

Permit Number: EPR/FP3232KG

Operator: Dwr Cymru Cyfyngedig

Facility: Cardiff CHP Facility

Form Number: Air1 / 24/01/2017

**Reporting of emissions to air for the period from 01/01/2016 to 31/12/2016**

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 <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	434.82 mg/m <sup>3</sup>	BS EN 14792	20/09/2016 10:41 – 11:40	3%
A1	Carbon Monoxide	1100 mg/m <sup>3</sup>	Hourly average	854.84 mg/m <sup>3</sup>	BS EN 15058	20/09/2016 10:41 – 11:40	6%
A1	Sulphur Dioxide	340 mg/m <sup>3</sup>	Hourly average	160.62 mg/m <sup>3</sup>	BS EN 14791	20/09/2016 10:39 – 11:39	13%
A2	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	308.55 mg/m <sup>3</sup>	BS EN 14792	20/09/2016 15:51 – 16:50	3%
A2	Carbon Monoxide	1100 mg/m <sup>3</sup>	Hourly average	839.40 mg/m <sup>3</sup>	BS EN 15058	20/09/2016 15:51 – 16:50	6%
A2	Sulphur Dioxide	340 mg/m <sup>3</sup>	Hourly average	51.88 mg/m <sup>3</sup>	BS EN 14791	20/09/2016 17:00 – 18:00	13%
A3	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly average	452.75 mg/m <sup>3</sup>	BS EN 14792	19/09/2016 16:48 – 17:47	3%
A3	Carbon Monoxide	1100 mg/m <sup>3</sup>	Hourly average	828.02 mg/m <sup>3</sup>	BS EN 15058	19/09/2016 16:48 – 17:47	3%
A3	Sulphur Dioxide	340 mg/m <sup>3</sup>	Hourly average	65.65 mg/m <sup>3</sup>	BS EN 14791	19/09/2016 16:48 – 17:47	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

(Authorised to sign as representative of Operator)

ANDREW DIXON

ENERGY OPS MANAGER (GENERATION)

Date 24/01/2017

Permit Number: EPR/FP3232KG

Operator: Dwr Cymru Cyfyngedig

Facility: Cardiff CHP Facility

Form Number: Performance1 / 27/01/2017

Parameter	Units
Fuel input to installation (biogas)	6,707,485.28 m <sup>3</sup>
Fuel input to installation (Natural Gas)	14196.64 MWh
Power output - heat	23644.14 MWh
Power output- electricity	20,126.50 MWh
Energy Efficiency	3.00 KWh / m <sup>3</sup> biogas
Water usage	41,492 m <sup>3</sup>
Water generated	-
Operational hours of waste gas burner	187.52 h <10% of time < 876 Hours
Biogas burnt by waste gas burner	143,237 m <sup>3</sup>

Operator's comments :

This was a record year for electricity generation at Cardiff WwTW with increased sludge throughput through the digestion assets. Efficiency of the engines also peaked as there were no planned overhauls during 2016 which can make an engine unavailable for up to one month. This greater engine availability also benefitted wider operations with a smaller proportion of the biogas produced being flared.

Signed 

(Authorised to sign as representative of Operator)

Date 27/01/2017

ANDREW DIXON

ENERGY OPS MANAGER (GENERATION)

