS EN 14792		
A1	Carbon Monoxide	1100 mg/m ³		BS EN 15058		
A1	Sulphur Dioxide	340 mg/m ³		BS EN 14791		
A2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³		BS EN 14792		
A2	Carbon Monoxide	1100 mg/m ³		BS EN 15058		
A2	Sulphur Dioxide	340 mg/m ³		BS EN 14791		
A3	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500 mg/m ³		BS EN 14792		
A3	Carbon Monoxide	1100 mg/m ³		BS EN 15058		
A3	Sulphur Dioxide	340 mg/m ³		BS EN 14791		
A7	Oxides of Nitrogen (NO and NO ₂ expressed as	150 mg/m ³		BS EN 14792		

Emission Point	Substance / Parameter	Emission	Result	Test Method ^[1]	Sample Date and Times ^[2]	Uncertainty ^[3]
		Limit Value				
	NO ₂)					
A7	Carbon Monoxide	50 mg/m ³		BS EN 15058		
A7	Sulphur Dioxide	360 mg/m ³		BS EN 14791		
A7	Operating Temperature	>1000°C		BS EN 13284-1		

[1] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. gas chromatography.

[2] The date and time of the sample that produced the result is given.

[3] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
(Authorised to sign as representative of Operator)

Date.....

Permit Number: EPR/FP3232KG Operator: Dwr Cymru Cyfyngedig

Facility: Cardiff CHP Form Number: P1

Reporting of other performance indicators for the period to

Total fuel input (biogas)	m ³
Total fuel input (natural gas)	MWh
Power output - heat	MWh
Power output - electricity	MWh
Energy Efficiency	MWh/m ³ biogas
Water usage	m ³
Water generated	m ³ /MWh
Operational time of waste gas burner	% of operational time

Operator's comments :

Signed
(Authorised to sign as representative of Operator)

Date.....