

Monthly Operating Reports

November 2018

The following November 2018 operating report was sent to the Ministry of Environment and Climate Change Strategy on December 20, 2018.



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

November 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	43.6	42.1	39.8
Sulphur Dioxide (SO ₂)	200	24 hr	180.2	115.1	127.6
Nitrogen Oxides (NO _x)	190	24 hr	131.9	140.0	138.4
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity			0.44	0.45	0.49
Carbon Monoxide (CO)			31.0	30.7	32.4
Sulphur Dioxide (SO ₂)			85.3	60.3	70.6
Nitrogen Oxides (NO _x)			128.5	129.3	135.0

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	100	100
Oxygen	90	Hour	98	98	98
Carbon Monoxide (CO)	90	Hour	98	98	98
Sulphur Dioxide (SO ₂)	90	Hour	98	98	98
Nitrogen Oxides (NO _x)	90	Hour	98	98	98
Stack Flow	NA	Hour	96	97	97

*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
12.55	Annual major maintenance outage	November 1
0.93	Ash discharger plug	November 1
5.70	Ash discharger plug	November 4
0.33	Refuse feeder hydraulic hose failure	November 4
0.10	Forced draft fan stopped accidentally	November 5
0.15	Forced draft fan trip	November 7
0.45	Forced draft fan trip	November 7
1.67	Forced draft fan trip	November 13
2.38	Forced draft fan electrical issues	November 30
4.10	Forced draft fan electrical issues	November 30

Unit 2

Duration in Hours	Reason	Date
0.42	Fabric filter baghouse inspection	November 3

Unit 3

Duration in Hours	Reason	Date
1.20	Poor refuse quality	November 1
0.58	Fabric filter baghouse inspection	November 2
7.28	Primary economizer elbow plugged	November 2
0.82	Feed chute hang up	November 8-9
0.17	BC Hydro power interruption	November 15
0.98	Feed chute hang up	November 18

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	818		
Waste Processed	tonnes/day	258	268	266
Maximum Waste Processed	tonnes/day	276	277	276
		Units 1, 2, and 3		
Natural Gas Consumed	m ³ /day	3,233		
	m ³ /month	96,997		
Fly ash disposed	tonnes	944		
Bottom ash disposed	tonnes	3,656		

7. COMPLAINTS AND RESPONSES

Date/Time	Complaint	Action Taken

November 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	
11/1/18								150	8.6	57.4	128.1	38.8	0.53	904	145	10.4	53.6	138.2	39.3	0.57	939	
11/2/18	149	8.4	117.3	131.5	43.6	0.03	862	152	8.7	68.7	127.6	37.0	0.48	915								
11/3/18	148	9.4	180.2	131.3	25.9	0.17	874	152	9.0	112.7	129.4	31.8	0.50	921	148	10.4	118.8	136.9	26.8	0.53	909	
11/4/18								152	9.2	115.1	129.0	28.5	0.43	926	147	10.4	127.6	135.0	23.8	0.44	913	
11/5/18	146	9.5	158.3	128.6	30.3	0.29	902	153	9.0	92.0	128.1	37.1	0.47	918	149	10.3	93.4	136.1	26.8	0.49	912	
11/6/18	149	9.5	144.8	131.9	36.1	0.29	896	154	8.8	81.4	130.1	41.6	0.58	906	148	10.7	92.6	135.3	36.1	0.47	897	
11/7/18	144	8.9	102.8	124.7	38.8	0.33	927	150	8.8	56.0	127.6	25.9	0.66	925	147	10.4	74.0	133.4	33.7	0.52	911	
11/8/18	144	8.7	71.9	128.2	30.0	0.35	926	149	8.4	55.1	140.0	42.1	0.60	927	149	10.6	65.9	136.1	35.3	0.48	906	
11/9/18	145	9.2	84.9	128.3	30.4	0.40	908	154	8.8	67.0	128.9	31.2	0.62	909	150	10.4	72.5	137.6	30.8	0.49	915	
11/10/18	148	9.0	104.9	130.0	22.6	0.45	931	152	8.5	63.0	127.5	27.0	0.55	954	148	10.4	66.2	134.0	28.8	0.48	940	
11/11/18	149	9.2	145.2	129.2	29.4	0.48	920	153	8.9	104.0	128.0	34.2	0.71	928	150	10.5	103.9	133.5	30.5	0.57	928	
11/12/18	147	9.1	84.2	128.4	22.8	0.48	927	152	8.7	59.1	126.4	30.1	0.67	927	150	10.2	68.8	133.5	32.5	0.56	928	
11/13/18	145	9.0	77.8	128.4	23.5	0.43	934	154	8.8	53.3	127.7	27.2	0.57	931	149	10.2	60.7	132.5	30.6	0.55	936	
11/14/18	145					0.38	934	152	9.0	68.0	129.2	25.2	0.43	920	150	10.3	77.4	137.5	31.0	0.52	924	
11/15/18	147	9.1	61.4	129.6	30.5	0.37	921	154	8.7	37.5	130.2	25.9	0.37	931	150					0.45	930	
11/16/18	147	9.4	86.9	129.5	34.5	0.47	924	153	8.7	50.7	128.5	26.9	0.27	944	150	10.7	65.8	134.5	35.8	0.39	928	
11/17/18	150	9.3	58.3	129.9	21.8	0.74	926	155	8.8	57.2	129.2	22.1	0.50	941	148	10.7	87.6	133.8	27.9	0.54	926	
11/18/18	150	9.5	69.7	127.0	31.7	0.78	907	154	9.0	61.0	129.5	25.4	0.49	935	150	11.1	75.3	133.3	34.6	0.65	909	
11/19/18	146	8.9	62.7	127.5	31.5	0.71	929	153	8.7	47.2	127.4	24.8	0.48	941	148	10.6	60.9	134.4	34.4	0.56	929	
11/20/18	145	8.5	75.9	129.5	34.2	0.67	928	153	8.7	50.2	127.3	24.1	0.35	943	148	10.4	64.8	132.6	31.7	0.50	932	
11/21/18	146	9.0	71.6	127.8	31.1	0.62	927	150	8.5	47.3	127.1	34.0	0.10	946	148	10.4	65.6	133.7	31.5	0.43	935	
11/22/18	147	8.9	62.9	130.2	31.1	0.53	921	152	8.5	53.1	130.0	27.6	0.17	929	147	10.1	62.9	134.2	29.5	0.47	936	
11/23/18	147	8.8	70.8	128.5	35.7	0.43	917	151	8.5	55.8	130.7	38.3	0.26	910	146	10.1	64.4	135.8	31.2	0.38	928	
11/24/18	149	8.9	66.0	127.0	32.0	0.47	913	153	8.6	54.8	128.6	30.2	0.42	921	147	10.3	60.5	135.6	39.0	0.43	905	
11/25/18	150	9	76.8	127.5	30.7	0.46	923	153	8.6	51.2	128.3	20.7	0.37	935	148	10.4	69.2	133.4	34.0	0.46	930	
11/26/18	148	8.9	46.8	126.1	34.1	0.40	919	153	8.7	36.4	129.7	28	0.36	918	148	10.2	45.0	134.6	31.4	0.48	921	
11/27/18	146	8.6	48.3	126.5	29	0.33	918	154	8.5	43.2	130.3	30.4	0.22	918	148	9.9	54.6	138.4	31.1	0.36	931	
11/28/18	151	8.8	45	126.2	30.5	0.37	903	152	8.4	41.8	129.6	38.9	0.32	908	148	10.2	45.2	137.1	36.4	0.42	908	
11/29/18	147	8.5	41.1	126.5	33.8	0.32	878	153	8.4	34.1	134.4	33.8	0.47	908	147	9.7	40.4	134.4	39.8	0.38	886	
11/30/18								154	8.8	35.2	131.9	33.4	0.58	903	146	9.1	38.1	133.4	32.8	0.54	909	
Average	147	9.0	85.3	128.5	31.0	0.44	915	153	8.7	60.3	129.3	30.7	0.45	925	148	10.3	70.6	135.0	32.4	0.49	921	
Min	144	8.4	41.1	124.7	21.8	0.03	862	149	8.4	34.1	126.4	20.7	0.10	903	145	9.1	38.1	132.5	23.8	0.36	886	
Max	151	9.5	180.2	131.9	43.6	0.78	934	155	9.2	115.1	140.0	42.1	0.71	954	150	11.1	127.6	138.4	39.8	0.65	940	
St Dev	1.95	0.32	36.51	1.79	4.99	0.17	18.54	1.43	0.20	21.31	2.57	5.82	0.15	13.69	1.36	0.36	21.42	1.71	3.87	0.07	13.59	

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.