

Monthly Operating Reports

July 2018

The following July 2018 operating report was sent to the Ministry of Environment and Climate Change Strategy on September 6, 2018.

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

July 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	31.2	36.6	41.2
Sulphur Dioxide (SO ₂)	200	24 hr	81.0	109.0	169.2
Nitrogen Oxides (NO _x)	190	24 hr	133.9	132.0	141.6
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity			0.28	0.78	0.65
Carbon Monoxide (CO)			21.1	24.2	31.8
Sulphur Dioxide (SO ₂)			41.5	49.7	72.3
Nitrogen Oxides (NO _x)			128.5	128.8	131.6

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
	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	99	100
Oxygen	90	Hour	98	100	95
Carbon Monoxide (CO)	90	Hour	98	100	95
Sulphur Dioxide (SO ₂)	90	Hour	97	100	95
Nitrogen Oxides (NO _x)	90	Hour	97	100	95
Stack Flow	NA	Hour	93	99	95

*Stack Flow availability is included, however there is no required availability as per the Operational Certificate

4. SHUTDOWN REPORT

Unit 1

Duration in Hours	Reason	Date
1.63	Poor refuse quality	July 2
0.42	Feed chute hang up	July 9
2.57	Feed chute plug	July 10
0.85	Feed chute plug	July 10
2.49	BC Hydro power interruption	July 11
0.38	BC Hydro power interruption	July 15
1.27	Boiler inspection for tube leak	July 16
102.85	Boiler furnace wall and superheater tube leaks	July 16-21
4.25	Fabric filter bag plugged	July 22
2.23	Refuse cranes out of service	July 26

Unit 2

Duration in Hours	Reason	Date
0.05	High furnace pressure trip	July 5
2.41	BC Hydro power interruption	July 11
0.28	BC Hydro power interruption	July 15
19.21	Air cooled condenser gearbox change	July 21-22
1.33	Fabric filter bags changed	July 22
0.55	Grate bar inspection	July 22
34.70	Grate bar repair	July 22-24
0.17	Underfire air damper stuck open	July 25
2.42	Refuse cranes out of service	July 26
9.88	Fabric filter bags changed	July 30

Unit 3

Duration in Hours	Reason	Date
0.70	Poor refuse quality	July 2
2.28	Poor refuse quality	July 2
0.97	Grate bar inspection	July 11
2.39	BC Hydro power interruption	July 11
0.25	BC Hydro power interruption	July 15
4.63	Fabric filter bags changed	July 18
0.05	Induced draft fan trip	July 19
3.00	Refuse cranes out of service	July 26
0.87	Boiler drum level control trip	July 31

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	665		
Waste Processed	tonnes/day	206	225	241
Maximum Waste Processed	tonnes/day	257	259	259
		Units 1, 2, and 3		
Natural Gas Consumed	m ³ /day	1,339		
	m ³ /month	41,511		
Fly ash disposed	tonnes	966		
Bottom ash disposed	tonnes	3,671		

7. COMPLAINTS AND RESPONSES

Date/Time	Complaint	Action Taken

July 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	Stack Temp	O2 (%)	SO2 (mg/m³)	NOx (mg/m³)	CO (mg/m³)	Opacity (%)	Furnace Temp						
7/1/18	153	8.5	40.9	128.0	24.4	0.40	957	152	8.3	57.6	130.6	14.0	0.54	1025	149	9.1	88.1	129.4	29.2	0.67	921													
7/2/18	156	8.7	42.1	125.7	31.2	0.40	947	156	8.6	55.1	132.0	19.5	1.04	1009	147	8.8	83.5	130.3	27.1	0.67	921													
7/3/18	154	8.3	32.9	126.4	29.1	0.39	978	151	8.4	49.8	129.5	18.7	0.57	1011	149	9.0	70.4	129.0	34.1	0.68	941													
7/4/18	155	8.2	38.3	127.6	22.1	0.35	979	149	8.1	51.8	127.2	23.1	0.37	971	149	9.0	82.9	129.9	34.3	0.65	931													
7/5/18	155	8.2	33.8	127.4	25.3	0.33	979	150	8.0	40.0	127.4	24.8	0.30	946	149	9.1	69.5	130.3	32.6	0.60	980													
7/6/18	156	8.5	46.7	128.7	24.1	0.35	980	150	8.5	49.9	128.8	24.9	0.51	942	148	9.1	85.0	130.8	32.0	0.60	945													
7/7/18	157	8.2	40.4	126.8	25.7	0.38	996	151	8.3	42.3	127.9	21.6	0.79	925	148	8.8	72.0	129.1	27.8	0.65	909													
7/8/18	161	8.1	39.6	127.9	21.8	0.31	973	152	7.8	49.2	129.2	16.7	0.91	942	150	8.8	79.0	130.7	31.9	0.64	916													
7/9/18	158	8.7	32.3	124.3	28.3	0.32	934	154	8.2	48.6	127.8	24.1	1.04	910	153	9.1	80.5	130.8	39.3	0.64	904													
7/10/18	155	8.5	38.6	127.6	24.8	0.36	967	152	8.1	42.2	130.3	17.4	0.97	907	150	8.9	72.1	131.4	37.0	0.66	925													
7/11/18	155	8.5	43.5	127.8	18.7	0.32	971	150	8.1	55.7	128.0	20.5	0.91	919	149	8.8	86.8	131.7	32.3	0.65	928													
7/12/18	152	8.4	34.5	128.2	21.3	0.23	971	146	8.4	28.9	126.9	25.3	0.54	922	146	9.4	68.1	131.6	37.6	0.63	902													
7/13/18	155	8.7	47.9	127.3	24.5	0.21	978	150	8.2	57.9	125.8	36.6	0.87	920	146	9.0	78.5	127.3	41.2	0.67	914													
7/14/18	156	8.6	36.8	127.2	24.4	0.26	972	148	8.3	52.4	127.6	22.3	0.76	926	147	9.1	73.9	130.8	30.8	0.65	918													
7/15/18	157					0.25	957	149	8.1	60.0	127.9	23.3	0.80	923	147	9.0	86.3	132.7	24.1	0.65	922													
7/16/18								149	7.8	60.2	127.9	29.2	0.92	920	147	8.8	66.5	130.4	28.4	0.63	921													
7/17/18								150	8.0	62.9	129.9	23.3	0.97	911	146	9.2	64.9	130.0	28.9	1.06	910													
7/18/18								146	7.9	98.9	129.0	30.1	1.24	910	142	9.7	76.4	131.8	32.3	1.65	898													
7/19/18								148	8.4	43.8	129.8	21.6	1.44	864	147	9.4	50.7	136.5	40.9	0.70	882													
7/20/18								149	8.4	109.0	129.9	28.5	1.54	870	143	9.0	169.2	133.1	37.2	0.69	905													
7/21/18	150	10.9	81.0	133.2	27.4	0.27	910								141	10.0	71.2	129.2	29.5	0.66	870													
7/22/18	154	9.1	67.6	133.9	11.4	0.22	994								149	9.6	79.1	134.8	20.6	0.64	895													
7/23/18	149	8.9	36.7	130.7	17.4	0.24	1003								148	8.9	49.5	133.6	25.9	0.63	908													
7/24/18	150	9.9	32.4	129.8	20.7	0.22	971								147	9.8	38.8	132.8	29.5	0.63	881													
7/25/18	149	9.8	41.6	129.1	18	0.23	972	147	9.4	35.3	130.0	26.9	0.67	884	146	9.6	65.1	129.5	31.5	0.63	883													
7/26/18	151	9.2	34.5	129.1	18.8	0.22	987	146	8.9	23.5	128.6	28.1	0.84	918	148	9.8	44.5	129.6	32.5	0.33	872													
7/27/18	150	9.8	46.5	129	17.7	0.23	970	148	9.2	23	129.1	31.1	1.05	881	149						880													
7/28/18	150	9.9	43.7	129	11.6	0.27	982	146	9.1	24.2	129.4	28.8	0.16	873	148	11.8	58.0	131.7	34.2	0.50	872													
7/29/18	153	9.8	45.3	129.6	11.4	0.25	991	148	9.5	28.7	130.2	28.2	0.20	872	148	11.4	63.5	141.6	30.7	0.49	878													
7/30/18	152	8.8	28.1	128.6	15.8	0.16	1023								148	10.8	45.9	135.2	29.7	0.46	891													
7/31/18	153	9.5	31.5	129.2	11.9	0.20	1005	148	8.7	41.3	127.5	20.6	0.25	920	148	10.9	49.9	130.9	29.6	0.50	881													
Average	154	8.9	41.5	128.5	21.1	0.28	975	149	8.4	49.7	128.8	24.2	0.78	924	147	9.5	72.3	131.6	31.8	0.65	907													
Min	149	8.1	28.1	124.3	11.4	0.16	910	146	7.8	23.0	125.8	14.0	0.16	864	141	8.8	38.8	127.3	20.6	0.33	870													
Max	161	10.9	81.0	133.9	31.2	0.40	1023	156	9.5	109.0	132.0	36.6	1.54	1025	153	11.8	169.2	141.6	41.2	1.65	980													
St Dev	3.04	0.72	11.37	2.05	5.74	0.07	22.64	2.48	0.47	19.98	1.39	5.09	0.36	42.23	2.34	0.79	22.89	2.76	0.22	0.50	25.04													

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.