

Operator: Dow Corning Ltd
Installation: Barry Silicon-Based Manufacturing Installation

Permit Reference Number: BR9685IX

2015 Annual Reporting for Dow Corning Ltd

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

Performance Parameter	Reporting Form	Page
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Quarterly Reporting of Emissions to Water (other than to Sewer) for the period from

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	8005	Agreed ⁽¹⁰⁾	7/11/15	MCERT Approved	+/- 0.5%
W1 via M1	Flow	625 m ³ /hour	609	Agreed ⁽¹⁰⁾	14/10/15	MCERT Approved	+/- 0.5%
W1 via M1	pH	≥ 6, ≤ 9	7.01, 8.29	To be agreed ⁽¹¹⁾	20/10/15, 9/12/15	Under Review ⁽¹¹⁾	+/- 4%
W1 via M1	Temperature	40 °C ^[6]	28.5	RTD ⁽¹²⁾	28/10/15	MCERTS Equiv ⁽¹²⁾	+/- 0.55 °C
W1 via M1	Suspended solids	30 mg/l	37.4 max 9.18 Q4 average	SCA Blue Book 105	27/12/15 Q4	Under Review	+/- 6mg/l
W1 via M1	BOD ₅	20 mg/l	1.0	SCA Blue Book 130	10/11/15	UKAS	+/- 21%
W1 via M1	Copper	0.1 mg/l	0.09	Inductively Coupled Plasma	6/11/15	In house validated method	+/- 0.0096 mg/l
W1 via M1	Zinc	0.5 mg/l	0.07	Inductively Coupled Plasma	22/11/15	In house validated method	+/- 0.02 mg/l
W1 via M1	Hydrocarbon oil	No visible sheen	None	Visual Check	none	N/A	N/A
W2	pH	≥ 6, ≤ 9	6.8, 7.91	pH probe	6/11/15, 15/12/15	In house validated method	+/- 4%
W2	Suspended solids	30 mg/l	38.5	SCA Blue Book 105	19/11/15	Under Review	+/- 6mg/l
W2	BOD ₅	20 mg/l	4.0	SCA Blue Book 130	10/11/15	UKAS	+/- 21%
W2	COD	125 mg/l (13)	38.9	Offsite Analysis	29/11/15	UKAS	Unknown
W2	Copper	0.15 mg/l ^[7]	0.11 max 0.0503 Q4 average	Inductively Coupled Plasma	6/11/15	In house validated method	+/- 0.0096 mg/l

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
W2	Zinc	0.25 mg/l ^[7]	0.16 max 0.0152 Q4 average	Inductively Coupled Plasma	6/11/15	In house validated method	+/- 0.02 mg/l
W2	Hydrocarbon oil	No visible sheen	None	Visual Check	None	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.

(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.

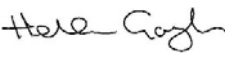
(11) Instrument and measurement technique has been reviewed under improvement item IP10. Existing pH meters will be replaced by MCERT certified pH meter upon failure. Current meters deemed satisfactory in the interim.

(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 Corning 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.

Operator Comments Jan 2016

For copper, zinc and suspended solids the quarterly average result based on the daily composite sample has been added to the reporting template. This was based on discussions with NRW, the results are a better reflection of standard operations rather than one result of a maximum point in time. Max point included.

Signed 

Date.....28.01.06.....

(authorised to sign as representative of Operator)

Quarterly Reporting of Emissions to Air for the period from

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	0.714 Kg/hr	Gas chromatography	11/11/15 16:12	In House Validated Method	3.6%
A26	Siloxanes	No limit applies ⁽⁶⁾	0.832 Kg/hr	Gas chromatography	above	In House Validated Method	3.6%
A27	Siloxanes	No limit applies ⁽⁶⁾	0.295 Kg/hr	Gas chromatography	11/11/15 15:58	In House Validated Method	3.6%
A43	Hydrogen chloride	10mg/m ³	0.08 mg/m ³	Ion chromatography	22/12/15 11:06	In House Validated Method	3.6%
A44	Hydrogen chloride	10mg/m ³	obsolete	Ion chromatography	n/a	In House Validated Method	3.6%
A57	Hydrogen chloride	10mg/m ³	0.07 mg/m ³	Ion chromatography	22/12/15 10:45	In House Validated Method	3.6%
A60	Class B VOC's	5000 kg/year ⁽⁷⁾	0.05 Kg/hr – Q4 248Kg total for year	Gas chromatography	23/11/15 16:15	In House Validated Method	3.6%
A65	Siloxanes	No limit applies ⁽⁶⁾	0.059Kg/hr	Gas chromatography	15/10/15 15:23	In House Validated Method	3.6%
A68	Class B VOC's	5000 kg/year ⁽⁷⁾	0 (minimal) – Q4 1049 kg total for year	Gas chromatography	15/10/15 15:32	In House Validated Method	3.6%
A68	Siloxanes	No limit applies ⁽⁶⁾	1.393 Kg /hr	Gas chromatography	above	In House Validated Method	3.6%
A78	Class A VOC's	No limit. Temperature (°C)	28 (°C)	RTD	continuous	Internally Calibrated	0.02%
A79	Siloxanes	No limit applies ⁽⁶⁾	2.025 Kg/hr	Gas chromatography	15/10/15 15:47	In House Validated Method	3.6%
A85	Siloxanes	No limit applies ⁽⁶⁾	0.054 Kg/hr	Gas chromatography	15/10/15 14:46	In House Validated Method	3.6%

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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.
- [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 Corning 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.

Operator Comments – Jan 2016

For A60 and A68 Class B VOCs a cumulative figure has been added at the request of NRW. A quarterly value is calculated based on actual vent data for that quarter and the process on-line time. This is totalised for the annual value.

Signed 

Date.....28.01.16.....

(authorised to sign as representative of Operator)

Annual Reporting of Emissions to Air for the period from **January 1 2015 to December 31 2015**

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A12, A33, A34, A40 ⁽¹⁰⁾	Chloromethane	60 000kg/year	18436 kg	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	597.3 kg	US EPA Method 18	Continuous	In House GC	A12 = 4% A33 = 24% A34 = 3% A40 = 3.6%
A12, A33, A34, A40 ⁽¹⁰⁾	Chloromethane	250kg/hour	24.89	US EPA Method 18	Continuous	In House GC	A12 = 4% A33 = 24% A34 = 3% A40 = 3.6%
A33	Methanol	60kg/hour	7.32 kg/hr	US EPA Method 18	Continuous	In House GC	42%
A34	Methanol	60kg/hour	42.7 kg/hr	US EPA Method 18	Continuous	In House GC	1%
A12	Methane ^[6]	No limit applies	239.4 kg/hr	US EPA Method 18	Continuous	In House GC	1%
A12	Non-methane hydrocarbons ^[6]	No limit applies	76.4 kg/hr	US EPA Method 18	Continuous	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	1.6 mg/m ³	BS EN 13284	4/3/2015	UKAS & MCERTS	+/- 0.9
A41	Carbon monoxide	50mg/m ³	1.6 mg/m ³	ISO 12039	4/3/2015	In House validated Method	13%
A41	Oxides of nitrogen as NO ₂	100mg/m ³	13.3 mg/m ³	ISO 10849	4/3/2015	In House validated Method	11%
A41	Dioxins and furans	0.1ng/m ³	0.025 mg/m ³	BS EN 1948	4/3/2015	UKAS & MCERTS	+/- 0.003
A48	Oxides of nitrogen as NO ₂	No limit applies	102.1 mg/m ³	ISO 10849	3/9/2015	In House validated Method	11%

Emission Point	Substance / Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
A48	Carbon monoxide	No limit applies	1.6 mg/m ³	ISO 12039	3/9/2015	In House validated Method	13%
A50	Oxides of nitrogen as NO ₂	200mg/m ³	55 mg/m ³	ISO 10849	8/10/2015	In House validated Method	11%
A50	Carbon monoxide	200mg/m ³	149 mg/m ³	ISO 12039	8/10/2015	In House validated Method	13%
A85	Hydrogen chloride ^[8]	10mg/m ³	n/a ¹⁴	BS EN 1911:1998	n/a		
A26	Class B VOC's ^[9]	No limit applies	0.82 Kg/hr	BS EN 13649	Annual average	In House validated Method	3.6%
A60	Class B VOC's ^[9]	5,000 kg/yr ⁽¹¹⁾	248 Kg	BS EN 13649	Annual total release	In House validated Method	3.6%
A68	Class B VOC's ^[9]	5,000 kg/yr ⁽¹¹⁾	1049 Kg	BS EN 13649	Annual total release	In House validated Method	3.6%
A26	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	1.15 Kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%
A65	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	0.07 Kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%
A68	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	1.06 Kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%
A79	Siloxanes ^[9]	An agreed limit ⁽¹²⁾	1.1 Kg/hr	Gas chromatography	Annual average	In House validated Method	3.6%

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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.

Dow Corning Notes:

(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 Corning 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.

Signed 

Date.....28.01.16.....

(authorised to sign as representative of Operator)

Annual Reporting of Emissions to Air for the period from **January 1 2015 to December 31 2015**

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	2.75145	US EPA Method 26	13/01/14 11:15-13:55	UKAS & MCERTS	±36%
			3.49481	US EPA Method 26	11/02/14 10:22-12:22	UKAS & MCERTS	±36%
			4.64815	US EPA Method 26	04/03/14 11:40-13:40	UKAS & MCERTS	±36%
			3.7938	US EPA Method 26	07/04/14 12:00-14:00	UKAS & MCERTS	±36%
			3.14989	US EPA Method 26	19/05/14 13:39-15:39	UKAS & MCERTS	±36%
			5.39447	US EPA Method 26	19/06/14 10:45-12:45	UKAS & MCERTS	±36%
			4.23016	US EPA Method 26	21/07/14 10:22-12:22	UKAS & MCERTS	±36%
			4.32649	US EPA Method 26	05/08/14 10:55-12:55	UKAS & MCERTS	±36%
			3.4736	US EPA Method 26	18/09/14 10:55-12:55	UKAS & MCERTS	±36%
			3.72171	US EPA Method 26	21/10/14 10:12-12:12	UKAS & MCERTS	±36%
			2.43526	US EPA Method 26	20/11/14 10:18-12:18	UKAS & MCERTS	±36%
			3.57687	US EPA Method 26	15/12/14 10:32-12:32	UKAS & MCERTS	±36%

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Dow Corning Notes:

Signed 

Date.....28.01.16.....

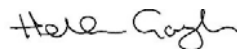
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Annual Reporting of Emissions to Air for the period from **January 1 2015 to December 31 2015**

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	1.32409	US EPA Method 26	13/01/14 11:15-13:55	UKAS & MCERTS	±36%
			1.48495	US EPA Method 26	11/02/14 10:22-12:22	UKAS & MCERTS	±36%
			1.56165	US EPA Method 26	04/03/14 11:40-13:40	UKAS & MCERTS	±36%
			2.04683	US EPA Method 26	07/04/14 12:00-14:00	UKAS & MCERTS	±36%
			0.266779	US EPA Method 26	19/05/14 13:39-15:39	UKAS & MCERTS	±36%
			7.24226	US EPA Method 26	19/06/14 10:45-12:45	UKAS & MCERTS	±36%
			4.02255	US EPA Method 26	21/07/14 10:22-12:22	UKAS & MCERTS	±36%
			4.67718	US EPA Method 26	05/08/14 10:55-12:55	UKAS & MCERTS	±36%
			3.48858	US EPA Method 26	18/09/14 10:55-12:55	UKAS & MCERTS	±36%
			2.35364	US EPA Method 26	21/10/14 10:12-12:12	UKAS & MCERTS	±36%
			0.346803	US EPA Method 26	20/11/14 10:18-12:18	UKAS & MCERTS	±36%
			2.67013	US EPA Method 26	15/12/14 10:32-12:32	UKAS & MCERTS	±36%

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Signed 

Date.....28.01.16.....

(authorised to sign as representative of Operator)

Form Number: Agency Form / BR9685IX / A5 / Form Dated 1st March 2006

Annual Reporting of Emissions to Air for the period from **January 1 2015 to December 31 2015**

There weren't any transfers of Spent bed into W348 TCS spend bed tank and therefore no potential for associated chloromethane releases in 2015

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 ⁽⁶⁾				

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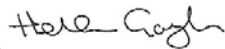
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Dow Corning Notes:

Signed 

Date.....28.01.16.....

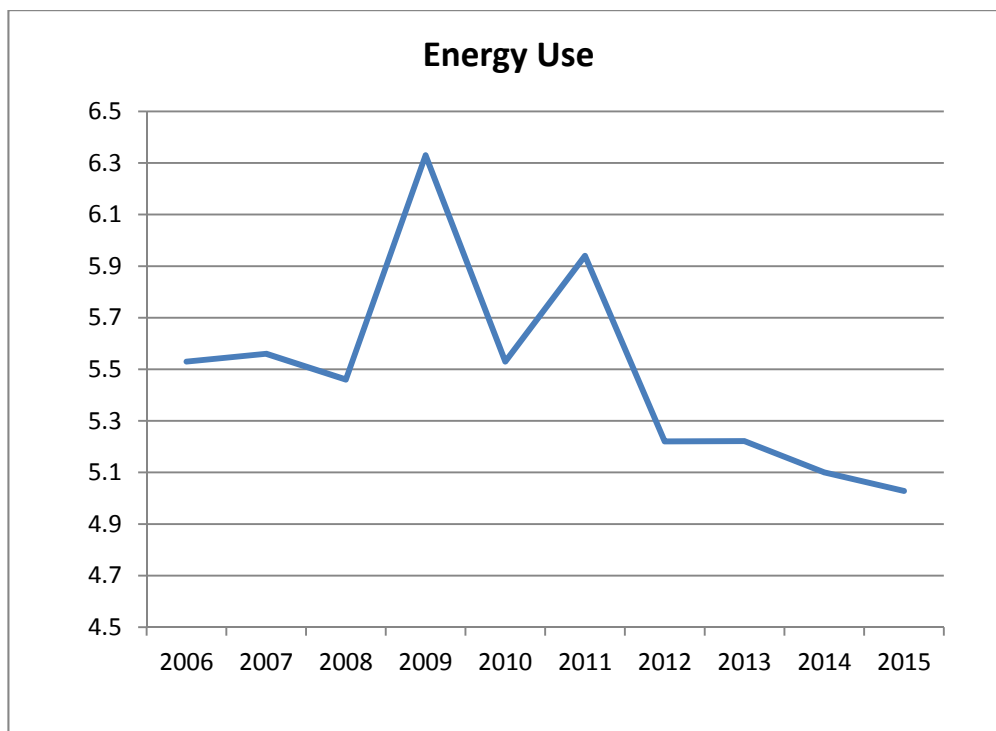
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Reporting of Energy Usage for the year 2015

Energy Source	Energy Usage		
	Quantity	Primary Energy (MWh)	CO ₂ Produced (tonnes)
Steam	736,956	589,192	111,916
Electricity *	167,780,938	368,589	69,105
Natural Gas	102,865,862	102,866	19,539
Gas Oil	0		0
TOTAL		1,060,647	200,560

* Conversion factor for delivered electricity to primary energy = 2.4

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	



Electricity includes 130,156 MWh @46.8 % generation efficiency from CHP operated by Cofely Energy Services Limited and 37,624 MWh @41.7% generation efficiency from National Grid equivalent to 278,290 + 90,300 MWh of primary energy .

Note that approximately 157,600 tonnes Carbon Dioxide from Primary energy to generate the steam and electricity is also reported by CHP

Energy chart with time included

Signed *Hele Gogh* (authorised to sign as representative of Operator)

Date.....28.01.16

Reporting of Waste Disposal and Recovery for the year 2015

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
1) Hazardous Wastes			
Acetyl Chloride	Incineration	148.98	
CISi - DPR liquid gas (8-6149)	Incineration	727.62	123.62
Cuprous chloride	Incineration	6.156	
Cuprous chloride	Water Treatment	279.692	
Haz DPR	Recycling		5408.77
Mixed Incineration	Incineration	694.87575	
SiH Siloxane & Isoparaffin 8-6856 (tanker - W922)	Incineration	233.2	
Siloxane Hydrocarbons 8-6818 (tanker)	Fuel blending		182.32
Solvent siloxane	Fuel blending		1299.2075
Spent Bed	Recover		9582.804
Spent Sulphuric acid	Incineration	91.8	
Spent Sulphuric acid	Recover		7624.96
Toluene/Glycol	Fuel blending		70.69425
Contaminated PPE (Tonnes)	Energy Recovery		30.15
Contaminated HCl	Incineration	21.52	
Interceptor pit cleanout	Incineration	59.19825	
Solvent separator slurry	Incineration	0.3895	
Contaminated timber	Incineration	24.6	
Total Hazardous waste		2288.032	24322.526
2) Non-Hazardous Wastes			
Alumina RAR Catalyst	Landfill	156.94	

[illegible]

Waste Description	Disposal Route	Tonnes	Recovery Tonnes
	Recover		25.5
Aluminium cans	Recycling		41.12
Biosludge from SWWT	Water Treatment	760.81	
Calcium filtercake	Landfill	4668.04	
Calcium Slurry	Water Treatment	1351.1	
Cardboard	Recycling		168.5
Filter Cartridge material	Landfill	31.56	
Food waste for composting	Composted		7.56
General Waste	Energy recovery		220.25
	Landfill	168.47	
Glass	Recycling		9.63
Gypsum	Recycling		7.3
Lagging	Landfill	67.88	
Non Haz White DPR (Q8-6717)	Landfill	7836.23	
Paint Tins	Landfill	15.38	
Paper	Recycling		8.01
Plastic	Recycling		78.53
RG6000 Gum	Recover		86.44
RR4000EU Polysiloxane	Recover		19.071005
Rubber	Energy Recovery		264.3
Scrap metal	Recycling		456.09
Shot Blast	Landfill	64.84	
Silicon Metal	Recycling		45.34
WEEE	Recycling		15.64
Wood	Recycling		310.9
Empty drums (tonnes)	Recycling		189.728
Empty IBC (tonnes)	Recycling		145.28
Pallets (Tonnes)	Recycling		0.08028
Total Non Hazardous waste		15121.25	2699.689
TOTAL WASTE		17409.282	27022.215

Trends in Waste Disposal and Recovery			
Year	Parameter		
OPERATOR COMMENTS: - Acetyl chloride – a byproduct which which we temporarily had no customer outlet - Biosludge from SWWT - this stream has previously been returned to the PWWT process, but has been found to cause process upsets. - There is no longer a recovery outlet for the Non Haz white DPR. - General waste, contaminated PPE and scrap rubber are now being sent for Energy recovery			

Waste Description	Disposal Route	Tonnes	Recovery Tonnes

Trends in Waste Disposal and Recovery	
Year	Parameter

Signed(authorised to sign as representative of operator)

Date.....28.01.16.....

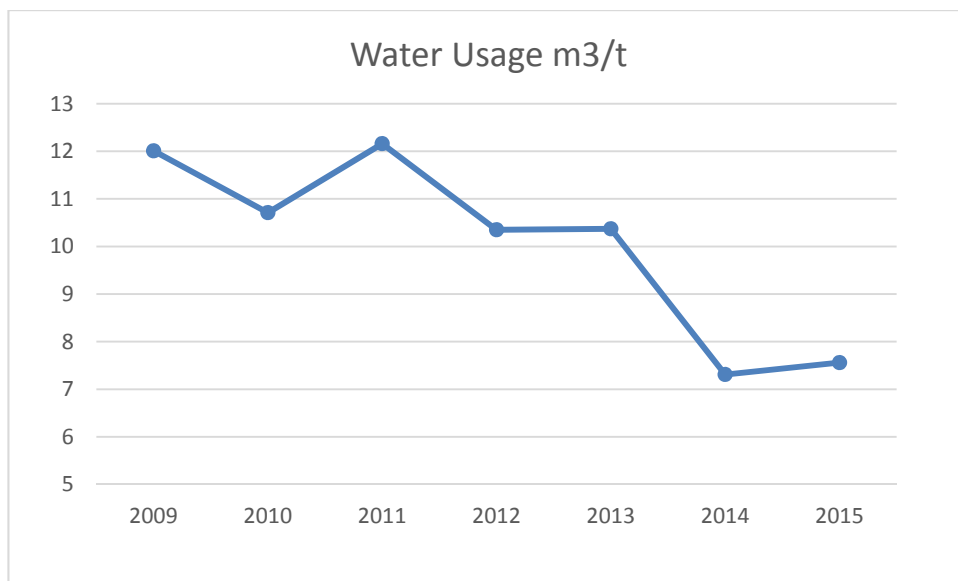
Reporting of Water Usage for the year 2015

Water Source	Usage (m ³)	Specific Usage (m ³ /t)
Towns water	564798	
Bigliss well water	785203	
Cadoxton river water	244,473	
TOTAL WATER USAGE	1,594,474	

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	Report on PI1
2010	237,014	986,518	748,770	1,972,302	Report on PI1
2011	273,504	932737	925,974	2,132,215	Report on PI1
2012	187,886	826,251	1,058,541	2,072,658	Report on PI1
2013	230,623	933,912	899,926	2,064,461	Report on PI1
2014	230,189	768,111	551,771	1,550,071	Report on PI1
2015	244,473	785,203	564,798	1,594,474	Report on PI1

Operator's comments :

Towns water and Biglis water data obtained from invoices. River water is measured.
The Biglis water consumption includes the supply to the CHP



Signed Harv Gogh
(authorised to sign as representative of the Operator)

Date.....28.01.16.....

Reporting of Performance Indicators for the period 2015

Annual Production/Treatment		
Polydimethylsiloxane		tonnes

Environmental Performance Indicators

Parameter	Annual Average	Units	Trends in Environmental Performance						
			Year	Parameter					
Water use		m³/tonne		Water	Energy	Waste	CO₂	W955 NaOH	W955 Nat. gas
				m³/t	MWh/t	kg/t	t/t	m³/t	MJ/t
Energy use		MWh/tonne	2009					N/A	N/A
Waste		Kg/tonne	2010					N/A	N/A
Carbon dioxide		Tonne/tonne	2011					N/A	N/A
			2012					N/A	N/A
			2013					N/A	N/A
			2014					N/A	N/A
			2015					n/a	n/a

Operator's comments:

Signed 
(authorised to sign as representative of Operator)

Date.....28.01.16.....

Form Number: Agency Form / BR9685IX / ERU1 / Form Dated 1st March 2006

Annual Reporting of Energy Recovery Unit Availability for the period from **January 1 20 to December 31 20**

Process	Parameter	Month	Result ^[1] , %
Energy Recovery Unit W949	Availability	January	96.31
		February	88.03
		March	73.16
		April	47.75
		May	74.07
		June	28.19
		July	88.67
		August	73.55
		September	79.2
		October	86.99
		November	61.92
		December	91.00
		Reporting year total	89 %

[1] Based on the availability to process 100% of W714 FBR vent.

Signed *Here Gogh*

(authorised to sign as representative of Operator)...

Date.....28.01.16