

Monthly Operating Reports

April 2018

The following April 2018 operating report was sent to the Ministry of Environment and Climate Change Strategy on June 8, 2018.



**Metro Vancouver - Waste-to-Energy Facility
CONTINUOUS EMISSION MONITORING SYSTEM**

April 2018

1. MONTHLY SUMMARY REPORT

Parameter	Discharge Limit (mg/dscm)	Compliance Period	Maximum Measurement (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Carbon Monoxide (CO)	50	24 hr	41.8	36.1	40.6
Sulphur Dioxide (SO ₂)	200	24 hr	92.1	144.4	58.5
Nitrogen Oxides (NO _x)	190	24 hr	129.9	139.8	133.8
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity			1.31	0.91	0.74
Carbon Monoxide (CO)			29.8	25.3	34.8
Sulphur Dioxide (SO ₂)			50.1	43.3	42.9
Nitrogen Oxides (NO _x)			126.0	130.4	132.7

Interim Discharge Limits will apply until and including the following dates, at which point the Discharge Limits and Response Limits will apply

- a. THC – December 31, 2018
- b. HCl – December 31, 2022

- c. SO₂ – December 31, 2022

2. MONTHLY EXCEEDANCE REPORT

2.a. Discharge Limit Exceedances

Unit	Compliance Parameter	Discharge Limit (mg/dscm)	Date	Exceedance Level
Reason/Action Taken				

2.b. Response Limit Exceedances

Unit	Compliance Parameter	Response Limit	Date / Time	Exceedance Level
	Opacity	5%	4/17/2018 6:00PM to 6:30PM	20.86%
Reason/Action Taken				
Unit 2	Opacity started to rise which is a characteristic of instrument failure. Covanta instrumentation specialist checked the opacity meter to confirm it was operational. Covanta inspected fabric filter and conducted visual inspection of stack. Stack had a pink plume, which is typically caused by iodine in the waste stream. Plume returned to normal within 1/2 hour response period.			

2.c. Transient Conditions - Furnace Temperature Below 800°C

Unit	Duration	Date/Time	Average Temperature (°C)	Cause
Action Taken to Restore Steady State Conditions				

3. ANALYZER AVAILABILITY

Analyzer	Required Availability (% hours per quarter)	Averaging Period	Monthly Availability		
			Unit 1	Unit 2	Unit 3
Opacity	90	Hour	100	100	100
Oxygen	90	Hour	98	98	100
Carbon Monoxide (CO)	90	Hour	98	98	100
Sulphur Dioxide (SO ₂)	90	Hour	98	98	100
Nitrogen Oxides (NO _x)	90	Hour	98	98	100
Stack Flow	90	Hour	100	100	100

4. SHUTDOWN REPORT

Unit 1

Duration in Hours	Reason	Date
6.92	Boiler 2nd pass wash	April 2
0.57	Forced draft fan trip	April 12
0.88	Feed chute plugged	April 18
1.17	Boilder 3rd pass wash	April 22
0.17	BC Hydro power interruption	April 23
117.93	Annual minor maintenance outage	April 25-29

Unit 2

Duration in Hours	Reason	Date
1.57	Ash discharger plugged	April 9
0.45	Ash discharger plugged	April 13
0.37	BC Hydro power interruption	April 23
8.57	Ash discharger plugged	April 24
0.62	Ash discharger plugged	April 24
108.99	Annual minor maintenance outage	April 25-29
2.73	Poor refuse quality	April 30

Unit 3

Duration in Hours	Reason	Date
2.23	Ash discharger plugged	April 5
0.18	Induced draft fan trip	April 10
336.55	Annual major maintenance outage	April 15-29
0.48	Poor refuse quality	April 29
0.40	Induced draft fan trip	April 29
4.07	Poor refuse quality	April 29
10.33	Boiler flange leak repair	April 30

5. FACILITY BYPASS AND EMERGENCY/SPILL EVENT REPORT

Date/Time	Cause	Duration
	Action Taken	

6. OTHER DATA

		UNIT 1	UNIT 2	UNIT 3
Waste Received	tonnes/day	541		
Waste Processed	tonnes/day	219	215	134
Maximum Waste Processed	tonnes/day	277	268	270
		Units 1, 2, and 3		
Natural Gas Consumed	m ³ /day	3,816		
	m ³ /month	114,494		
Fly ash disposed	tonnes	785		
Bottom ash disposed	tonnes	2,679		

7. COMPLAINTS AND RESPONSES

Date/Time	Complaint	Action Taken

April 2018 - Monthly Continuous Emission Monitoring System Data

Date	Boiler #1							Boiler #2							Boiler #3						
	Stack Temp	O2 (%)	SO2 (mg/m³)	NOx (mg/m³)	CO (mg/m³)	Opacity (%)	Furnace Temp	Stack Temp	O2 (%)	SO2 (mg/m³)	NOx (mg/m³)	CO (mg/m³)	Opacity (%)	Furnace Temp	Stack Temp	O2 (%)	SO2 (mg/m³)	NOx (mg/m³)	CO (mg/m³)	Opacity (%)	Furnace Temp
4/1/18	144	9.6	42.1	119.2	25.2	1.29	1012	151	8.2	50.1	129.7	25.1	0.84	1017	149	9.3	50.3	133.2	37.1	0.74	925
4/2/18								149	8.2	34.1	130.4	26.0	1.04	1029	146	9.3	34.0	130.8	36.9	0.77	937
4/3/18	150	8.9	61.6	128.2	29.9	1.34	997	149	8.2	54.6	130.6	29.8	0.97	1037	144	9.6	51.5	132.7	33.2	0.75	955
4/4/18	153	9.1	55.5	128.5	29.3	1.25	996	151	8.4	43.7	132.5	20.9	1.05	1029	147	9.7	44.8	133.1	31.0	0.75	965
4/5/18	153	8.7	47.2	126.4	37.1	1.24	1000	152	8.6	42.9	132.7	27.3	1.12	1011	148	9.9	46.8	133.8	40.6	0.75	946
4/6/18	154	8.6	51.3	126.5	41.8	1.32	1005	152	8.3	43.8	130.5	22.6	1.11	1036	146	9.5	40.0	133.4	30.7	0.68	962
4/7/18	156	8.9	50.0	127.1	33.5	1.28	981	152	8.3	42.0	132.7	22.6	0.69	1024	148	9.1	45.3	132.4	32.2	0.68	952
4/8/18	156	9.4	52.7	127.5	31.3	1.23	980	152	8.8	46.4	132.1	23.0	0.94	1025	149	9.6	42.5	133.2	30.1	0.73	943
4/9/18	156	9.4	41.3	127.3	24.5	1.29	979	153	9.2	31.2	131.1	36.1	1.00	975	152	10.1	33.8	131.9	34.8	0.73	909
4/10/18	152	9.3	61.4	128.3	28.5	1.29	991	150	8.1	44.7	130.6	26.8	0.60	1005	148	9.4	58.5	132.9	33.8	0.71	936
4/11/18	151	9.0	41.8	127.8	26.4	1.23	1022	150	8.0	37.4	129.9	23.7	0.61	1031	147	9.2	39.8	133.8	38.6	0.74	948
4/12/18	153	8.8	45.0	128.0	27.4	1.29	1016	150	8.3	35.4	130.3	32.5	0.81	1027	146	9.1	37.9	133.5	38.1	0.76	943
4/13/18	153	9.0	37.3	127.0	31.3	1.24	1011	151	8.6	34.8	130.7	33.3	0.91	1013	146	9.3	40.6	131.1	37.1	0.77	946
4/14/18	151	8.8	38.6	126.5	30.0	1.30	1021	151	8.0	34.0	129.5	23.4	0.87	1029	145	9.1	34.1	131.9	33.4	0.74	957
4/15/18	149	8.7	35.3	127.5	26.3	1.31	1016	151	7.8	35.1	129.0	20.0	0.85	1019							
4/16/18	151	8.8	37.9	125.9	31.6	1.26	1004	150	8.0	30.7	129.6	24.9	0.66	1000							
4/17/18	152	8.7	50.5	126.6	28.6	1.32	1000	153	9.3	27.8	139.8	29.4	1.49	967							
4/18/18	151	9.0	31.8	127.5	25.2	1.34	1018	151	9.2	34.4	127.7	21.3	1.00	1025							
4/19/18	148	8.6	59.3	112.0	34.1	1.39	1010	149					0.92	1003							
4/20/18	151	9.0	69.5	115.3	32.5	1.34	1007	147	8.7	53.1	129.3	18.7	0.78	1017							
4/21/18	151	8.7	38.8	126.6	28.4	1.33	1003	150	8.9	34.5	127.7	23.9	0.93	1005							
4/22/18	151	9.0	50.7	127.8	25.4	1.34	976	151	9.4	30.4	126.2	25.0	1.10	972							
4/23/18	149	8.7	41.7	127.5	27.2	1.44	994	149	9.2	30.4	127.4	22.4	0.88	991							
4/24/18	148	9.2	68.3	128.8	26.5	1.49	984														
4/25/18																					
4/26/18																					
4/27/18																					
4/28/18																					
4/29/18																					
4/30/18	145	8.2	92.1	129.9	32.9	1.36	921	146	8.2	144.4	130.0	23.3	0.79	958							
Average	151	8.9	50.1	126.0	29.8	1.31	998	150	8.5	43.3	130.4	25.3	0.92	1010	147	9.4	42.9	132.7	34.8	0.74	945
Min	144	8.2	31.8	112.0	24.5	1.23	921	146	7.8	27.8	126.2	18.7	0.60	958	144	9.1	33.8	130.8	30.1	0.68	909
Max	156	9.6	92.1	129.9	41.8	1.49	1022	153	9.4	144.4	139.8	36.1	1.49	1037	152	10.1	58.5	133.8	40.6	0.77	965
St Dev	3.05	0.31	13.67	4.28	4.15	0.06	21.38	1.69	0.48	23.30	2.64	4.39	0.19	22.68	2.01	0.31	7.26	0.95	3.28	0.03	14.78

Blank days have less than 18 hours of valid data due to unit shut downs.
 According to standard guidelines used by Metro Vancouver Air Quality Policy and Environment Division, a minimum of 18 hours of valid data is required to generate a valid 24hr average.