

Notice of variation and consolidation with introductory note

Environmental Permitting (England & Wales) Regulations 2010

Baglan Operations Limited

Baglan Energy Park
Seaway Parade
Port Talbot
SA12 7GE

Variation application number
EPR/BJ7891IT/V009

Permit number
EPR/BJ7891IT

Baglan Energy Park

Permit number EPR/BJ7891IT

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 that all the conditions of the permit have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made and contains all conditions relevant to this permit.

The requirements of the Industrial Emissions Directive (IED) 2010/75/EU are given force in Wales through the Environmental Permitting (England and Wales) Regulations 2010 (the EPR) (as amended).

This Permit, for the operation of large combustion plant (LCP), as defined by articles 28 and 29 of the Industrial Emissions Directive (IED), is varied by Natural Resources Wales to implement the special provisions for LCP given in the IED, by the 1 January 2016 (Article 82(3)). The IED makes special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V.

As well as implementing Chapter III of IED, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issued. It also modernises all conditions to reflect the conditions contained in our current generic permit template.

The Operator has chosen to operate this LCP under the ELV compliance (GE MS9001H (9H) turbine) and Limited Hours Derogation (GE LM2500 turbine) compliance routes. This is a change from the previous operating regime which was Large Combustion Plant Directive ELV compliance.

The variation notice uses an updated LCP number in accordance with the most recent DEFRA LCP reference numbers. The LCP references have changed as follows:

- LCP100 is changed to LCP15.

The rest of the installation is unchanged and continues to be operated as follows:

The Baglan Energy Park was designed to generate electrical power from the main turbine and steam and additional power from a smaller (LM2500) turbine for the then operating Baglan Bay chemical works. There was also a smaller combustion plant that was used to start the other two turbines. In 2004, the chemical plant stopped production. By connecting the two turbines together, additional steam can be supplied to the larger turbine so closing the cycle on the smaller turbine. When the larger 9H turbine is not operational, the LM2500 can operate in open cycle.

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 BJ7891	Received 18 January 2001	Duly made 30 January 2001
Schedule 4 Notice issued plus a request by the Environment Agency to extend determination date to 18/07/01	06 April 2001	-
Response to Schedule 4 Notice	04 May 2001 08 May 2001	Response received Extension request accepted
Request from Agency to extend determination date to 03/08/01	25 June 2001 25 June 2001	Request dated Request accepted
Request from Baglan Operations Limited (BOL) to extend determination date to 24/08/01 Extension agreed by BOL to extend the determination from 24/08/01 to 31/08/01 Agency request to extend the determination date from 31/08/01 to 14/12/01 Request by BOL to extend the determination date from 14/12/01 to 31/12/01	02 August 2001 03 August 2001 09 August 2001 31 August 2001 13 December 2001	Request dated Request accepted but extended to 31 August 2001 Request accepted Request accepted Request accepted
Permit BJ7891	Determined 31 December 2001	-
Application for variation (BR8026)	Received 12/03/2002	An error in the location of the ambient noise monitor was found in the original PPC permit.
Variation BR8026 {First variation}	Determined 12/06/2002	This variation changed the ambient noise monitoring location and the reporting requirements associated with this change.
Application for variation (BX8823)	Received 14/05/2004	This application covers the change in operation of the smaller gas turbine to operate in open cycle.
Variation BX8823IF {Second variation}	Determined 03/08/2004	This variation allows the temporary operation of one turbine in open cycle, changes in fuels available for use on the turbines, changes in the supply of water by BOL and adds a review for closing the energy cycle.
Variation AP3430BW (Regulation 17(5) variation) {Third variation}	Effective 08/11/04	This variation notice changed monitoring and reporting to meet the requirements of the revised Large Combustion Plants Directive [Directive 2001/80/EC].
Regulation 16(1)(1) First minor change application	Received 4/02/2005 Acceptance date 17/02/2005	Various minor changes to the original PPC application
Regulation 16(1)(2) Second minor change application	Received 4/02/2005 Acceptance date 17/02/2005	Minor change to close the LM2500 operating cycle

Status log of the permit		
Description	Date	Comments
Variation MP39737LE {Fourth variation}	Effective 31/10/06	Following investment by Baglan Operations, this variation notice allows both turbines to operate in closed cycle mode, for the smaller turbine to operate in open cycle when the larger turbine is not operating, includes the minor changes that have been made since the previous variation and clarifies the current reporting arrangements.
Regulation 16(1)(3) Third minor change application	Received 17/08/2006 Acceptance date 30/10/2006	Various minor changes to the original PPC application
Regulation 60 Notice sent to the Operator	14/11/14	Issue of a Notice under Regulation 60(1) of the EPR. Natural Resources Wales initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V. The permit is also updated to modern conditions.
Regulation 60 Notice response	27/03/15	Response received from the Operator.
Additional information received	20/07/15	Response to request for further information (RFI) dated 23/06/15.
Variation determined EPR/DJ7891IT/V009	23/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

The Natural Resources Body for Wales ("Natural Resources Wales") in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/BJ7891IT

Issued to

Baglan Operations Limited ("the operator")

whose registered office is

Severn Power Station West Nash Road

Nash

Newport

Gwent

NP18 2BZ

company registration number 3882153

to operate a regulated facility at

Baglan Energy Park


Seaway Parade

Port Talbot

SA12 7GE

to the extent set out in the schedules.

The notice shall take effect from 01/01/2016

Name	Date
	23/12/2015

Victoria Seller

Authorised on behalf of Natural Resources Wales

Schedule 1

All conditions have been varied by the consolidated permit as a result of a Natural Resources Wales initiated variation.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit with introductory note

Environmental Permitting (England & Wales) Regulations 2010

Baglan Operations Limited

Baglan Energy Park
Seaway Parade
Port Talbot
SA12 7GE

Variation application number
EPR/BJ7891IT/V009

Permit number
EPR/BJ7891IT

Baglan Energy Park

Permit number EPR/BJ7891IT

Introductory note

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

This permit controls the operation of a large combustion plant. The relevant listed activity is Section 1.1 A(1)(a) of the Environmental Permitting (England and Wales) Regulations 2010: Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more. The permit implements the Chapter III requirements for large combustion plant (LCP) of the EU Directive on Industrial Emissions.

The main purpose of the activity at the installation is to generate electricity for export to the National Grid. Some electricity and steam will be supplied to the nearby BP Chemicals isopropanol production plant. The installation consists of two gas turbines and a small combustion plant to raise power to start the turbines. The largest turbine, the GE MS9001H (9H), is a 492.4 MW electrical combined cycle gas turbine (CCGT) that will generate electricity for the National Grid; the GE LM2500 is also a CCGT but at 33MWe is smaller than the 9H. This smaller CCGT will be used to supply power (steam and electricity) to the nearby isopropanol process. A small auxiliary boiler will also be operated as back up to the LM2500 CCGT to ensure continuity of the power supplies to the isopropanol facility.

Natural gas and by-products from the isopropanol process (a mixture of gaseous propane and propene and liquid di-isopropyl ether) will be used as fuels in these combustion processes. Some gas oil will also be used to power the small start-up boiler. Raw water will be abstracted from the local canals under agreements with the canal companies. This raw water will be treated for use on site as cooling and process water. Treated water will also be supplied to BP Chemicals. Hot process water will be cooled in hydrid cooling towers. Purged water from this cooling system will be stored on site and discharged into the Neath river over a six hour period (3 hours before and 3 hours after high tide).

The main gas turbine has the potential to achieve very low releases of oxides of nitrogen, the main pollutant associated with the combustion of natural gas while attaining high energy efficiency.

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End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/ BJ7891

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BJ7891IT/V009 authorising,

Baglan Operations Limited ("the operator"),

whose registered office is

Severn Power Station West Nash Road

Nash

Newport

Gwent

NP18 2BZ

company registration number 3882153

to operate an installation at


Baglan Energy Park

Seaway Parade

Port Talbot

SA12 7GE

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

Name	Date
	23/12/2015

Victoria Seller

Authorised on behalf of Natural Resources Wales

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) take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised;
- (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (d) take any further appropriate measures identified by a review.

1.2.2 The operator shall review the viability of Combined Heat and Power (CHP) implementation at least every 4 years, or in response to any of the following factors, whichever comes sooner:

- (a) new plans for significant developments within 15 km of the installation;
- (b) changes to the Local Plan;
- (c) changes to the DECC UK CHP Development Map or similar; and
- (d) new financial or fiscal incentives for CHP.

The results shall be reported to the Agency within 2 months of each review, including where there has been no change to the original assessment in respect of the above factors.

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;
 - (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 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 Natural Resources Wales.
- 2.3.2 For the following activities referenced in schedule 1, table S1.1: LCP15. Without prejudice to condition 2.3.1, the activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” revision 1 dated February 2015 or any later version unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.3 If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.
- 2.3.4 For the following activities referenced in schedule 1, table S1.1: LCP15 LM2500 [operating in open cycle mode]. The activities shall not operate for more than 1128 hours per year.
- 2.3.5 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1: LCP15 LM2500 [operating in open and combined cycle mode]. The activities shall not be operated for more than 1,500 operating hours per year as a rolling average over a period of 5 years, with a maximum of 2250 hours in any calendar year for the first 5 years of entry into the derogation and, if operation has reached 2250 hours in one year then the operation across any other year should not exceed 1650 hours.

- 2.3.7 For the following activities referenced in schedule 1, table S1.1: LCP15. The end of the start-up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, tables S1.2 and S1.4
- 2.3.8 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.
- 2.3.9 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 Natural Resources Wales.
- 2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales 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, S3.1(a), S3.1(b), S3.1(c), S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 Where a substance is specified in schedule 3 tables S3.2 or S3.3 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.
- 3.1.4 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 Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

- 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 Natural Resources Wales, 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 Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

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 Natural Resources Wales, 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 Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales 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 Natural Resources Wales.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in tables S3.1, S3.1(a), S3.1(b), S3.1(c), S3.2 and S3.3.
- 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 continuous), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.
- 3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.1(a), S3.1(b), S3.1(c), S3.2 and S3.3 unless otherwise agreed in writing by Natural Resources Wales.

3.6 Monitoring for the purposes of the Industrial Emissions Directive

Chapter III

- 3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.
- 3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in condition 3.6.7, the operator shall:
- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to Natural Resources Wales 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 proposals.
- 3.6.3 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.
- 3.6.4 Unless otherwise agreed in writing by Natural Resources Wales in accordance with condition 3.6.5 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.
- 3.6.5 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 with Natural Resources Wales.
- 3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to Natural Resources Wales in writing, within 28 days of the completion of the check.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, tables S3.1, S3.1(a), S3.1(b) and S3.1(c); the Continuous Emission Monitors shall be used such that:
- a) for the continuous measurement systems fitted to the LCP release points defined in tables S3.1, S3.1(a) and S3.1(b) the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval;
 - b) the 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%;
 - c) the 95% confidence interval for dust releases of a single measured result shall be taken to be 30%;
 - d) the 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%;
 - e) 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. 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. 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; and
 - f) any day, in which more than three hourly average values are invalid shall be invalidated.

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 Natural Resources Wales, 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 Natural Resources Wales.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) 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;
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule;
- (d) where condition 2.3.4 applies the hours of operation in any year shall be reported to Natural Resources Wales; and
- (e) where condition 2.3.6 applies, the hours of operation for each of the first five calendar years and the rolling average over the period of 5 years.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, 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 Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

- 4.2.5 Within 1 month of the end of each quarter, the operator shall submit to Natural Resources Wales using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter, if during that quarter the total amount accepted exceeds 100 tonnes of non-hazardous waste or 10 tonnes of hazardous waste.

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 Natural Resources Wales,
 - (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 Natural Resources Wales, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

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

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

- 4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

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

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

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

- 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) Natural Resources Wales 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 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 The operator shall inform Natural Resources Wales 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 reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
AR1	Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	<p>Combustion fuels in the two gas turbines, heat recovery steam generator (HRSG) and the small start-up boiler.</p> <p>LCP15 9H: Production of electricity in combined cycle gas turbine (CCGT) with a maximum thermal input of 849.3 MWth operating on natural gas.</p> <p>LCP15 LM2500: Production of electricity in CGCT operating on natural gas.</p> <p>LCP15 LM2500 [operating in open cycle mode]: Production of electricity from gas turbine in open cycle.</p> <p>Gas-fired auxiliary boiler of 90.5 MWth.</p>	The storage of gas oil, the receipt of other fuels by pipeline, through the generation and recovery of power, the treatment of raw water, is use as process and cooling water and is export off site; the treatment of process water and the cooling of cooling water.
	Directly Associated Activity		
AR2	Water discharges to controlled waters (not a prescribed activity)	Discharge of treated process water and cooling water and site drainage of surface water from the installation.	From interceptors to point of entry to controlled waters (River Neath)

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to questions 2.35 given in section 2.3 (pages 48 – 116 inclusive) of the application	18 January 2001
Response to Schedule 4 Part 1 Notice	Response to questions B 2.3 a, b, c & d	04 May 2001
Request for variation	-	14 May 2004
Regulation 16(1) request	Various minor changes to the original PPC application	4 February 2005
Regulation 16(1) request	Minor change to close the LM2500 operating cycle	4 February 2005
Request for variation	-	17 July 2006

Table S1.2 Operating techniques		
Description	Parts	Date Received
Regulation 16(1) request	Various minor changes to the original PPC application	17 August 2006
Response to regulation 60(1) Notice – request for information dated 14/11/14	Compliance route and operating techniques identified in response to questions 2 (LCP compliance route), 4 (LCP configuration), 5 (LCP net rated thermal input), 6 (MSUL/MSDL), 9 (Proposed ELVs) and 11 (Monitoring requirements).	Received 27/03/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated June 2015	Additional information provided for response to questions 5 (LCP net rated thermal input), 6 (MSUL/MSDL) and 9 (Proposed ELVs).	Received 20/07/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
9.1	The Operator shall submit a proposal, to the Environment Agency at the Reporting Address, to reduce suspended solids contamination in the process water discharge.	Completed
9.2	A report shall be sent to the Environment Agency on establishing an Environmental Management System having regard to section 2.1 of the relevant IPPC Sectoral or other Technical Guidance The report shall include any proposals to implement such a programme	Completed
9.3	The Operator shall review the Section 36 noise management plan (NMP) for the Permitted Installation against the Environment Agency's Horizontal Guidance Note - IPPC H3 - Noise Guidance. The NMP should identify the significant noise sources (both in amplitude and frequency) and the plan shall also describe how these sources are controlled and the noise minimised. The plan shall also identify improvements to noise reduction techniques. A copy of the plan and it's outputs, shall be sent to the Environment Agency at the Reporting Address.	Completed
9.4	The Operator shall undertake an assessment of what further techniques can be used, in addition to the installed NOx reduction techniques, to secure further reductions of NOx emissions to atmosphere which meet the criteria set out in Environment Agency's Guidance note S3 1.01. The assessment should consider techniques such as, for NOx Reburn, and other available catalytic reduction techniques. Where appropriate, time scales applying to implementation of any such further improvement shall be included. A copy of the assessment and your proposals shall be provided to the Environment Agency.	Completed
9.5	The Operator shall review the waste management plan (WMP) for the installation. The WMP should identify the significant waste streams and how they can be reduced. For waste streams that cannot be reduced, then the WMP should review the waste disposal options against the waste hierarchy. A copy of the review, the plan and it's outputs, shall be sent to the Environment Agency at the Reporting Address.	Completed

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
9.6	The Operator shall, within 36 months of the issue of this Permit, submit a report on potential environmental improvements to the Permitted Installation. For each of the subject areas identified in Section 2 of the appropriate technical guidance, the report shall assess the costs and benefits of alternative techniques that may provide environmental improvement. This shall include, but not be limited to, those techniques listed in guidance. The methodologies used should be based on those given in Agency guidance note E1 (or any update of this type of guidance) and should justify, against the BAT criteria, where potential improvements are not planned to be implemented. As part of their management system. The Operator shall submit an updated report every 36 months	Rolling 36 months condition under EMS
9.7	The Operator shall review the submission made on reducing suspended solids contamination in the process water discharge (9.1). The review shall detail how the enforced changes following the closure of the BP site affects the operation of the Baglan Operations Limited facility and the submission made under improvement condition 9.1. A copy of the review shall be sent to the Environment Agency at the Reporting Address.	Completed
9.8	The Operator shall, within the next 24 months, either operate the LM2500 gas turbine in closed cycle or stop operation of this turbine. Every six months updates on progress on operating in closed cycle mode are required (i.e. 31 December 2004, 30 June 2005 & 31 December 2005). The progress reports shall be sent to the Environment Agency at the Reporting Address.	Completed
9.9	The Operator shall review the noise monitoring work carried out to date. Based upon the results obtained and the operation of the combustion plant, the Operator shall submit proposals for a risk based noise monitoring plan. A copy of the review shall be sent to the Environment Agency at the Reporting Address.	Completed
9.10	<p>The Operator shall undertake a review of the existing screening measures at the intakes and outfalls which provide and discharge water to and from the Installation. The review shall be undertaken with reference to the Eels (England and Wales) Regulations 2009 (SI 2009/3344) and the Environment Agency "Safe Passage of Eel" Regulatory Position Statement version 1 dated July 2012.</p> <p>The Operator shall submit details of the arrangement suitable to meet the requirements for the safe passage of eels [of the Eels (England and Wales) Regulations 2009 (SI 2009/3344)] by either:-</p> <ul style="list-style-type: none"> • Providing a written proposal for the installation of an eel screen. • Providing a written proposal to the modification of existing screening arrangements. • Providing a written response with an explanation and description of how the existing screening arrangements can be regarded to meet the requirements for the safe passage of eels [of SI 2009/3344] either without change or with mitigation measures. • Providing a written response setting out a case for an exemption <p>In all cases, the proposal shall be submitted in writing for the approval of the Environment Agency. Where appropriate, each proposal shall contain an assessment of alternative options considered including impacts on other fish species and an explanation of why the proposed option has been chosen.</p> <p>Where installation of eel screen; modification of existing arrangements; or mitigation measures are proposed, the submission shall contain relevant timescales for installation in accordance with the Safe Passage of Eel Regulatory Position Statement version 1 dated July 2012.</p> <p>The proposals shall be implemented in accordance with the Environment Agency's written approval.</p>	Completed

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
9.11	<p>The operator shall write to Natural Resources Wales if an increase in the NOx ELV limits set in table S3.1 of this permit is sought to the allowable limits set out in IED Annex V, Part 1, and paragraph 6.</p> <p>The written submission from the operator shall contain :-</p> <ul style="list-style-type: none"> - Verification of the efficiency quoted for the plant - An assessment of any efficiency gains that may be gained through the limit increase together with detailed proposals for validating this figure. - An assessment of the impact of those increased emission limits from site on any air quality objectives. - Any impact the increased emissions might have on local receptors. <p>Upon receipt of the submission Natural Resources Wales will consider the request and reply in writing on its decision to grant or refuse or approve a trial program. If the NOx ELV is increased the new limit will be stated in the Natural Resources Wales reply and this will be placed on the public record and will replace the NOx ELV limit stated in table S3.1 of this permit from the date stated on the decision from issued by Natural Resources Wales.</p>	30/06/16

Table S1.4 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum start-up load” discrete processes	“Minimum shut-down load” discrete processes
A1, 9H gas turbine	Flame ON – turbine has started operation and/or Lean pre-mix combustion mode ON; and/or Electrical output >200 MWe; 41%	Lean pre-mix combustion mode OFF and/or Electrical output <200 MWe; 41%; and/or Flame OFF – turbine has stopped operation
A2, LM2500 gas turbine	Flame ON – turbine has started operation and/or Water injection ON; and/or Electrical output >11 MWe; 37.8%	Water injection OFF and/or Electrical output <11 MWe; 37.8%; and/or Flame OFF – turbine has stopped operation
A4, LM2500 gas turbine	Flame ON – turbine has started operation and/or Water injection ON; and/or Electrical output >11 MWe; 37.8%	Water injection OFF and/or Electrical output <11 MWe; 37.8%; and/or Flame OFF – turbine has stopped operation
A3, Auxiliary boiler	Thermal input >18 MWth; 20%	Thermal input <18 MWth; 20%

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Gas oil	Not exceeding 0.1% w/w sulphur content

Schedule 3 – Emissions and monitoring

Table S3.1(a) Point source emissions to air from Gas Turbines >100MWth						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in Schedule 7] 9H	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP15 9H Gas turbine fired on natural gas	50 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP15 9H Gas turbine fired on natural gas	51 mg/m ³ 70% to base load ¹ 51 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP15 9H Gas turbine fired on natural gas	76.5 mg/m ³ 70% to base load ¹	Maximum validated hourly average	Continuous	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Carbon monoxide	LCP15 9H Gas turbine fired on natural gas	20 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP15 9H Gas turbine fired on natural gas	20 mg/m ³ 70% to base load ¹ 20 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A1 [Point A1 on site plan in schedule 7]	Carbon monoxide	LCP15 9H Gas turbine fired on natural gas	30 mg/m ³ 70% to base load ¹	Maximum validated hourly average	Continuous	BS EN 14181

Table S3.1(a) Point source emissions to air from Gas Turbines >100MWth						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 [point A1 on site plan in schedule 7]	Oxygen	LCP15 9H Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Water Vapour	LCP15 9H Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A1 [point A1 on site plan in schedule 7]	Stack gas temperature	LCP15 9H Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [point A1 on site plan in schedule 7]	Stack gas pressure	LCP15 9H Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A1 [point A1 on site plan in schedule 7]	Stack gas volume flow	LCP15 9H Gas turbine fired on natural gas	-	-	Continuous	BS EN 16911 & TGN M2
A1 [point A1 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP15 9H Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Table S3.1(a) Point source emissions to air from Gas Turbines >100MWth						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A1 [point A1 on site plan in schedule 7]	Sulphur dioxide	LCP15 9H Gas turbine fired on natural gas	-	-	6 monthly by calculation	Agreed in writing with NRW
A1 [point A1 on site plan in schedule 7]	Dust	LCP15 9H Gas turbine fired on natural gas	-	-	6 monthly by calculation	Agreed in writing with NRW

Note 1: This ELV applies when the load is >70% throughout the reference period.

Note 2: This ELV applies when the load varies between MSUL/MSDL and base load during the daily reference period. MSUL and MSDL are defined in table S1.4.

Table S3.1(b) Point source emissions to air from Gas Turbines operating ≤1500hrs LHD						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference Period	Monitoring frequency	Monitoring standard or method
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP15 LM2500 Gas turbine fired on natural gas	105 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP15 LM2500 Gas turbine fired on natural gas	105 mg/m ³ 70% to base load ¹ 105 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181

Table S3.1(b) Point source emissions to air from Gas Turbines operating ≤1500hrs LHD						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference Period	Monitoring frequency	Monitoring standard or method
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP15 LM2500 Gas turbine fired on natural gas	157.5 mg/m ³ 70% to base load ¹	Maximum validated hourly average	Continuous	BS EN 14181
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Carbon monoxide	LCP15 LM2500 Gas turbine fired on natural gas	100 mg/m ³ 70% to base load ¹	Monthly mean of validated hourly averages	Continuous	BS EN 14181
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Carbon monoxide	LCP15 LM2500 Gas turbine fired on natural gas	110 mg/m ³ 70% to base load ¹ 110 mg/m ³ MSUL/MSDL to base load ²	Daily mean of validated hourly averages	Continuous	BS EN 14181
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Carbon monoxide	LCP15 LM2500 Gas turbine fired on natural gas	200 mg/m ³ 70% to base load ¹	95% of validated hourly averages within a calendar year	Continuous	BS EN 14181
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Sulphur dioxide	LCP15 LM2500 Gas turbine fired on natural gas	-	-	6 monthly by calculation	Agreed in writing with NRW
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Dust	LCP15 LM2500 Gas turbine fired on natural gas	-	-	6 monthly by calculation	Agreed in writing with NRW

Table S3.1(b) Point source emissions to air from Gas Turbines operating ≤1500hrs LHD						
Emission point ref. & location	Parameter	Source	Limit (including unit)-these limits do not apply during start up or shut down.	Reference Period	Monitoring frequency	Monitoring standard or method
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Oxygen	LCP15 LM2500 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Water Vapour	LCP15 LM2500 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	BS EN 14181
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Stack gas temperature	LCP15 LM2500 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Stack gas pressure	LCP15 LM2500 Gas turbine fired on natural gas	-	-	Continuous As appropriate to reference	Traceable to national standards
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	Stack gas volume flow	LCP15 LM2500 Gas turbine fired on natural gas	-	-	Continuous	BS EN 16911 & TGN M2
A2 and A4 (LM2500 open/combined cycle) [Points A2 and A4 on site plan in schedule 7]	As required by the Method Implementation Document for BS EN 15259	LCP15 LM2500 Gas turbine fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Note 1: This ELV applies where the load is >70% for the duration of the sampling period.

Note 2: This ELV applies where the load varies between MSUL/MSDL and base load during the sampling period. MSUL and MSDL are defined in table S1.4.

Table S3.1(c) Point source emissions to air from existing or new boiler plant ≥50 <100MWth						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A3 [Point A3 on site plan in schedule 7] Auxiliary boiler	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)	LCP15 Boiler plant fired on natural gas	110 mg/m ³	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner.	Agreed in writing with NRW
A3 [Point A3 on site plan in schedule 7] Auxiliary boiler	Carbon monoxide	LCP15 Boiler plant fired on natural gas	110 mg/m ³	-	Concentration by calculation, every 4380 operational hours or 2 years, whichever is sooner.	Agreed in writing with NRW
A3 [Point A3 on site plan in schedule 7] Auxiliary boiler	Sulphur dioxide	LCP15 Boiler plant fired on natural gas	38.5 mg/m ³	-	Every 4380 hours or 2 years	Concentration by calculation, as agreed in writing with NRW
A3 [Point A3 on site plan in schedule 7] Auxiliary boiler	Dust	LCP15 Boiler plant fired on natural gas	5.5 mg/m ³	-	Every 4380 hours or 2 years	Concentration by calculation, as agreed in writing with NRW
A3 [Point A3 on site plan in schedule 7] Auxiliary boiler	Oxygen	LCP15 Boiler plant fired on natural gas	-	-	Periodic As appropriate to reference	BS EN 14789

Table S3.1(c) Point source emissions to air from existing or new boiler plant ≥50 <100MWth						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A3 [Point A3 on site plan in schedule 7] Auxiliary boiler	Water Vapour	LCP15 Boiler plant fired on natural gas	-	-	Periodic As appropriate to reference	BS EN 14790
A3 [Point A3 on site plan in schedule 7] Auxiliary boiler	As required by the Method Implementation Document for BS EN 15259	LCP15 Boiler plant fired on natural gas	-	-	Pre-operation and when there is a significant operational change	BS EN 15259

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 emission to River Neath at NGR SS 7287 9302	Temperature °C	Treated site effluent and cooling water	30	-	Continuous	As agreed in writing with NRW
W1	Total Suspended Solids mg/l	Treated site effluent and cooling water	350	-	Continuous	As agreed in writing with NRW
W1	pH max	Treated site effluent and cooling water	9	-	Continuous	As agreed in writing with NRW
W1	pH min	Treated site effluent and cooling water	6	-	Continuous	As agreed in writing with NRW
W1	Ammonia (as N) mg/l	Treated site effluent and cooling water	2	-	Continuous	As agreed in writing with NRW
W1	Copper (total) µg/l	Treated site effluent and cooling water	80	-	Monthly	As agreed in writing with NRW

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1	Zinc (total) µg/l	Treated site effluent and cooling water	290	-	Monthly	As agreed in writing with NRW
W1	Iron (total) mg/l	Treated site effluent and cooling water	12	-	Monthly	As agreed in writing with NRW
W1	Phosphate mg/l	Treated site effluent and cooling water	9.0	-	Monthly	As agreed in writing with NRW
W1	Sodium bisulphite max mg/l	Treated site effluent and cooling water	20	-	Continuous	As agreed in writing with NRW
W1	Sodium bisulphite min mg/l	Treated site effluent and cooling water	0.05 ¹	-	Continuous	As agreed in writing with NRW
W1	Oil & Grease	Treated site effluent and cooling water	None visible	-	Continuous	As agreed in writing with NRW
W1	Non-oxidising biocide (as total methylene bithiocyanate) mg/l	Treated site effluent and cooling water	7.5	-	Monthly	As agreed in writing with NRW
W1	Filter aid polymer (MDC 150) mg/l	Treated site effluent and cooling water	12	-	Monthly	As agreed in writing with NRW
W1	Dispersant Polymer (AEC3153) mg/l	Treated site effluent and cooling water	12	-	Monthly	As agreed in writing with NRW
W1	Maximum discharge rate l/s	Treated site effluent and cooling water	190	-	Continuous	As agreed in writing with NRW
W1	Discharge window	Treated site effluent and cooling water	+/- 3 hours of High water	-	Continuous	As agreed in writing with NRW
W2 emission to River Neath at NGR SS 7287 9302	-	Uncontaminated surface water	-	-	-	As agreed in writing with NRW

Note 1: Minimum concentration to be achieved during batch wastewater treatment process.

**Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site–
emission limits and monitoring requirements**

Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
W3 emission to Dŵr Cymru/Welsh Water plc	-	Turbine building and Administration/Services building	-	-	-	-

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
Oxides of nitrogen	A1, A2 and A4	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
Oxides of nitrogen	A3	Every 6 months for periodic monitoring	1 January, 1 July
Carbon monoxide	A1, A2 and A4	Every 3 months for continuous monitoring	1 January, 1 April, 1 July, 1 October
Carbon monoxide	A3	Every 6 months for periodic monitoring	1 January, 1 July
Sulphur dioxide	A1, A2, A3 and A4	Every 6 months for periodic monitoring	1 January, 1 July
Dust	A1, A2, A3 and A4	Every 6 months for periodic monitoring	1 January, 1 July
Total Suspended solids, mg/l	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
pH	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Total Organic Carbon, mg/l	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Chemical oxygen demand, mg/l	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Biochemical oxygen demand, mg/l	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Dissolved Oxygen, mg/l	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Sodium bisulphite, mg/l, (continuous monitoring)	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Visible Oil & Grease	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Rate of Discharge l/s	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Filter aid Polymer mg/l	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Dispersant Polymer mg/l	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Total Copper µg/l	W1	Annual	1 January
Total Zinc µg/l	W1	Annual	1 January

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Total Iron mg/l	W1	Annual	1 January
Total Cadmium µg/l	W1	Annual	1 January
Total Mercury µg/l	W1	Annual	1 January
Total Nickel g/l	W1	Annual	1 January
Total Arsenic g/l	W1	Annual	1 January
Total Chromium g/l	W1	Annual	1 January
Total Lead g/l	W1	Annual	1 January
Total Ammoniacal Nitrogen µg/l (N)	W1	Annual	1 January
Total Chloride mg/l	W1	Annual	1 January
Total Sulphate mg/l	W1	Annual	1 January
Total Phosphate mg/l	W1	Annual	1 January
Dioxins / Furans / other organics µg/l	W1	Annual	1 January
Total Non-oxidising biocide mg/l (total methylene bithiocyanate)	W1	Annual	1 January
Groundwater parameters as established under former WRA '91 Discharge Consent BP0284901	Monitoring boreholes, as previously established	Every 12 months	1 January

Table S4.2: Annual production/treatment	
Parameter	Units
Power generated	GWh

Table S4.3 Chapter III Performance parameters for reporting to DEFRA and other Performance parameters		
Parameter	Frequency of assessment	Units
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	TJ
Total Emissions to Air of NO _x for each LCP	Annually	t
Total Emissions to Air of SO ₂ for each LCP	Annually	t
Total Emissions to Air of dust for each LCP	Annually	t
Operating Hours for each LCP (Load Factor)	Annually	h
Operating Hours [operating in open cycle mode]	Annually	h

Table S4.4 Reporting forms				
Media/ parameter	Reporting format	Starting Point	NRW recipient	Date of form
Air & Energy	Form IED AR1 – SO ₂ , NO _x and dust mass emission and energy	01/01/16	SI	31/12/15
LCP	Form IED HR1 – operating hours	01/01/16	SI	31/12/15
Air	Form IED CON 2 – continuous monitoring	01/01/16	SI	31/12/15
CEMs	Form IED CEM – invalidation log	01/01/16	SI	31/12/15
Air	Form IED PM1 - discontinuous monitoring and load	01/01/16	SI	31/12/15
Water	Form water 1 or other form as agreed in writing by NRW	01/01/16	SI	31/12/01
Sewer	Form sewer 1 or other form as agreed in writing by NRW	01/01/16	SI	31/12/01

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified immediately	
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 immediately unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified immediately unless otherwise specified below	
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 immediately	
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.

“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 Natural Resources Wales 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.

“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; and
- (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.

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

“breakdown” has the meaning given in the ESI IED Compliance Protocol for Utility Boilers and Gas Turbines.

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“CEN” means Comité Européen de Normalisation.

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“DLN” means dry, low NO_x burners.

“emissions to land” includes emissions to groundwater.

“Energy efficiency” the annual net plant energy efficiency means the value calculated from the operational data collected over the year.

“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 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.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions.

“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 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“mcr” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU.

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU.

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

“ncv” means net calorific value.

“NRW” means Natural Resources Wales

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“SI” means site inspector.

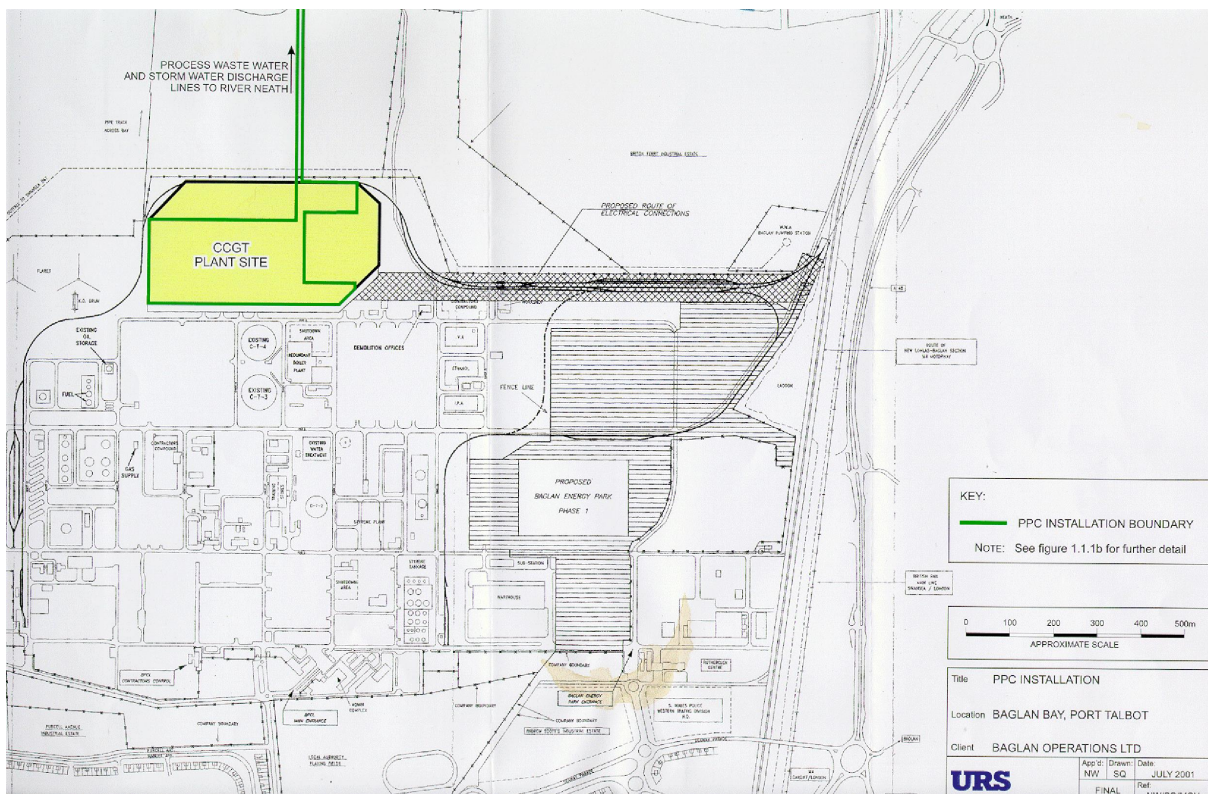
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

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

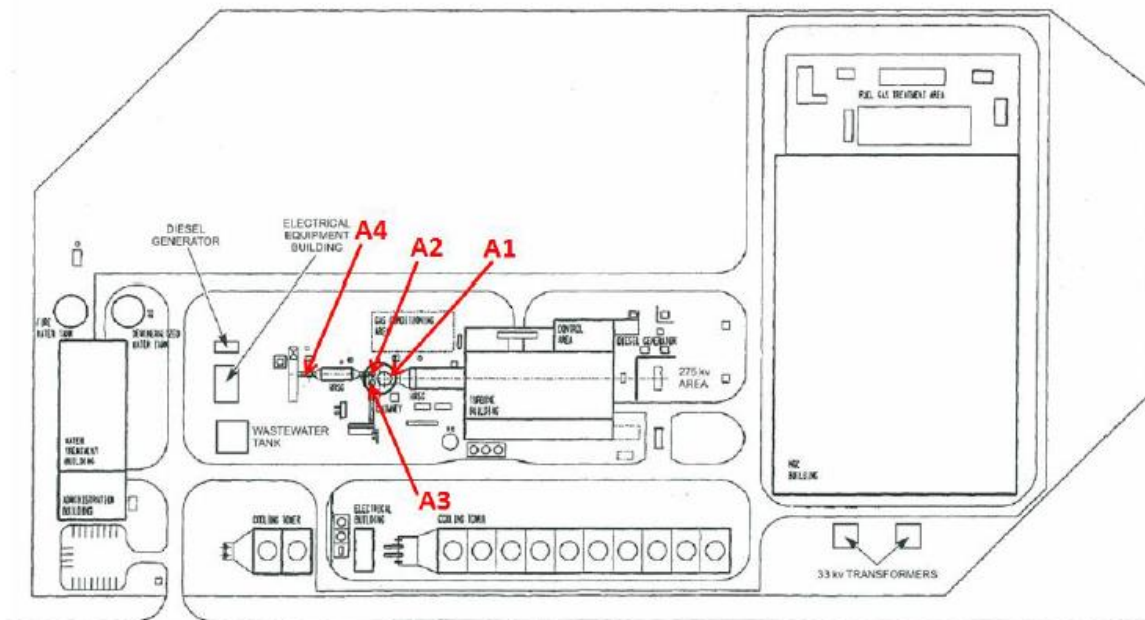
- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



Emission Points for the LCP



Source: Site Plan from Permit Application (Modified to show LCP exhaust points)

END OF PERMIT