

Permit Number: EPR/VP3736EF

Operator: The BOC Group Limited

Facility: Newport Steam Reforming Plant

Form Number: Air1 01/04/15

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

Emission							
Emission Point	Substance / Parameter	Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
Reformer Furnace Flue Gas Stack	Nitrogen Oxides as NO ₂	140mg/m ³	Spot sample	92.9 mg/m ³	BS EN 14792 or as agreed in writing with Natural Resources Wales	06-12-23 10:45 - 12:45	+/- 3.8
	Carbon Monoxide	25mg/m ³	Spot sample	3.5 mg/m ³	BS EN 15058 or as agreed in writing with Natural Resources Wales	06-12-23 10:45 - 12:45	+/- 4.2
Vent Gas Header Stack	Hydrogen	No limit set	Spot sample	936000 ppm	As agreed in writing with Natural Resources Wales	06-12-23	
	Carbon Monoxide	No limit set	Spot sample	5 ppm	BS EN 15058 or as agreed in writing with Natural Resources Wales	06-12-23	

Emission							
Emission Point	Substance / Parameter	Limit Value	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
	Methane	No limit set	Spot sample	2900 ppm	TGN M22 or as agreed in writing with Natural Resources Wales	06-12-23	

[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 Natural Resources Wales 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: M Gough
(Authorised to sign as representative of Operator)

Date Feb 9th, 2024

Permit Number: **EPR/VP3736EF**

Operator: **The BOC Group Limited**

Facility: **Newport Steam Reforming Plant** Form Number: **WaterUsage1 01/04/15**

Reporting of Water Usage for the year 2023

Water Source	Usage (m ³ /year)	Specific Usage (m ³ /unit output)
Water Usage - Mains water	2673.23 m ³ /year	8.94 m ³ /Te
Water Usage – Other (please specify)		
TOTAL WATER USAGE	2673.23 m³/year	8.94 m³/Te

Operator's comments :
Water consumption in 2023 compared to 2022 is 13.9% lower due to reduced demand, otherwise usage is in line with production rates.

Signed: M Gough
(authorised to sign as representative of Operator)

Date Feb 9th, 2024

Permit Number: **EPR/VP3736EF**

Operator: **The BOC Group Limited**

Facility: **Newport Steam Reforming Plant** Form Number: **Energy1 01/04/15**

Reporting of Energy Usage for the year 2023

Energy Source	Energy Usage		
	Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Electricity *	1564 MWh	3753 MWh	12.55 MWh/Te
NG Burner fuel	4871 MWh	4871 MWh	16.29 MWh/Te
TOTAL	6435 MWh	8624 MWh	28.84 MWh/Te

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :
Energy consumption in 2023 compared to 2022 is 22.25% lower due to reduced demand otherwise, usage is in line with production rates.
Primary Energy: No guidance on Calculations available from NRW: Primary Calculations (x2.4) as per communication by NRW email dated 6/2/24 13:07)
Specific Usage: Previous comments: No guidance on Calculations available from NRW to whether this is "quantity/output unit" or "primary energy/output unit": Original Specific Usage calculation we have used without this guidance was (quantity / units). **Update:** Communication received 7/2/24 12:58, (primary energy/output unit) is to be utilised as the calculation. Data resubmitted.

Signed: M Gough
(Authorised to sign as representative of Operator)

Date Feb 9th, 2024

Permit Number: **EPR/VP3736EF**

Operator: **The BOC Group Limited**

Facility: **Newport Steam Reforming Plant** Form Number: **Performance1 2015**

Reporting of other performance indicators for the period 01/01/2023 to 31/12/2023

Parameter	Units
Total amount of Hydrogen produced	299 tonnes

Operator's comments: Usage is in line with production demand.

Signed: M Gough
(Authorised to sign as representative of Operator)

Date Feb 9th, 2024