

## Monthly Operating Reports

September 2024

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The following September 2024 operating report was sent to the Ministry of Environment and Parks on November 14, 2024.



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

September 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	38.9	39.2	30.8
SO <sub>2</sub>	200	24 hr	112.1	107.4	136.4
NOx	190	24 hr	134.7	129.7	142.2
THC	10	24 hr	0.33	1.09	6.10
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			0.87	1.18	1.09
CO			31.2	29.9	23.1
THC			0.13	0.53	1.97
SO <sub>2</sub>			62.4	72.9	68.3
NOx			129.2	126.2	134.6

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
5-Sep 13:00	30 min	106.8	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
16-Sep 03:30	30 min	117.4	Feeder hang-up. Started gas burners, adjusted airflow, modified feed rate.
19-Sep 01:00	30 min	105.7	Started gas burners, adjusted airflow, modified feed rate.
21-Sep 16:00	30 min	144.0	Feeder hang-up. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
28-Sep 12:30	30 min	147.8	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
29-Sep 02:00	30 min	109.2	Started gas burners, adjusted airflow, modified feed rate.
30-Sep 03:30	30 min	209.8	Poor refuse quality. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.

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

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
1-Sep 03:00	30 min	125.6	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
2-Sep 08:30	30 min	100.2	Poor refuse quality. Started gas burners, adjusted airflow, modified feed rate.
3-Sep 05:00	30 min	127.5	Started gas burners, adjusted airflow, modified feed rate.
3-Sep 18:30	30 min	108.1	Started gas burners, adjusted airflow, modified feed rate.
6-Sep 09:00	30 min	107.9	Feeder hang-up. Adjusted airflow.
7-Sep 18:30	30 min	167.2	Volatile fuel. Adjusted airflow.
11-Sep 22:30	30 min	111.3	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
16-Sep 03:30	30 min	117.8	Feeder hang-up. Started gas burners, adjusted airflow, modified feed rate.
17-Sep 16:30	30 min	124.9	Started gas burners, adjusted airflow, modified feed rate.
20-Sep 11:00	30 min	108.6	Started gas burners, adjusted airflow, modified feed rate.
29-Sep 02:00	30 min	103.4	Fan trip. Started gas burners, adjusted airflow, modified feed rate.
30-Sep 23:30	30 min	145.2	Feeder hang-up. 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
5-Sep 13:00	30 min	111.2	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
5-Sep 21:30	30 min	117.8	Started gas burners, adjusted airflow, modified feed rate.
6-Sep 09:30	30 min	154.0	Started gas burners, adjusted airflow, modified feed rate.
30-Sep 04:30	30 min	109.2	Started gas burners, adjusted airflow, modified feed rate.
30-Sep 23:30	30 min	110.9	Poor refuse quality. Started gas burners, adjusted airflow, modified feed rate.

**2.c. Transient Conditions**

**1hr Furnace temperature average below 800C**

Unit	Duration	Date	Time	Temperature	
#2	60 min	Sept 30 2024	23:00-23:59	789C	
<b>Cause</b>					
Auxiliary burners on unit 2 were unable to maintain the secondary combustion zone temperature due to extremely wet refuse.					
<b>Action Taken to Restore Steady State Conditions</b>					
The waste material was thoroughly mixed, and auxiliary burners were used to restore furnace temperature.					
<b>Remedial Action Planned and/or Taken</b>					
None					

### 3. CEMS 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	97	98	99
CO	90	Hour	97	98	99
SO <sub>2</sub>	90	Hour	97	98	99
NOx	90	Hour	97	98	99
THC	90	Hour	97	98	99
Stack Flow	90	Hour	100	100	100

### 4. Shutdown Report

#### Unit 1

Duration in Hours	Reason	Date
4.82	Fabric filter baghouse maintenance	September 10
51.02	Boiler wash	September 19-21
1.22	Feeder hang-up	September 29
1.42	Poor refuse	September 30

#### Unit 2

Duration in Hours	Reason	Date
0.25	Induced draft fan trip	September 1
1.12	Ash discharger plug	September 2
0.28	Ash discharger plug	September 22
5.40	Poor refuse quality	September 23
0.67	Induce draft fan trip	September 23
0.67	Refuse crane malfunction	September 26
1.02	Fabric filter baghouse inspection	September 27
1.10	Ash discharger plug	September 27
1.80	Forced draft fan trip	September 28
1.65	Poor refuse quality	September 28
3.38	Poor refuse quality	September 29-30
4.80	Poor refuse quality	September 30

#### Unit 3

Duration in Hours	Reason	Date
44.65	Economizer leak	September 1-2
9.68	Ash discharger plug	September 4
2.55	Ash discharger plug	September 5
1.62	Ash discharger plug	September 6
271.07	Major outage	September 15-29
1.10	Poor refuse	September 30

## 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	17,986		
Waste Processed	tonnes/day	229	233	126
Maximum Waste Processed	tonnes/day	268	264	258
Natural Gas Consumed	m <sup>3</sup> /day	6,862		
	m <sup>3</sup> /month	205,874		
Fly ash disposed	tonnes	550		
Bottom ash disposed	tonnes	3,128		

## 7. Complaints and Responses

Date/Time	Complaint	Action Taken

September 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	
9/1/24	156	10	50.1	132.1	31.3	0.13	0.81	922	154	10.4	76.2	129.1	36.4	0.65	0.70	918									
9/2/24	155	10.8	40.7	132.3	32.6	0.25	0.76	908	151	10.1	80.2	125.7	33.5	0.85	0.71	932									
9/3/24	155	10.1	41.4	130.4	27.7	0.09	0.80	924	152	9.7	95	124.1	39.2	0.63	0.74	940	154	9.8	38.4	128.1	25.2		1.27	0.55	899
9/4/24	154	9.7	55.6	129.7	30.9	0.18	0.79	954	152	9.4	98.9	126.4	36.2	0.91	0.82	962									
9/5/24	155	9.6	50.2	129.7	36.2	0.22	0.82	961	155	9.1	76.2	126.5	39	0.35	0.84	956	157	10.6	67	136.7	30.8	1.80	0.87	898	
9/6/24	159	10.2	43	134.7	34.6	0.33	0.80	925	157	10.2	61.1	128.2	34.5	0.70	0.83	920	162	9.3	62.6	142.2	25.1	2.09	1.01	922	
9/7/24	154	9.9	52.8	130.8	26.4	0.28	0.82	961	153	10	85.8	127.8	32.5	0.93	0.85	948	157	9.4	81.4	139.7	23.4	2.23	1.02	936	
9/8/24	157	9.9	69.9	130.8	27.8	0.20	0.82	969	154	9.8	97.4	128	23.1	0.79	0.92	953	157	9.5	78.3	133.4	23.7	1.92	1.03	938	
9/9/24	153	10.2	37.8	124.9	30.7	0.22	0.88	935	153	9.7	63.6	125.8	28	0.48	0.96	957	156	9.9	50.8	135.8	23.9	2.82	1.05	920	
9/10/24	152	10.6	45.9	130.6	32.1	0.21	1.12	932	153	10.2	68	129.7	23.7	0.55	1.19	954	156	9.7	54	139	21.2	2.19	1.12	927	
9/11/24	153						0.87	922	152	9.7	54.5	129	31.8	0.67	1.00	979	155	9.5	42	134.1	28	2.45	1.07	932	
9/12/24	153	10.5	37.6	129.6	34.8	0.21	0.80	945	151	9.8	50.7	127.3	31.9	0.65	0.98	971	155	10.3	34.9	140.1	23.7	2.18	1.03	901	
9/13/24	153	10.4	42.1	127.9	30.8	0.00	0.79	938	151	10	59.5	125.9	27.6	0.00	0.98	940	155	9.7	46.9	131.7	23.3	0.00	1.04	910	
9/14/24	152	10.3	47.3	130.7	29	0.00	0.81	959	150	10.1	67.5	127	22.9	0.00	0.92	966	156	9.9	47.4	131.9	22.5	0.00	1.01	921	
9/15/24	154	10.2	84.5	126.4	29.8	0.00	0.89	937	152	9.7	107.4	125.1	26.6	0.00	1.14	943	156	9.6	59.4	132.2	24	0.00	1.04	908	
9/16/24	152	10.3	61.3	130.4	34.7	0.25	0.88	939	151	10.3	76.7	127.8	31.4	0.65	1.18	945									
9/17/24	150	10.7	65.7	128	38.9	0.14	0.85	929	151	10.7	81.6	127	37	0.15	1.18	939									
9/18/24	144	10.7	62.9	127	28.8	0.19	0.81	937	146	10.6	92.6	125.1	36.1	0.36	1.13	926									
9/19/24									150	10.3	61.6	127.2	31.7	0.63	1.33	938									
9/20/24									150	10.7	74.9	125.9	30.6	0.81	1.38	920									
9/21/24									151	10.1	92.4	126.5	26	0.59	1.43	957									
9/22/24	149	10.1	102.1	125.9	27.4	0.03	0.92	895	152	10.7	65.3	123.1	23.6	1.09	1.45	913									
9/23/24	154	9.9	64.4	126.4	24.9	0.11	0.90	936	153	10.1					1.52	929									
9/24/24	151	9.9	112.1	131.2	32.1	0.10	0.94	941	151	10.2	73.7	128.5	33.2	0.41	1.89	941									
9/25/24	148	10	53.4	125.5	27.9	0.06	0.83	923	149	10.1	42.7	125.4	25.4	0.66	1.66	936									
9/26/24	151	9.6	85	127	31.2	0.07	0.87	933	148	9.9	70.7	121.4	23.7	0.91	1.95	940									
9/27/24	153	9.9	88.7	127.8	28.2	0.08	0.95	911	149	9.8	67.4	124.4	21.6	0.59	2.05	917	144	10.1	136.4	126.5	16.5	3.98	1.07	860	
9/28/24	153	9.9	88.5	129.4	30.7	0.05	0.96	915	150	9.9	62.7	121.4	26.7	0.05	1.21	905	151	9.8	100.5	138.7	13.7	2.55	2.04	891	
9/29/24	153	10.4	96.9	128.2	32.4	0.08	1.00	896	149	10.4	78.4	124.8	27.4	0.37	1.30	883	154	10	124.3	133.6	18.4	6.10	1.61	875	
9/30/24	155	10.8	42.4	131.4	38.6	0.00	0.98	900	152	10.8	31.9	125.9	24.5	0.00	1.11	891	151	10.4	68.1	129.5	26.5	0.00	0.89	876	
<b>Average</b>	153	10.2	62.4	129.2	31.2	0.13	0.87	931	151.4	10.1	72.9	126.2	29.9	0.53	1.18	937.3	154.8	9.8	68.3	134.6	23.1	1.97	1.09	907.1	
<b>Min</b>	144	9.6	37.6	124.9	24.9	0.00	0.76	895	146.0	9.1	31.9	121.4	21.6	0.00	0.70	883.0	144.0	9.3	34.9	126.5	13.7	0.00	0.55	860.0	
<b>Max</b>	159	10.8	112.1	134.7	38.9	0.33	1.12	969	157.0	10.8	107.4	129.7	39.2	1.09	2.05	979.0	162.0	10.6	136.4	142.2	30.8	6.10	2.04	938.0	
<b>St Dev</b>	2.9	0.36	21.93	2.40	3.55	0.10	0.08	19.7	2.18	0.40	17.21	2.06	5.30	0.31	0.36	22.39	3.82	0.37	29.78	4.58	4.19	1.60	0.33	23.18	

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.