

Quarterly Reporting of Emissions to Air for the period from: Q1 2023

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Units	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A26	Class B VOC's	No limit applies	0.7782	kg/hr	Gas chromatography	24/01/2023 10:55	In House Validated Method	3.6%
A26	Siloxanes	Agreed limit ⁽⁶⁾	0.4883	kg/hr	Gas chromatography	24/01/2023 10:55	In House Validated Method	3.6%
A27	Siloxanes	Agreed limit ⁽⁶⁾	0.0046	kg/hr	Gas chromatography	24/01/2023 11:25	In House Validated Method	3.6%
A43	Hydrogen chloride	10mg/m ³	0.0956	mg/m ³	Ion chromatography	23/03/2023 13:25	In House Validated Method	3.6%
A44	Hydrogen chloride	10mg/m ³	See note 8	mg/m ³	Ion chromatography	N/A	In House Validated Method	3.6%
A57	Hydrogen chloride	10mg/m ³	0.095575091	mg/m ³	Ion chromatography	24/01/2023 10:35	In House Validated Method	3.6%
A60	Class B VOC's	5000 kg/year ⁽⁷⁾	0.0592	kg/hr	Gas chromatography	01/02/2023 09:45	In House Validated Method	3.6%
			49.2526	Kg YTD		2023 TOTAL		
A65	Siloxanes	Agreed limit ⁽⁶⁾	0.0182	kg/hr	Gas chromatography	24/01/2023 10:05	In House Validated Method	3.6%
A68	Class B VOC's	5000 kg/year ⁽⁷⁾	0.0958	kg/hr	Gas chromatography	24/01/2023 09:45	In House Validated Method	3.6%
			139.4049	Kg YTD		2023 TOTAL		
A68	Siloxanes	Agreed limit ⁽⁶⁾	2.2591	kg/hr	Gas chromatography	24/01/2023 09:45	In House Validated Method	3.6%
A78	Class A VOC's	No limit. Temperature (°C)	27.4922	°C	RTD	10/01/2023 20:29	Internally Calibrated	0.02%
A79	Siloxanes	Agreed limit ⁽⁶⁾	0.1371	kg/hr	Gas chromatography	24/01/2023 10:05	In House Validated Method	3.6%
A85	Siloxanes	Agreed limit ⁽⁶⁾	0.0814	kg/hr	Gas chromatography	01/02/2023 09:20	In House Validated Method	3.6%

[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 Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. 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 accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.
[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.
[6] Emission limit to be agreed following completion of IP14. This was deferred for consideration with IP25. No limit applies.
[7] Emission limit agreed following completion of IP4 (5000 kg/year).

Dow Notes:

(8) A44 is now decommissioned (vent is released via A43).

(9) Releases modelled as part of IP16. Agency agreed that releases do not require abatement and that limit no longer applies. Instead the vent temperature will be recorded on form A2 quarterly to ensure vent condenser performance does not deteriorate. A new temperature transmitter was installed in 2009 to give continuous temperature monitoring with operator alarm for elevated condenser outlet temperature to trigger condenser cleaning operations. Result recorded is the maximum temperature value obtained during the reporting period.

Signed  Insert name Judith Sartor Date.....27th April 2023
(authorised to sign as representative of Operator)

Quarterly Reporting of Emissions to Water (other than to Sewer) for the period from Q1 2023

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Units	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
W1 via M1	Flow	11 000 m³/day	6739	m³/day	Agreed ⁽¹⁰⁾	05-Mar	MCERT Approved	+/- 0.5%
W1 via M1	Flow	625 m³/hour	420.1269844	m³/hour	Agreed ⁽¹⁰⁾	23-Mar	MCERT Approved	+/- 0.5%
W1 via M1	pH – Min	≥ 6	7.07		To be agreed ⁽¹¹⁾	12-Jan 03-Jan	Under Review ⁽¹¹⁾	+/- 4%
	pH - Max	≤ 9	8.159					
W1 via M1	Temperature	40 °C ^[6]	25.902	°C	RTD ⁽¹²⁾	03-Feb	MCERTS Equiv ⁽¹²⁾	+/- 0.55 °C
W1 via M1	Suspended solids	30 mg/l ^[6]	33.025 (Note 18)	mg/l ^[8]	SCA Blue Book 105	Q1 2023	Under Review	+/- 6mg/l
W1 via M1	BOD ₅	20 mg/l ^[16]	4.00	mg/l	SCA Blue Book 130	05-Jan	UKAS	+/- 21%
W1 via M1	Copper	0.1 mg/l ^[6]	0.103274999 (Note 17)	mg/l ^[8]	Inductively Coupled Plasma	Q1 2023	In house validated method	+/- 0.0096 mg/l
W1 via M1	Zinc	0.5 mg/l ^[6]	0.021975	mg/l ^[8]	Inductively Coupled Plasma	Q1 2023	In house validated method	+/- 0.02 mg/l
W1 via M1	Hydrocarbon oil	No visible sheen	No visible sheen		Visual Check	Q1 2023	N/A	N/A
W1 via M1	TOC	100 mg/l	43.21041557	mg/l	Online TOC analysis	Q1 2023 daily average	In house validated method	TBD
W2	pH – Min	≥ 6	No discharge to river during Q1 2023		pH probe	No discharge to river during Q1 2023	In house validated method	+/- 4%
W2	pH - Max	≤ 9						
W2	Suspended solids	30 mg/l ^[16]		mg/l	SCA Blue Book 105		Under Review	+/- 6mg/l
W2	BOD ₅	20 mg/l ^[16]		mg/l	SCA Blue Book 130		UKAS	+/- 21%
W2	COD	125 mg/l ^[16]		mg/l	Offsite Analysis		UKAS	Unknown
W2	Copper	0.15 mg/l ^[7,16]		mg/l	Inductively Coupled Plasma		In house validated method	+/- 0.0096 mg/l
W2	Zinc	0.25 mg/l ^[7,16]		mg/l	Inductively Coupled Plasma		In house validated method	+/- 0.02 mg/l
W2	Hydrocarbon oil	No visible sheen			Visual Check		N/A	N/A

- [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 Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. 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 accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.
- [5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.
- [6] Not more than 5% of measurements in the reporting period shall exceed the limit value.
- [7] To be reported for each effluent transfer from W809 to W413.

Dow Corning Notes:

- (8) The result is the 95%ile reading for the reporting period to demonstrate compliance with the emission limit value stated, which is a 95%ile limit.
- (10) Instrument and measurement technique has been reviewed under improvement item IP8. The final treated effluent Danfloss flow meter FT5098 has been MCERT approved. It has been agreed that from 1 October 2009 onwards that the dry flow rate discharge limit of 11,000 m³/day will apply and that reported flow data will relate purely to treated effluent with storm water flow (from W952 penstock valve) excluded from the totalised discharge from release point W1.
- (11) Instrument and measurement technique has been reviewed under improvement item IP10. Existing pH meters will be replaced by MCERT certified pH meter upon failure. Current meters deemed satisfactory in the interim.
- (12) Instrument and measurement technique was reviewed under Note 7 Table 2.2.5 and Agency responded. A New MCERT equivalent resistance thermometer was installed by Dow Corning in Q4 2007.
- (13) Note in DC permit; 'No spot sample can exceed the limit value by more than 50%'.
- (16) no spot sample shall exceed the emission limit value by more than 50%

Comments~:

- (17) A schedule 5 has been entered for over the 95%ile limit on copper concentration (12/01/2023)
- (18) A schedule 5 has been entered for over the 95%ile limit on suspended solids concentration. (26/04/2023)

Signed  Insert name **Judith Sartor** Date.....**27th April 2023**
(authorised to sign as representative of Operator)