

## Monthly Operating Reports

November 2024

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The following November 2024 operating report was sent to the Ministry of Environment and Parks on January 12, 2025.



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

November 2024

## 1. Monthly Summary Report

Parameter	Compliance Limit (mg/dscm)	Compliance Period	Maximum Measurement (mg/dscm)		
			Unit 1	Unit 2	Unit 3
CO	50	24 hr	43.8	34.0	31.8
SO <sub>2</sub>	200	24 hr	102.1	136.6	101.7
NOx	190	24 hr	132.0	136.6	141.1
THC	10	24 hr	0.80	1.17	0.52
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			1.21	0.56	1.08
CO			28.4	26.4	23.8
THC			0.36	0.11	0.18
SO <sub>2</sub>			73.6	98.4	76.1
NOx			125.3	129.7	133.0

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

a. HCl – March 3, 2025

b. SO<sub>2</sub> – March 3, 2025

## 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

Compliance Parameter: Carbon Monoxide

Response Limit: 100 mg/dscm 1/2 hour average

Unit No. 1

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
2-Nov 16:00	30 min	158.4	Started gas burners, adjusted airflow, modified feed rate.
3-Nov 04:00	30 min	116.9	Feed chute hang up. Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
8-Nov 13:00	30 min	103.0	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
13-Nov 11:00	30 min	112.1	Started gas burners, adjusted airflow, modified feed rate.
13-Nov 12:00	30 min	130.1	Feed chute hang up. Started gas burners, adjusted airflow, modified feed rate.
15-Nov 11:30	30 min	133.8	Feed chute hang up. Started gas burners, adjusted airflow, modified feed rate.
16-Nov 03:00	30 min	166.3	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.

17-Nov 03:30	30 min	177.5	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
18-Nov 08:00	30 min	156.5	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
20-Nov 16:30	30 min	103	Started gas burners, adjusted airflow, modified feed rate.
26-Nov 20:30	30 min	101.1	Feed chute hang up. Started gas burners, adjusted airflow, modified feed rate.
28-Nov 03:00	30 min	234.3	Volatile fuel. Started gas burners, adjusted airflow.

**Compliance Parameter: Carbon Monoxide**  
**Response Limit: 100 mg/dscm 1/2 hour average**  
**Unit No. 2**

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
2-Nov 07:30	30 min	171.9	Poor fuel quality. Started gas burners, adjusted airflow, modified feed rate.
4-Nov 09:30	30 min	120.3	Feed chute hang up. No action required.
5-Nov 19:30	30 min	104.1	Started gas burners, adjusted airflow, modified feed rate.
12-Nov 09:00	30 min	143.0	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
13-Nov 05:00	30 min	103.0	Started gas burners, adjusted airflow, modified feed rate.
13-Nov 17:30	30 min	141.5	Feed chute hang up. Started gas burners, adjusted airflow, modified feed rate.
15-Nov 19:00	30 min	171.5	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
16-Nov 08:30	30 min	105.9	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
16-Nov 10:30	30 min	134.2	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
19-Nov 20:00	30 min	111.8	Started gas burners, adjusted airflow, modified feed rate.
24-Nov 04:30	30 min	117.7	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
27-Nov 13:30	30 min	197.5	Started gas burners, adjusted airflow, modified feed rate.

**Compliance Parameter: Carbon Monoxide**  
**Response Limit: 100 mg/dscm 1/2 hour average**  
**Unit No. 3**

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
2-Nov 12:00	30 min	146.2	Started gas burners, adjusted airflow, modified feed rate.
5-Nov 06:30	30 min	112.1	Induced draft fan trip. Boiler shut down.
7-Nov 03:30	30 min	112.9	Started gas burners, adjusted airflow, modified feed rate.
8-Nov 09:00	30 min	107.7	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
14-Nov 19:00	30 min	121.3	Started gas burners, adjusted airflow, modified feed rate.
17-Nov 06:30	30 min	101.7	Poor refuse quality. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
19-Nov 19:30	30 min	198.0	Started gas burners, adjusted airflow.
20-Nov 08:00	30 min	122.9	Started gas burners, adjusted airflow, modified feed rate.
23-Nov 09:00	30 min	154.3	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.

## 2.c. Transient Conditions

Gas burners unavailable during shutdown and furnace temperature average below 800C

Unit	Duration	Date	Time	
<b>Cause</b>				
<b>Action Taken to Restore Steady State Conditions</b>				
<b>Remedial Action Planned and/or Taken</b>				

## 3. CEMS Availability

Analyzer	Required Availability (% hours per quarter)	Averaging Period	Monthly Availability		
			Unit 1	Unit 2	Unit 3
Opacity	90	Hour	99	100	99
Oxygen	90	Hour	98	100	99
CO	90	Hour	98	100	99
SO <sub>2</sub>	90	Hour	98	100	99
NOx	90	Hour	98	99	99
THC	90	Hour	98	100	99
Stack Flow	90	Hour	100	100	99

## 4. Shutdown Report

### Unit 1

Duration in Hours	Reason	Date
2.00	Ash Discharger plug	November 4
2.03	Forced draft fan trip	November 5
0.20	Steam temperature transmitter failure	November 7
9.40	Refuse crane malfunction	November 9-10
0.22	Boiler inspection	November 10
0.28	Induced draft fan trip	November 11
10.67	Boiler wash	November 19
3.68	Fabric filter baghouse plug	November 21
6.18	Fabric filter pulse malfunction	November 21-22
0.33	Forced draft fan trip	November 28
53.48	Boiler tube leak	November 28-30

## Unit 2

Duration in Hours	Reason	Date
0.47	Induced draft fan trip	November 2
1.03	Induced draft fan trip	November 2
0.25	Induced draft fan trip	November 3
1.02	Induced draft fan trip	November 4
59.52	Secondary economizer leak	November 6-9
10.37	Refuse crane malfunction	November 9-10
1.88	Refuse crane malfunction	November 11
8.10	Fabric filter hopper bridge	November 13
0.67	Forced draft fan trip	November 17
0.85	Poor refuse quality	November 17
0.32	Poor refuse quality	November 20
0.50	Boiler inspection	November 29

## Unit 3

Duration in Hours	Reason	Date
0.15	Induced draft fan trip	November 1
0.35	Induced draft fan trip	November 1
0.27	Induced draft fan trip	November 1
0.12	Forced draft fan trip	November 3
0.65	Induced draft fan trip	November 4
1.40	Induced draft fan trip	November 5
1.13	Induced draft fan trip	November 5
34.50	Grate bar repair	November 5-7
0.67	Refuse crane malfunction	November 8
0.63	Induced draft fan trip	November 9
10.35	Refuse crane malfunction	November 9-10
0.30	Forced draft fan trip	November 10
0.47	Induced draft fan trip	November 11
2.28	Refuse crane malfunction	November 11
0.60	Induced draft fan trip	November 13
0.25	Induced draft fan trip	November 13
7.00	Induced draft fan repairs	November 14

## 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	17,765		
Waste Processed	tonnes/day	178	214	213
Maximum Waste Processed	tonnes/day	247	269	256
Natural Gas Consumed	m <sup>3</sup> /day	12,909		
	m <sup>3</sup> /month	387,267		
Fly ash disposed	tonnes	642		
Bottom ash disposed	tonnes	2,967		

## 7. Complaints and Responses

Date/Time	Complaint	Action Taken

# ATTACHMENT 2

## November 2024 - Monthly CEMS Data

Date	Boiler #1								Boiler #2								Boiler #3							
	Stack Temp	O <sub>2</sub> (%)	SO <sub>2</sub> (mg/m <sup>3</sup> )	NO <sub>x</sub> (mg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	THC (mg/m <sup>3</sup> )	Opacity (%)	Furnace Temp	Stack Temp	O <sub>2</sub> (%)	SO <sub>2</sub> (mg/m <sup>3</sup> )	NO <sub>x</sub> (mg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	THC (mg/m <sup>3</sup> )	Opacity (%)	Furnace Temp	Stack Temp	O <sub>2</sub> (%)	SO <sub>2</sub> (mg/m <sup>3</sup> )	NO <sub>x</sub> (mg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	THC (mg/m <sup>3</sup> )	Opacity (%)	Furnace Temp
11/1/24	154	9.9	73.1	126.8	23.9	0.08	1.02	930	150	10.5	103.6	128.0	29.8	0.73	0.66	886	152	9.7	65.4	131.4	20.8	0.52	1.00	877
11/2/24	154	10.0	72.8	125.5	23.9	0.09	1.03	914	149	10.8	97.1	127.3	27.2	1.17	0.67	881	152	10.0	62.1	130.0	19.4	0.41	0.96	877
11/3/24	154	10.3	95.3	124.5	28.4	0.22	1.04	900	148	10.8	114.6	127.5	23.2	0.25	0.63	878	152	9.9	101.7	130.3	21.8	0.33	0.98	874
11/4/24	154	11.0	80.3	128.3	25.5	0.00	1.04	908	147	10.8	107.3	128.4	34.0	0.00	0.63	880	152	9.9	77.0	129.2	19.2	0.00	0.99	881
11/5/24	153	10.8	69.1	132.0	32.4	0.00	1.09	923	142	10.8	104.4	136.6	20.8	0.00	0.66	887								
11/6/24	155	10.2	65.9	127.9	26.0	0.00	1.09	926	146	10.5	93.6	130.5	23.4	0.00	0.67	903								
11/7/24	154	10.0	57.0	126.4	27.5	0.00	1.10	933									151	9.7	71.3	134.5	26.9	0.00	0.98	887
11/8/24	153	10.3	78.1	129.6	27.5	0.66	1.06	917									153	10.0	79.3	138.5	26.3	0.20	0.96	886
11/9/24	151	10.6	95.6	125.8	18.9	0.52	1.06	907																
11/10/24	151	9.9	64.4	124.9	25.1	0.67	1.11	914	153	10.6	100.7	130.7	29.1	0.19	0.67	893	154	10.0	64.2	131.0	22.9	0.09	1.38	888
11/11/24	152	10.1	45.2	126.0	24.5	0.57	1.05	935	152	10.3	87.4	129.3	22.5	0.03	0.65	880	154	9.8	42.3	131.0	22.9	0.33	1.24	868
11/12/24	153	10.1	102.1	126.5	24.7	0.78	1.32	933	150	10.3	136.6	127.9	26.4	0.05	0.70	909	153	9.8	87.7	131.5	22.9	0.22	0.97	899
11/13/24	153	10.9	59.0	125.6	33.7	0.75	1.80	922									153	10.1	65.6	131.6	27.2	0.25	0.97	867
11/14/24	152	9.6	71.3	124.6	22.8	0.46	1.47	963	150	9.8	104.2	133.1	24.9	0.02	0.68	934								
11/15/24	151	10.0	66.2	126.5	29.7	0.69	0.96	928	149	10.1	91.3	129.4	31.3	0.06	0.60	922	153	9.9	69.5	133.6	24.0	0.15	1.06	897
11/16/24	152	9.6	82.5	123.5	27.6	0.36	1.17	952	149	10.3	104.0	131.4	29.9	0.11	0.46	910	153	9.5	91.9	137.6	28.5	0.22	1.08	909
11/17/24	152	10.5	77.2	122.4	17.8	0.80	1.23	961	150	10.9	102.8	129.9	21.2	0.03	0.46	898	153	9.8	82.1	133.7	20.0	0.23	1.05	890
11/18/24	151	11.0	43.5	122.6	35.8	0.55	1.65	924	148	10.7	77.5	131.1	20.2	0.02	0.47	906	153	10.3	49.6	130.8	21.0	0.11	1.11	878
11/19/24									150	10.6	101.3	132.0	25.1	0.05	0.53	919	153	10.1	100.0	139.4	23.1	0.18	1.11	898
11/20/24	157	9.9	75.9	130.9	35.6	0.32	2.18	955	149	10.4	89.2	133.2	23.9	0.01	0.50	929	153	10.0	66.7	132.4	31.8	0.17	1.00	896
11/21/24									149	10.6	103.6	133.2	20.8	0.01	0.49	920	154	10.2	70.1	135.8	22.8	0.17	1.00	896
11/22/24	154	10.2	77.7	129.0	23.8	0.00	1.01	940	150	10.7	97.9	130.6	25.5	0.00	0.45	919	154	9.5	85.3	141.1	23.1	0.00	0.98	900
11/23/24	154	10.0	81.2	124.5	23.1	0.00	1.04	951	150	10.6	95.5	133.6	26.6	0.00	0.44	926	154	9.4	87.6	134.1	28.8	0.00	1.01	919
11/24/24	154	10.2	95.5	121.3	24.8	0.00	1.12	931	150	10.4	109.1	127.2	26.1	0.00	0.47	928	153	9.5	98.5	130.5	18.2	0.00	1.06	922
11/25/24	153	10.4	74.2	117.5	42.7	0.50	1.17	909	149	10.4	85.7	125.2	32.6	0.05	0.49	920	153	9.7	75.4	131.1	25.0	0.10	1.05	928
11/26/24	153	10.1	75.2	118.7	41.0	0.43	1.25	918	148	10.3	97.1	128.6	29.9	0.03	0.52	940	153	9.6	85.3	129.6	31.0	0.21	1.07	913
11/27/24	153	10.4	60.6	120.6	43.8	0.43	1.20	929	149	10.6	78.9	126.2	29.1	0.03	0.53	922	153	10.1	74.0	131.8	25.9	0.19	1.15	914
11/28/24	153							944	148	10.3	90.7	126.8	23.1	0.01	0.53	939	152	10.0	71.6	132.5	25.6	0.24	1.17	921
11/29/24									148	11.0	90.8	128.3	28.6	0.01	0.50	919	152	10.5	77.0	131.8	19.6	0.18	1.23	914
11/30/24									151	10.7	93.7	127.2	30.9	0.00	0.48	922	153	10.3	76.7	132.0	20.0	0.20	1.45	915
<b>Average</b>	153	10.2	73.6	125.3	28.4	0.36	1.21	930	149	10.5	98.4	129.7	26.4	0.11	0.56	910	153	9.9	76.1	133.0	23.8	0.18	1.08	897
<b>Min</b>	151	9.6	43.5	117.5	17.8	0.00	0.96	900	142	9.8	77.5	125.2	20.2	0.00	0.44	878	151	9.4	42.3	129.2	18.2	0.00	0.96	867
<b>Max</b>	157	11.0	102.1	132.0	43.8	0.80	2.18	963	153	11.0	136.6	136.6	34.0	1.17	0.70	940	154	10.5	101.7	141.1	31.8	0.52	1.45	928
<b>St Dev</b>	1.4	0.4	14.6	3.5	6.9	0.29	0.29	17.1	2.0	0.3	11.9	2.7	3.9	0.26	0.09	19.4	0.8	0.3	14.3	3.1	3.7	0.13	0.13	17.9

Blank days have less than 18 hours of valid data due to unit shut downs or analyzer outage/maintenance. 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.