

Operator: Dow Silicones UK Ltd
Installation: Barry Silicon-Based Manufacturing Installation

Permit Reference Number: BR96851X

2020 Annual Reporting for Dow Silicones UK Ltd

Parameters, for which reports are required, in accordance with conditions of the permit, are listed within this report.

Performance Parameter	Reporting Form	Page
Water – quarterly reporting of emissions	BR96851X / E1	2
Air – quarterly reporting of emissions	BR96851X / A2	4
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Quarterly Reporting of Emissions to Water (other than to Sewer) for the period from **October 1 2020 to December 31 2020**

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
W1 via M1	Flow	11 000 m ³ /day	7835	Agreed ⁽¹⁰⁾	03-Oct	MCERT Approved	+/- 0.5%
W1 via M1	Flow	625 m ³ /hour	611.5195313	Agreed ⁽¹⁰⁾	11-Oct	MCERT Approved	+/- 0.5%
W1 via M1	pH	≥ 6, ≤ 9	6.22 8.168722624	To be agreed ⁽¹¹⁾	15-Oct 06-Oct	Under Review ⁽¹¹⁾	+/- 4%
W1 via M1	Temperature	40 °C ^[6]	29.13	RTD ⁽¹²⁾	10-Oct		
W1 via M1	Suspended solids	30 mg/l	28.17200064	SCA Blue Book 105	Q4 2020	Under Review	+/- 6mg/l
W1 via M1	BOD ₅	20 mg/l	3.00	SCA Blue Book 130	05-Nov	UKAS	+/- 21%
W1 via M1	Copper	0.1 mg/l	0.127883998 NOTE 14	Inductively Coupled Plasma	Q4 2020	In house validated method	+/- 0.0096 mg/l
W1 via M1	Zinc	0.5 mg/l	0.037735	Inductively Coupled Plasma	Q4 2020	In house validated method	+/- 0.02 mg/l
W1 via M1	Hydrocarbon oil	No visible sheen	No visible sheen	Visual Check	Q4 2020	N/A	N/A
W2	pH	≥ 6, ≤ 9	7.98 8.27	pH probe	19/12/2020 20/12/2020	In house validated method	+/- 4%
W2	Suspended solids	30 mg/l	12.5	SCA Blue Book 105	20/12/2020	Under Review	+/- 6mg/l
W2	BOD ₅	20 mg/l	1	SCA Blue Book 130	10/12/2020	UKAS	+/- 21%
W2	COD	125 mg/l (13)	24.5	Offsite Analysis	16/12/2020	UKAS	Unknown
W2	Copper	0.15 mg/l ^[7]	0.051	Inductively Coupled Plasma	16/12/2020	In house validated method	+/- 0.0096 mg/l
W2	Zinc	0.25 mg/l ^[7]	0.0597	Inductively Coupled Plasma	16/12/2020	In house validated method	+/- 0.02 mg/l
W2	Hydrocarbon oil	No visible sheen	No visible sheen	Visual Check	Q4 2020	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 Silicones 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.
- (9) Old note now removed (not applicable).
- (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 Silicones in Q4 2007.
- (13) No spot sample shall exceed the limit value by more than 50%. Limit is 125 mg/l so allowable spot sample result is 187.5 mg/l, result was below this.
- (14) Schedule 5 submitted for Cu Q4 2020

Signed 

Date...29th Jan 2021.....

(authorised to sign as representative of Operator)

Quarterly Reporting of Emissions to Air for the period from **October 1 2020 to December 31 2020**

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]		Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A26	Class B VOC's	No limit applies	0.6914	kg/hr	Gas chromatography	07/10/2020 14:00	In House Validated Method	3.6%
A26	Siloxanes	No limit applies ⁽⁶⁾	0.7539	kg/hr	Gas chromatography	07/10/2020 14:00	In House Validated Method	3.6%
A27	Siloxanes	No limit applies ⁽⁶⁾	0.0013	kg/hr	Gas chromatography	22/10/2020 11:50	In House Validated Method	3.6%
A43	Hydrogen chloride	10mg/m ³	0.3787	mg/m3	Ion chromatography	13/10/2020 13:50	In House Validated Method	3.6%
A44	Hydrogen chloride	10mg/m ³	See note 8		Ion chromatography	N/A	In House Validated Method	3.6%
A57	Hydrogen chloride	10mg/m3	0.37868378	mg/m3	Ion chromatography	07/10/2020 11:25	In House Validated Method	3.6%
A60	Class B VOC's	5000 kg/year ⁽⁷⁾	0.0269 269.2505	kg/hr kg	Gas chromatography	13/10/2020 14:40 2020 TOTAL	In House Validated Method	3.6%
A65	Siloxanes	No limit applies ⁽⁶⁾	0.0533	kg/hr	Gas chromatography	07/10/2020 10:00	In House Validated Method	3.6%
A68	Class B VOC's	5000 kg/year ⁽⁷⁾	0.1160 1698.0134	kg/hr kg	Gas chromatography	07/10/2020 09:30 2020 TOTAL	In House Validated Method	3.6%
A68	Siloxanes	No limit applies ⁽⁶⁾	2.1155	kg/hr	Gas chromatography	07/10/2020 09:30	In House Validated Method	3.6%
A78	Class A VOC's	No limit. Temperature (°C)	25.9863	°C	RTD	07/10/2020 18:14	Internally Calibrated	0.02%
A79	Siloxanes	No limit applies ⁽⁶⁾	0.4753	kg/hr	Gas chromatography	07/10/2020 10:30	In House Validated Method	3.6%
A85	Siloxanes	No limit applies ⁽⁶⁾	0.0278	kg/hr	Gas chromatography	07/10/2020 09:09	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.

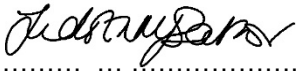
[6] Emission limit to be agreed following completion of IP14. This was deferred for consideration with IP25. No limit applies.

[7] Emission limit agreed following completion of IP4 (5000 kg/year).

Dow Silicones 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 

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Annual Reporting of Emissions to Air for the period from **January 1 2020 to December 31 2020**

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Units	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A12, A33, A34, A40 ⁽¹⁰⁾	Chloromethane	60 000kg/year	7862.44	kg/yr	US EPA Method 18	continuous	In House GC	A12 = 4% A33 = 24% A34 = 3% A40 = 3.6%
A12, A33, A34, A40 ⁽¹⁰⁾	Chloromethane	1000kg/day	712.15	kg/day	US EPA Method 18	15/06/2020	In House GC	A12 = 4% A33 = 24% A34 = 3% A40 = 3.6%
A12, A33, A34, A40 ⁽¹⁰⁾	Chloromethane	250kg/hour	87.28	kg/hr	US EPA Method 18	03/07/2020 02:00	In House GC	A12 = 4% A33 = 24% A34 = 3% A40 = 3.6%
A33	Methanol	60kg/hour	24.52	kg/hr	US EPA Method 18	07/04/2020 18:00:00	In House GC	42%
A34	Methanol	60kg/hour	43.40	kg/hr	US EPA Method 18	25/06/2020 15:00:00	In House GC	1%
A12	Methane ^[6]	No limit applies	205.04	kg/hr	US EPA Method 18	22/07/2020 18:00:00	In House GC	1%
A12	Non-methane hydrocarbons ^[6]	No limit applies	65.06	kg/hr	US EPA Method 18	22/07/2020 18:00:00	In House GC	2%
A40	Silanes ^[6]	No limit applies	n/a	-	Gas chromatography	n/a	In House validated Method	3.6%
A40	Silanes ^[7]	No limit applies	n/a	-	Gas chromatography	n/a	In House validated Method	3.6%
A41	Particulates	10 mg/m ³	9.7	mg/m ³	BS EN 13284	06/03/2020 11:26	UKAS & MCERTS	+/- 0.33
A41	Carbon monoxide	50mg/m ³	1.391	mg/m ³	ISO 12039	Annual average	In House validated Method	13%
A41	Oxides of nitrogen as NO ₂	100mg/m ³	22.862	mg/m ³	ISO 10849	Annual average	In House validated Method	11%
A41	Dioxins and furans	0.1ng/m ³	0.000937	ng/m ³	BS EN 1948	Annual average – 3 samples	UKAS & MCERTS	+/- 0.003
A48	Oxides of nitrogen as NO ₂	No limit applies	118.5	mg/m ³	ISO 10849	3/7/2020 11:37-12:37	In House validated Method	11%

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Units	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A48	Carbon monoxide	No limit applies	0.25	mg/m ³	ISO 12039	3/7/2020 11:37-12:37	In House validated Method	13%
A50	Oxides of nitrogen as NO ₂	200mg/m ³	36.0	mg/m ³	ISO 10849	4/8/2020 10:31-11:31	In House validated Method	11%
A50	Carbon monoxide	200mg/m ³	1.6	mg/m ³	ISO 12039	4/8/2020 10:31-11:31	In House validated Method	13%
A85	Hydrogen chloride ^[8]	10mg/m ³	Note 14	mg/m ³	BS EN 1911:1998	n/a		
A26	Class B VOC's ^[9]	No limit applies	1.173	kg/hr	BS EN 13649	Annual average	In House validated Method	3.6%
A60	Class B VOC's ^[9]	5,000 kg/yr ⁽¹¹⁾	269.250	kg	BS EN 13649	Annual total release	In House validated Method	3.6%
A68	Class B VOC's ^[9]	5,000 kg/yr ⁽¹¹⁾	1698.013	kg	BS EN 13649	Annual total release	In House validated Method	3.6%
A26	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	1.173	kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%
A65	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	0.019	kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%
A68	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	1.395	kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%
A79	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	0.912	kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%

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[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.

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[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

[6] Maximum kg/h obtained during the reporting period.

[7] Total release during the reporting period.

[8] Reporting only required if phosphonitrile production during reporting year.

[9] Average of quarterly reported values in reporting year.

[10] Based on an agreed emission factor

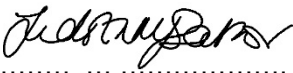
[11] Emission limit agreed following completion of IP4

[12] Emission limit to be agreed following completion of IP14. This has been deferred for consideration with IP25. No limit was agreed.

(13) There is no routine monitoring frequency required for A40 apart from the requirements listed in Table 2.10.1 under 'other requirements' and a method for such testing has not yet been agreed with the Agency. Dow Silicones has agreed with the Agency to use previously agreed IPC emission factors for silane releases from A40 for PI reporting purposes, as described in IPC improvement item 8.21. Under Improvement item IP3 the Environment Agency agreed to remove the requirement for silane monitoring at A41 when the ERU is not available for periods greater than 6 hrs.

(14) This is no longer made in W307.

(15) This was reported as a Schedule 5, no other exceedances during 2019

Signed 

Date...29th Jan 2021.....

(authorised to sign as representative of Operator)

Annual Reporting of Emissions to Air for the period from **January 1 2020 to December 31 2020**

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1] Mg/m ³	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A41	Hydrogen chloride	15mg/m ³	0.5631334	US EPA Method 26	14/01/2020 12:33-13:43	UKAS & MCERTS	±36%
			0.7187776	US EPA Method 26	11/02/2020 12:41-13:41	UKAS & MCERTS	±36%
			0.0128	US EPA Method 26	06/03/2020 11:26-12:26	UKAS & MCERTS	±36%
			2.77	US EPA Method 26	07/04/2020 10:37-11:37	UKAS & MCERTS	±36%
			0.78	US EPA Method 26	07/05/2020 11:45-12:45	UKAS & MCERTS	±36%
			0.678	US EPA Method 26	02/06/2020 11:40-12:40	UKAS & MCERTS	±36%
			1.9055	US EPA Method 26	10/07/2020 11:34 - 12:34	UKAS & MCERTS	±36%
			2.78	US EPA Method 26	04/08/2020 10:41-11:41	UKAS & MCERTS	±36%
			1.42	US EPA Method 26	24/09/2020 10:55-11:55	UKAS & MCERTS	±36%
			1.0055	US EPA Method 26	05/10/2020 10:57-11:57	UKAS & MCERTS	±36%
			0.738889	US EPA Method 26	03/11/2020 10:36-11:36	UKAS & MCERTS	±36%
			2.6666	US EPA Method 26	01/12/2020 11:20-12:20	UKAS & MCERTS	±36%
		10mg/m ³	1.3366		Annual average		

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[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.

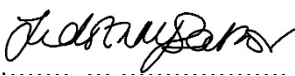
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[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Dow Silicones Notes:

HCl results are corrected for STP, ref 11% O₂, dry

Signed 

Date...29th Jan 2021.....

(authorised to sign as representative of Operator)

Annual Reporting of Emissions to Air for the period from January 1 2020 to December 31 2020

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1] Mg/m ³	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A41	Chlorine	15mg/m ³	0.8199367	US EPA Method 26	14/01/2020 12:33-13:43	UKAS & MCERTS	±36%
			0.0812417	US EPA Method 26	11/02/2020 12:41-13:41	UKAS & MCERTS	±36%
			0.405	US EPA Method 26	06/03/2020 11:26-12:26	UKAS & MCERTS	±36%
			10.58	US EPA Method 26	07/04/2020 10:37-11:37	UKAS & MCERTS	±36%
			0.29	US EPA Method 26	07/05/2020 11:45-12:45	UKAS & MCERTS	±36%
			0.29	US EPA Method 26	02/06/2020 11:40-12:40	UKAS & MCERTS	±36%
			1.53	US EPA Method 26	10/07/2020 11:34 - 12:34	UKAS & MCERTS	±36%
			5.39	US EPA Method 26	04/08/2020 10:41-11:41	UKAS & MCERTS	±36%
			0.23	US EPA Method 26	24/09/2020 10:55-11:55	UKAS & MCERTS	±36%
			0.122	US EPA Method 26	05/10/2020 10:57-11:57	UKAS & MCERTS	±36%
			0.778	US EPA Method 26	03/11/2020 10:36-11:36	UKAS & MCERTS	±36%
			1.733333	US EPA Method 26	01/12/2020 11:20-12:20	UKAS & MCERTS	±36%
		10mg/m ³	1.854126		Annual average		

[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.

Dow Silicones Notes:

Chlorine results are corrected for STP, ref 11% O₂, dry

Signed Jameson

Date...29th Jan 2021.....

(authorised to sign as representative of Operator)

Annual Reporting of Emissions to Air for the period from **January 1 2020 to December 31 2020**

There weren't any transfers of Spent bed into W348 TCS spend bed tank and therefore no potential for associated chloromethane releases in 2019

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A57	Chloromethane	2kg/h	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.

Dow Silicones Notes:

There weren't any transfers of Spent bed into W348 TCS spend bed tank and therefore no potential for associated chloromethane releases in 2019

Signed 

Date...29th Jan 2021.....

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Reporting of Energy Usage for the year 2020

Energy Source	Energy Usage		
	Quantity	Primary Energy (MWh)	CO ₂ Produced (tonnes)
Steam (tonnes)	710,623	586,963	111,492
Electricity *(kWh)	154,881,014	371,714	65,602
Natural Gas (kWh)	99,500,058	99,500	18,900
Gas Oil (tonnes)	0	0	0
TOTAL		1,058,178	195,995

Trends in Energy Usage			
Year	Parameter		
Year	Primary Energy usage	CO ₂ produced	CO ₂ per unit output
2008	1,101,571	207,755	
2009	1,066,743	183,110	
2010	1,018,415	191,869	
2011	1,040,640	195,636	
2012	1,044,862	197,154	
2013	1,039,643	196,913	
2014	1,080,683	204,686	
2015	1,060,647	200,560	
2016	1,065,704.1	200,195.5	
2017	1,040,379	196,834	
2018	1,123,088	211,053	
2019	1,009,656.98	187,789.38	
2020	1,058,178	195,995	

* Conversion factor for delivered electricity to primary energy = 2.4

Signed 

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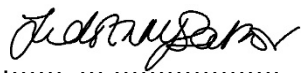
Reporting of Waste Disposal and Recovery for the year 2020

Waste Description	Route	Disposal Tonnes	Recovery Tonnes
1) Hazardous Wastes			
Calcium filtercake	Landfill	3153	
CISi - DPR liquid gas (8-6149)	Energy recovery		281.46
CISi - DPR liquid gas (8-6149)	Incineration	667.9	
Cuprous Chloride	Incineration	2.565	
Cuprous Chloride	Water Treatment	29.529	
Haz DPR	Recovery		7941.32
Mixed incineration	Incineration	395.663	
SiH Siloxane & Isoparaffin 8-6856 (tanker - W922)	Incineration	130.64	
Siloxane Hydrocarbons 8-6818 (tanker)	Energy recovery		179.84
Solvent siloxane	Energy recovery		464.89825
Spent Bed	Recovery		7073.124
Spent Sulphuric acid	Recovery		6240.438
WEEE	Recycling		14.68
Contaminated PPE (Tonnes)	Energy recovery		47.875
Interceptor pit cleanout	Incineration	49.27175	
Contaminated timber	Landfill	5.38	
Diol vols	Energy recovery		495.8335
Waste gum	Incineration	23.17525	
Packaged - other treatment	Landfill		211.18
Mineral oil with MeCl	Energy recovery		5.25825
Total Hazardous waste		4476.42	22955.91
2) Non-Hazardous Wastes			
DMR	Recycling		21.518
Biosludge from SWWT	Water Treatment	3735.451	

Trends in Waste Disposal and Recovery			
Year	Parameter	Total Waste	Waste per unit output
2006	All Wastes	44865 Tonnes	
2007	All Wastes	57243 Tonnes	
2008	All Wastes	60900 Tonnes	
2009	All Wastes	37182 Tonnes	
2010	All Wastes	52749 Tonnes	
2011	All wastes	45659.791 Tonnes	
2012	All wastes	53694.0 Tonnes	
2013	All wastes	50454.257Tonnes	
2014	All wastes	41004.423 tonnes	
2015	All wastes	44431.497 tonnes	
2016	All wastes	50306.351 tonnes	
2017	All wastes	57565.94 tonnes	
2018	All wastes	47066.82 tonnes	
2019	All wastes	38051.23 tonnes	
2020	All wastes	35064.546 tonnes	

Waste Description	Route	Disposal Tonnes	Recovery Tonnes
Calcium Slurry	Water Treatment	112.46	
Cardboard	Recycling		138.91
Filter Cartridge material	Landfill	13.96	
Food waste for composting	Composted		3.07
General Waste	Energy recovery		161.022
Glass	Recycling		4.43
Lagging	Energy recovery		35.9
Magnesium Oxide/Calcium Carbonate	Landfill	27.72	
Non Haz White DPR (Q8-6717)	Landfill	2115.06	
Paint Tins	Recycling		2.38
Paper	Recycling		1.49
Plastic	Recycling		75.52
Rubber	Energy recovery		424.58
Scrap metal	Recycling		204.15
Shot Blast	Recycling		45.42
Silicon Metal	Recycling		32.48
Wood	Recycling		226.83
Empty drums (tonnes)	Recycling		140.8
Empty IBC (tonnes)	Recycling		76.544
Cable scrap	Recovery		9.9
Excavation material (uncontaminated)	Landfill	22.62	
Total Non Hazardous waste		6027.271	1604.944
TOTAL WASTE		10582.174	24715.954

Trends in Waste Disposal and Recovery			
Year	Parameter		
OPERATOR COMMENTS: There was a slight decrease in some of the wastes in line with reduced production. There was an increase in CISi - DPR liquid gas (8-6149) due to having a backlog at the beginning of the year and decreasing this by year end.			

Signed 

Date...29th Jan 2021.....

(authorised to sign as representative of Operator)

Reporting of Water Usage for the year 2020

Water Source	Usage (m ³)	Specific Usage (m ³ /t)
Towns water	436,123	
Bigliss well water	1,604,408	
Cadoxton river water	61,033	
TOTAL WATER USAGE	2,101,565	

Trends in Water Usage					
Year	Parameter				
	Towns water	Bigliss well water	Cadoxton river water	Total water usage	Water per unit output
2009	121,193	821,102	899,394	1,851,689	
2010	237,014	986,518	748,770	1,972,302	
2011	273,504	932,737	925,974	2,132,215	
2012	187,886	826,251	1,058,541	2,072,658	
2013	230,623	933,912	899,926	2,064,461	
2014	230,189	768,111	551,771	1,550,071	
2015	244,473	785,203	564,798	1,594,474	
2016	276,011	993,693	442,702	1,712,406	
2017	245,697	1,248,673	863,303	2,357,673	
2018	418,725	1,267,630	681,722	2,368,077	
2019	533,863	1,613,548	43,995	2,191,407	
2020	436,123	1,604,408	61,033	2,101,565	

Operator's comments :

Towns water data obtained from invoices.

River water and Biglis water is measured.

The Biglis water consumption includes the supply to the CHP

Signed 

Date...29th Jan 2021.....

(authorised to sign as representative of Operator)

Annual Reporting of Energy Recovery Unit Availability for the period from **January 1 2020 to December 31 2020**

Process	Parameter	Month	Result ^[1] , %
Energy Recovery Unit W949	Availability	January	99.7%
		February	99.8%
		March	99.2%
		April	95.1%
		May	100.0%
		June	100.0%
		July	95.6%
		August	57.8%
		September	8.9% (Note 2)
		October	0.0% (Note 2)
		November	0.0% (Note 2)
		December	0.0% (Note 2)
		Reporting year total	92.8%

[1] Based on the availability to process 100% of W714 FBR vent. Calculated using feed valve position and positive flows.

{2} September – December the unit was not required to run so the availability shows as low or 0% as there was a low number/no positive flows.

Signed 

Date...29th Jan 2021.....

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