

## Monthly Operating Reports

March 2018

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The following March 2018 operating report was sent to the Ministry of Environment and Climate Change Strategy on May 3, 2018.

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

March 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	31.0	34.6	42.7
Sulphur Dioxide (SO <sub>2</sub> )	200	24 hr	86.1	98.4	90.0
Nitrogen Oxides (NO <sub>x</sub> )	190	24 hr	132.6	163.9	135.6
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity			0.80	0.40	0.70
Carbon Monoxide (CO)			21.6	26.3	34.6
Sulphur Dioxide (SO <sub>2</sub> )			48.6	42.8	48.8
Nitrogen Oxides (NO <sub>x</sub> )			129.1	133.0	133.5

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. SO<sub>2</sub> – 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	Discharge Limit (mg/dscm)	Date / Time	Exceedance Level
Reason/Action Taken				

**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	100	99	99
Carbon Monoxide (CO)	90	Hour	100	99	99
Sulphur Dioxide (SO <sub>2</sub> )	90	Hour	100	99	99
Nitrogen Oxides (NO <sub>x</sub> )	90	Hour	100	99	99
Stack Flow	90	Hour	100	100	100

### 4. SHUTDOWN REPORT

#### Unit 1

Duration in Hours	Reason	Date
0.20	BC Hydro power interruption	March 2
0.57	Low water cut off fan trip	March 3
0.45	High furnace pressure trips	March 7
13.15	Boiler 2nd pass wash	March 22
1.25	Visual inspection of soot blower	March 23

#### Unit 2

Duration in Hours	Reason	Date
0.93	Induced draft fan trip	March 1
0.37	BC Hydro power interruption	March 2
0.73	Baghouse bag replacement	March 2
1.13	Induced draft fan trips	March 12
0.50	Feed chute plugged	March 14
0.37	Poor refuse quality	March 23
0.52	High furnace pressure trip	March 25

#### Unit 3

Duration in Hours	Reason	Date
0.43	BC Hydro power interruption	March 2
0.50	Ash discharger plugged	March 9
0.37	BC Hydro power interruption	March 12
0.18	BC Hydro power interruption	March 14
0.60	Poor refuse quality	March 17
0.67	Fan trip	March 20
0.44	Feed chute plugged	March 25

**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	779		
Waste Processed	tonnes/day	268	263	271
Maximum Waste Processed	tonnes/day	279	270	282
		Units 1, 2, and 3		
Natural Gas Consumed	m <sup>3</sup> /day	827		
	m <sup>3</sup> /month	25,622		
Fly ash disposed	tonnes	1,003		
Bottom ash disposed	tonnes	4,183		

**7. COMPLAINTS AND RESPONSES**

Date/Time	Complaint	Action Taken

March 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
3/1/18	154	8.9	53.3	129.6	25.7	0.58	1006	149	8.2	43.4	131.6	31.1	0.97	1010	145	9.9	48.5	134.3	41.7	0.61	911
3/2/18	153	8.8	56.6	130.9	14.8	0.53	1024	146	7.9	33.9	137.3	20	0.47	1031	146	10	49.4	133.6	35.6	0.66	924
3/3/18	153	9	45.8	129.6	19.2	0.59	1024	149	8.3	38	136.9	22.5	0.38	1040	148	9.7	48.4	133.8	30.7	0.67	942
3/4/18	150	8.9	47	130	17.6	0.58	1027	150	8.5	41.5	135.9	24.6	0.43	1030	146	9.9	48.8	133.4	31.9	0.68	942
3/5/18	151	9	41	129.6	22.2	0.65	1011	150	8.7	32.7	135	30	0.47	1001	146	10.2	42.6	132.6	36.9	0.69	939
3/6/18	151	8.8	43.2	126.9	21.9	0.68	1016	149	8.9	44.7	132.8	28.1	0.39	1017	147	9.9	63	132	36.8	0.68	946
3/7/18	149	9.2	81.8	130.9	24.8	0.73	1016	147	9.1	96.4	134.5	27.1	0.35	1027	144	10.4	90	131.7	42.7	0.72	932
3/8/18	150	8.8	45.8	127.7	24.8	0.64	1019	149	8.6	36.5	163.9	27.9	0.25	1021	144	9.8	42.5	131.2	40.3	0.67	923
3/9/18	152	8.9	47.5	127.8	24.7	0.66	1005	149	8.9	41	132.6	23.4	0.35	1037	145	10	53.6	132.4	33.8	0.68	933
3/10/18	152	9	50.3	127	22.7	0.69	1011	149	8.9	44	131.6	18.7	0.36	1036	144	10.2	46.2	133.3	35.5	0.68	936
3/11/18	152	9.1	47.3	129	19.7	0.8	1017	150	9.2	48.4	132.8	19.3	0.29	1026	146	10.5	49.3	133.9	35.8	0.7	944
3/12/18	153	9	39	128.2	24.1	0.83	1007	150	8.9	33.4	128.1	26.2	0.18	1018	147	10	34.8	131.6	35.5	0.71	937
3/13/18	153	8.8	50	129.6	23.9	0.7	1030	151	8.8	38.7	131.2	27.9	0.0	1023	145	10	40.4	131.5	36.9	0.66	941
3/14/18	154	9.2	35.5	132.6	19.8	0.63	1035	150	8.7	31.7	131.8	27.3	0.01	1029	145	10.2	41.4	135	37.9	0.7	947
3/15/18	152	9.5	34.4	129.9	22	0.67	1037	149	8.7	33.5	132.5	26.4	0.05	1023	145	10.1	42.2	131.9	42.6	0.71	948
3/16/18	152	9.2	39.9	131.8	18	0.76	1037	151	8.5	44.2	133.1	27.8	0.02	1033	147	10.1	42.8	135.3	41.7	0.71	940
3/17/18	150	8.9	45.1	127.2	16.9	0.74	1027	150	8.6	41.7	129.4	31.4	0.19	1020	147	9.8	56.6	135	37	0.7	938
3/18/18	151	8.9	43	128.9	17.6	0.67	1028	151	8.8	38.9	129.2	26.5	0.42	1012	147	10	49.3	134.9	35.5	0.69	938
3/19/18	151	9	30.1	129.5	27.1	0.71	1025	150	8.6	30.8	130.1	34.6	0.49	1013	147	9.7	40.4	133.5	41.1	0.68	941
3/20/18	151	9.3	42.6	129.2	18.2	0.66	1033	150	8.6	53.6	132.1	22.7	0.41	1035	146	10.2	55.9	133.5	29.1	0.67	932
3/21/18	151	9.4	43.3	131.5	19.8	0.73	1036	149	8.7	47	130.4	23.7	0.3	1038	147	10	49.2	135.3	29.8	0.67	937
3/22/18								149	8.7	41.9	132.1	21.6	0.1	1036	144	9.7	47.2	134	27.3	0.69	935
3/23/18	154	8.9	86.1	130.8	18.3	0.59	1026	150	8.9	70.7	133.7	27	0.2	1019	146	9.7	71.5	135.6	26.5	0.68	958
3/24/18	154	8.9	65.9	129.2	13.5	0.57	1024	149	8.9	49.1	130.8	24.4	0.31	1027	147	9.6	49.5	133.5	29.8	0.69	951
3/25/18	155	9.1	72.6	130.2	16.5	0.62	1016	145	8.9	40	132.1	22.5	0.26	1018	147	10	53.7	133.9	29.5	0.7	956
3/26/18	155	9.1	48.1	128.2	31	0.62	1000	150	8.9	41.7	129.8	29	0.38	1006	148	9.6	36.4	133.6	34.1	0.69	936
3/27/18	154	9	49.6	127.4	28.5	1.01	1000	151	8.9	44.1	130.8	29.7	0.51	1007	148	9.5	47.3	134	34.2	0.57	933
3/28/18	152	9.2	47	128.2	27	1.35	1016	148	8.7	32	129.2	32.9	0.8	1010	148	9.6	48.2	132.8	31.1	0.62	948
3/29/18	151	9.3	42.9	127.7	20.2	1.26	1021	150	8.7	37	130	25.6	1.04	1013	147	9.6	39.9	132.6	30.3	0.71	953
3/30/18	148	9.3	43.7	127.9	20.9	1.32	1024	150	8.7	39	131.3	28.4	0.75	1013	146	9.6	43	131.9	33.3	0.69	947
3/31/18	145	9.7	38.2	124.6	25.7	1.35	1028	151	8.7	38.6	131.5	26.4	0.89	1025	147	9.5	41.8	135.6	28.3	0.71	945
Average	151.8	9.1	48.6	129.1	21.6	0.8	1021.1	149.4	8.7	42.8	133.0	26.3	0.4	1022.4	146.2	9.9	48.8	133.5	34.6	0.7	939.8
Min	145.0	8.8	30.1	124.6	13.5	0.5	1000.0	145.0	7.9	30.8	128.1	18.7	0.0	1001.0	144.0	9.5	34.8	131.2	26.5	0.6	911.0
Max	155.0	9.7	86.1	132.6	31.0	1.4	1037.0	151.0	9.2	96.4	163.9	34.6	1.0	1040.0	148.0	10.5	90.0	135.6	42.7	0.7	958.0
St Dev	2.14	0.22	12.79	1.70	4.23	0.24	10.79	1.38	0.26	12.63	6.14	3.85	0.27	10.61	1.25	0.26	10.73	1.29	4.69	0.03	9.79

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.