

## Monthly Operating Reports

February 2024

---

The following February 2024 operating report was sent to the Ministry of Environment and Climate Change Strategy on April 11, 2024.



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

February 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	33.0	43.0	36.8
SO <sub>2</sub>	200	24 hr	118.8	126.3	128.2
NO <sub>x</sub>	190	24 hr	146.8	134.7	166.5
THC	10	24 hr	0.15	0.19	1.66
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			0.87	0.53	1.35
CO			27.9	30.6	30.3
THC			0.05	0.03	0.70
SO <sub>2</sub>			62.9	82.1	73.9
NO <sub>x</sub>			127.9	129.1	133.6

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
3-Feb 01:00	30 min	138.8	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
6-Feb 15:30	30 min	123.9	Adjusted airflow.
7-Feb 12:30	1 hr	147.5	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
9-Feb 06:00	30 min	150.3	Adjusted airflow, modified feed rate.
14-Feb 14:00	30 min	118.5	Started gas burners, adjusted airflow, modified feed rate.
22-Feb 12:00	30 min	660.0	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
23-Feb 13:00	30 min	144.3	Volatile fuel. Adjusted airflow, modified feed rate.
25-Feb 05:00	30 min	127.6	Started gas burners, adjusted airflow, modified feed rate.

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

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
5-Feb 06:30	30 min	197.8	Volatile fuel. Adjusted airflow.
6-Feb 18:00	30 min	140.7	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
10-Feb 18:30	30 min	172.2	Adjusted airflow.
13-Feb 04:30	30 min	117.7	Feed chute hang up. Started gas burners, adjusted airflow, modified feed rate.
19-Feb 08:00	30 min	130.3	Started gas burners, adjusted airflow, modified feed rate.
20-Feb 17:00	30 min	164.2	Started gas burners, adjusted airflow, modified feed rate.
24-Feb 08:30	30 min	138.1	Started gas burners, adjusted airflow, modified feed rate.
24-Feb 09:30	30 min	110.7	Feed chute hang up. Started gas burners, adjusted airflow,
24-Feb 19:00	30 min	135.3	Started gas burners, adjusted airflow, modified feed rate.
25-Feb 15:00	30 min	103.9	Started gas burners, adjusted airflow, modified feed rate.
27-Feb 09:30	30 min	126.5	Adjusted airflow, modified feed rate.
29-Feb 10:30	30 min	117.2	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-Feb 13:30	30 min	130.8	Started gas burners, adjusted airflow, modified feed rate.
2-Feb 18:00	30 min	161.3	Started gas burners, adjusted airflow, modified feed rate.
13-Feb 08:00	30 min	110.3	Started gas burners, adjusted airflow, modified feed rate.
16-Feb 14:30	30 min	145.2	Volatile fuel, adjusted airflow.
18-Feb 01:30	30 min	167.0	Feed chute hang up. Started gas burners, adjusted airflow, modified feed rate.
21-Feb 18:00	30 min	186.1	Feed chute hang up. Adjusted airflow.
22-Feb 18:00	30 min	182.9	Started gas burners, adjusted airflow, modified feed rate.
24-Feb 13:00	30 min	104.3	Volatile fuel. Feed chute hang up. Started gas burners, modified feed rate.
25-Feb 20:00	30 min	112.9	Started gas burners, adjusted airflow, modified feed rate.
29-Feb 06:30	30 min	103.0	Feed chute hang up. Started gas burners, adjusted airflow, modified feed rate.

**Compliance Parameter: Opacity**  
**Response Limit: 5% 1/2 hour average**  
**Unit No. 3**

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
23-Feb 11:00	30 min	6.1	CEMS in maintenance.

## 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	100	100	100
Oxygen	90	Hour	99	99	98
CO	90	Hour	99	99	98
SO <sub>2</sub>	90	Hour	99	99	98
NOx	90	Hour	99	99	98
THC	90	Hour	99	99	98
Stack Flow	90	Hour	100	100	100

## 4. Shutdown Report

### Unit 1

Duration in Hours	Reason	Date
0.42	Fabric filter inspection	February 2
52.55	Boiler wash	February 3-5
0.42	Refuse crane failure	February 9
0.62	Plant trip	February 13
0.35	Clinker roll plugged	February 17
2.42	Ash discharger plugged	February 24

### Unit 2

Duration in Hours	Reason	Date
38.44	Boiler wash	February 1-3
0.62	Plant trip	February 13
0.50	Poor refuse quality	February 22

### Unit 3

Duration in Hours	Reason	Date
0.65	Fabric filter inspection	February 2
44.13	Boiler wash	February 5-7
0.67	Refuse crane failure	February 9
0.17	Forced draft fan trip	February 11
0.82	Ash discharger plugged	February 12
0.23	Forced draft fan trip	February 13
0.97	Plant trip	February 13
8.07	Grate bar repair	February 27

## 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	18,106		
Waste Processed	tonnes/day	224	232	229
Maximum Waste Processed	tonnes/day	278	266	273
		Units 1, 2, and 3		
Natural Gas Consumed	m <sup>3</sup> /day	3,371		
	m <sup>3</sup> /month	97,759		
Fly ash disposed	tonnes	777		
Bottom ash disposed	tonnes	3,098		

## 7. Complaints and Responses

Date/Time	Complaint	Action Taken

# ATTACHMENT 2

## February 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
2/1/24	153	10.8	66.1	129.6	21.6	0.00	0.72	944	147	11.7	49.3	125.3	31.1	0.00	0.39	899	156	9.7	41.1	130.7	30.8	0.00	1.81	889
2/2/24	149	11	63	120.6	22.5	0.10	0.72	924									156	9.7	41.5	128.8	36.2	0.40	1.84	893
2/3/24																	160	9.4	85.2	129.6	27.5	0.61	1.97	902
2/4/24									153	10.8	118.8	130.6	35.4	0.06	0.50	894	154	10.4	65.5	127.5	36	0.74	1.98	885
2/5/24									150	10.2	91.7	130.7	29.9	0.05	0.51	919								
2/6/24	154	9.5	114.6	125.9	29.8	0.09	0.86	961	150	10.2	126.3	130.5	35	0.04	0.52	926								
2/7/24	151	9.7	94.8	127.7	32.4	0.15	0.87	955	150	10.4	119	132.2	29.9	0.19	0.53	919	156	8.8	128.2	133.1	31.1	0.23	1.01	941
2/8/24	154	9.8	61.4	125.3	28.7	0.00	0.86	950	153	10.8	71.6	129.5	28.6	0.00	0.55	910	157	9.2	76.9	133.3	32.3	0.00	1.09	917
2/9/24	153	9.8	71.7	127	30.8	0.06	0.91	941	152	10.3	83.5	131.2	25	0.00	0.55	930	157	9.1	85.5	134.7	27.3	1.00	1.14	925
2/10/24	150	9.6	118.8	125.2	23.7	0.04	0.95	936	151	10.2	125.2	128.8	32.8	0.08	0.56	918	155	9.2	116.4	130	25.4	0.47	1.17	903
2/11/24	151	10.2	88.6	126.5	31.6	0.07	0.94	924	152	10.5	97.6	129.5	30.7	0.03	0.55	909	157	8.8	96.6	131.2	27.8	0.34	1.21	917
2/12/24	150	10	62	125.6	33	0.04	0.91	945	151	10.6	69.7	126.2	32.3	0.03	0.51	922	158	8.8	76.1	130.6	29.9	0.47	1.14	921
2/13/24	151	10.4	65.4	130.2	30.8	0.01	0.83	928	153	10.6	91.3	132.8	28.3	0.00	0.53	921	156	9.2	80.8	140.1	32.5	0.71	1.14	912
2/14/24	149	10.1	58.1	127	27.3	0.01	0.92	942	151	10.7	75	131.5	32.1	0.01	0.58	914	153	9.1	71	133	30.2	0.80	1.22	902
2/15/24	150	10.2	56.2	128.5	27	0.04	0.95	951	151	10.5	70.6	132.8	25.3	0.01	0.57	930	154	9.5	72	142.1	28.9	0.18	1.32	900
2/16/24	152	10.3	52.7	146.8	26.5	0.02	0.96	960	151	10.4	75.6	134.5	25.1	0.00	0.60	951	154	9.4	69	166.5	28.3	0.70	1.39	931
2/17/24	152	10.4	46.1	132.7	26.7	0.04	1.00	942	151	10.2	69.9	128.2	27.7	0.01	0.62	941	154	9.3	65.6	138.7	24.6	1.62	1.39	912
2/18/24	154	10	37.4	127.1	27.6	0.05	0.98	951	151	10.3	71.3	129.1	23.2	0.01	0.56	935	155	9.1	59.1	133.6	28.9	1.18	1.39	900
2/19/24	153	10	47.2	126.9	28.5	0.05	0.95	963	150	10.5	69	127	35.9	0.01	0.55	932	154	8.8	66.8	134.4	29.4	0.47	1.37	918
2/20/24	149	10	49	125.6	27.5	0.04	1.15	969	150	10.9	64	125.7	39.2	0.04	0.50	918	154	9	58	132.7	31.5	0.87	1.35	914
2/21/24	152	9.8	60.7	127.5	28.5	0.06	1.53	957	149	10.8	67.6	124.6	39.7	0.01	0.48	915	154	9.1	69.6	128.2	31.5	0.62	1.30	907
2/22/24	153	10	63.8	128	24.1	0.03	1.30	964	149	10.8	82.2	129.6	43	0.07	0.48	917	154	9.2	85.9	133.1	31.8	0.98	1.30	920
2/23/24	150	9.8	62.9	126.9	27.4	0.06	0.55	961	146	10.4	78.2	125.1	24.4	0.01	0.51	937	155	9.3	63.4	129.7	26.5	0.86	1.13	913
2/24/24	149	9.6	62.5	125.3	27.5	0.04	0.58	980	146	10.7	74.1	126.8	27.7	0.04	0.53	916	153	9.1	68	128.3	26.9	0.88	1.08	907
2/25/24	152	9.9	53.6	127.1	25.1	0.09	0.57	930	149	11.1	65.6	125.5	24.6	0.02	0.49	877	154	9.2	57.8	127.9	33.8	1.26	1.24	878
2/26/24	149	10.2	52.6	126.6	32.6	0.08	0.64	938	150	11.1	70.7	121.9	33.8	0.02	0.56	901	152	9.4	65.9	128.1	36.8	1.66	1.41	900
2/27/24	149	10.1	55.3	128.7	23.8	0.01	0.75	955	148	11.2	87.9	127	25.8	0.00	0.60	920								
2/28/24	153	10.1	35.4	127	32.4	0.06	0.69	945	152	10.2	73.8	133.4	26.9	0.01	0.57	921								
2/29/24	153	10.1	35.9	128.8	28.3	0.09	0.58	952	152	10.2	78.2	134.7	32.1	0.02	0.54	921	155	9	82.7	132.9	30.5	0.50	1.42	916
<b>Average</b>	151	10.1	62.9	127.9	27.9	0.05	0.87	949	150.3	10.6	82.1	129.1	30.6	0.03	0.53	919.0	155.1	9.2	73.9	133.6	30.3	0.70	1.35	908.9
<b>Min</b>	149	9.5	35.4	120.6	21.6	0.00	0.55	924	146.0	10.2	49.3	121.9	23.2	0.00	0.39	877.0	152.0	8.8	41.1	127.5	24.6	0.00	1.01	878.0
<b>Max</b>	154	11.0	118.8	146.8	33.0	0.15	1.53	980	153.0	11.7	126.3	134.7	43.0	0.19	0.62	951.0	160.0	10.4	128.2	166.5	36.8	1.66	1.98	941.0
<b>St Dev</b>	1.8	0.34	20.84	4.42	3.19	0.04	0.23	14.0	1.92	0.37	19.69	3.30	5.14	0.04	0.05	15.09	1.78	0.35	19.50	7.84	3.23	0.43	0.27	14.32

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