Permit Number: EPR/ZP3032KQ Operator: Dwr Cymru Cyfyngedig

Facility: Afan CHP Facility Form Number: Air1 / 25/01/2024

Reporting of emissions to air for the period from 01/01/2023 to 31/12/2023

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
A1	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	mg/m^3	BS EN 14792		
A1	Carbon Monoxide	1400 mg/m^3	Hourly average	mg/m^3	BS EN 15058		
A1	Sulphur Dioxide	339 mg/m^3	Hourly average	mg/m^3	BS EN 14791		
A2	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	Hourly average	mg/m^3	BS EN 14792		
A2	Carbon Monoxide	1400 mg/m^3	Hourly average	mg/m^3	BS EN 15058		
A2	Sulphur Dioxide	339 mg/m^3	Hourly average	mg/m^3	BS EN 14791		
A3 (Boiler1)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	170 mg/m^3	Hourly average	122.56 mg/m^3	BS EN 14792	16/08/2023 13:45 – 14:45	2%
A3 (Boiler1)	Carbon Monoxide	75 mg/m^3	Hourly average	6.07 mg/m^3	BS EN 15058	16/08/2023 13:45 – 14:45	2%
A3 (Boiler1)	Sulphur Dioxide	160 mg/m^3	Hourly average	11.05 mg/m^3	BS EN 14791	16/08/2023 13:45 – 14:45	3%
A4 (Boiler 2)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	170 mg/m^3	Hourly average	124.44 mg/m^3	BS EN 14792	17/08/2023 09:00 – 10:00	2%
A4 (Boiler 2)	Carbon Monoxide	75 mg/m^3	Hourly average	11.01 mg/m^3	BS EN 15058	17/08/2023 09:00 – 10:00	2%
A4 (Boiler 2)	Sulphur Dioxide	160 mg/m^3	Hourly average	12.11 mg/m^3	BS EN 14791	17/08/2023 09:00 – 10:00	3%
A5 (Flare Stack)	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Hourly average	79.92 mg/m^3	BS EN 14792	17/0802023 14:05 - 15:05	2%
A5 (Flare Stack)	Carbon Monoxide	50 mg/m^3	Hourly average	48.87 mg/m^3	BS EN 15058	17/0802023 14:05 - 15:05	3%
A5 (Flare Stack)	Sulphur Dioxide	339 mg/m^3	Hourly average	2.22 mg/m^3	BS EN 14791	17/0802023 14:05 - 15:05	13%

[1] The result given is the maximum value (or the minim mum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… ……. Date 25/01/2024
(Authorised to sign as representative of Operator)

Permit Number: EPR/ZP3032KQ Operator: Dwr Cymru Cyfyngedig

Facility: Afan CHP Facility Form Number: Performance1 / 31/01/2023

Parameter	Units
Fuel input to installation (biogas)	5,565,459 m^3
Fuel input to installation (Natural Gas)	13,434 MWh
Total biogas to boilers	0 m3
Power output - heat	7,191MWh
Power output- electricity	6,831 MWh
Energy Efficiency	0.003 MWh/m^3
Hours of operation for CHP engines.	CHP 1: 4,612 h CHP 2: 2,418 h
Water usage	17,111 m^3
Water generated	-
Operational hours of boilers fired on biogas	0 h
Operational hours of waste gas burner	1,518 h > 10% of time > 876 Hours
Biogas burnt by waste gas burner	2,711,565.47 m3
Abnormal operation of pressure release valves	No data is available for this parameter.

Operator's comments:
The engine de-rates that led to increased bursting disc activations and extended periods of downtime for the CHPs in the last quarter of 2022 coupled with the poor atmospheric conditions found at Afan WWTW caused a series of alternator failures that plagued the CHP generation in 2023 and led to their inability to be tested as per Schedule 5 part A notification sent 20/12/2023. As such the flare was tested early in line with the permit requirements and found to be performing within emission limit values.
We are still in a position where we are waiting for a purchased spare alternator and the repair of the alternator that failed. 2024 should also see the improvements to the biogas feed that will improve the quality of the fuel for the CHPs increasing their reliability and the improvements to exhaust pipework that will allow them to operate unrestricted by the possibility of a bursting disc activation.

Signed ..... Date 25/01/2024

(Authorised to sign as representative of Operator)