

Permit Number: EPR/ZP3032KQ

Operator: Dwr Cymru Cyfyngedig

Facility: Afan CHP Facility

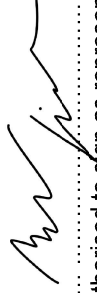
Form Number: [Air1 / 14/02/2023](#)

Reporting of emissions to air for the period from 01/01/2022 to 31/12/2022

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	498.23mg/m ³	BS EN 14792	15/12/2022 15:00 – 16:00	2%
A1	Carbon Monoxide	1400 mg/m ³	Hourly average	876.64mg/m ³	BS EN 15058	15/12/2022 15:00 – 16:00	3%
A1	Sulphur Dioxide	339 mg/m ³	Hourly average	186.04mg/m ³	BS EN 14791	15/12/2022 15:08 – 15:43	13%
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	123.54 mg/m ³	BS EN 14792	29/07/2022 09:25 – 10:25	3%
A3 (Boiler1)	Carbon Monoxide	75 mg/m ³	Hourly average	5.5 mg/m ³	BS EN 15058	29/07/2022 09:25 – 10:25	2%
A3 (Boiler1)	Sulphur Dioxide	160 mg/m ³	Hourly average	0.8 mg/m ³	BS EN 14791	29/07/2022 09:25 – 10:25	13%
A4 (Boiler 2)	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	170 mg/m ³	Hourly average	124.14 mg/m ³	BS EN 14792	29/07/2022 11:28 – 12:28	3%
A4 (Boiler 2)	Carbon Monoxide	75 mg/m ³	Hourly average	5.73 mg/m ³	BS EN 15058	29/07/2022 11:28 – 12:28	2%
A4 (Boiler 2)	Sulphur Dioxide	160 mg/m ³	Hourly average	0.74 mg/m ³	BS EN 14791	29/07/2022 11:28 – 12:28	13%

[1] The result given is the maximum value (or the minimum 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 14/02/2023
(Authorised to sign as representative of Operator)

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Form Number: [Performance1 / 14/02/2023](#)

Parameter	Units
Fuel input to installation (biogas)	4,446,802 m ³
Fuel input to installation (Natural Gas)	11,785 MWh
Total biogas to boilers	70,807 m ³
Power output - heat	7,225 MWh
Power output- electricity	6,881 MWh
Energy Efficiency	0.003 MWh/m ³
Hours of operation for CHP engines.	CHP 1: 3921 h CHP 2: 4047 h
Water usage	12,718m ³
Water generated	-
Operational hours of boilers fired on biogas	51 h
Operational hours of waste gas burner	856 h < 10% of time
Biogas burnt by waste gas burner	1,581,099 m ³
Abnormal operation of pressure release valves	No data is available for this parameter.

Operator's comments:

2022 saw both digesters getting de-gritted meaning an extended period of low site throughput in the middle of the year which will, in time, lead to greater biogas yield. The exceptionally hot periods in the summer led to some consistent engine deratings which were swiftly mitigated by a deep cleansing of the heat rejection fans but had already caused several bursting disc failures, exhausting on site spares and causing the engine to be unavailable for emissions testing. After briefly returning to service over the Christmas period the engine is once again unavailable due to an alternator failure but will be tested once available.

The regular boiler and CHP servicing continues to ensure that these operate within permitted emission limit values.

Signed

Date 14/02/2023

(Authorised to sign as representative of Operator)