

Monthly Operating Reports

May 2023

The following May 2023 operating report was sent to the Ministry of Environment and Climate Change Strategy on July 12, 2023.



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

May 2023

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	43.2	35.1	40.8
SO ₂	200	24 hr	138.8	144.4	109.7
NO _x	190	24 hr	138.8	130.7	158.6
THC	10	24 hr	0.39	0.23	1.27
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			0.00*	1.06	0.73
CO			29.8	22.3	33.3
THC			0.08	0.01	0.82
SO ₂			62.4	64.4	61.5
NO _x			129.2	125.4	137.3

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. SO₂ – March 3, 2025

* Metro Vancouver has confirmed with Covanta that the equipment is calibrated on a daily basis, and is within range.

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
7-May 11:30	30 min	103.0	Started gas burners, adjusted airflow.
8-May 06:00	30 min	100.4	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
16-May 15:00	30 min	103.9	Started gas burners, adjusted airflow, modified feed rate.
18-May 08:00	30 min	109.0	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
27-May 08:30	30 min	210.2	Turbine trip. Started gas burners, adjusted airflow, modified feed rate.
29-May 20:30	30 min	126.6	Started gas burners, adjusted airflow, modified feed rate.
30-May 11:00	30 min	151.6	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate.
30-May 14:30	30 min	124.4	Volatile fuel. 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-May 08:00	30 min	104.9	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
2-May 02:30	30 min	112.7	Started gas burners, adjusted airflow, modified feed rate.
3-May 16:00	30 min	115.8	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
5-May 14:00	30 min	429.8	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
13-May 04:30	30 min	140.9	Volatile fuel. 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
1-May 09:30	30 min	213.8	Started gas burners, adjusted airflow, modified feed rate.
3-May 14:00	30 min	117.5	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
5-May 14:00	30 min	131.1	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
7-May 02:00	30 min	191.7	Adjusted airflow.
7-May 06:30	30 min	142.0	Started gas burners, adjusted airflow.
9-May 05:00	30 min	127.2	Feeder hangup. Started gas burners, adjusted airflow, modified feed rate.
11-May 06:00	30 min	186.7	Started gas burners, adjusted airflow, modified feed rate.
11-May 07:30	30 min	124.5	Started gas burners, adjusted airflow, modified feed rate.
15-May 05:30	30 min	163.3	Started gas burners, adjusted airflow, modified feed rate.
26-May 10:30	30 min	112.2	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
27-May 08:00	30 min	174.8	Turbine trip. Started gas burners, adjusted airflow, modified feed rate.
28-May 21:30	30 min	170.7	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
Cause			
Action Taken to Restore Steady State Conditions			
Remedial Action Planned and/or Taken			

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	100	99
CO	90	Hour	99	100	99
SO ₂	90	Hour	99	100	99
NOx	90	Hour	99	100	99
THC	90	Hour	99	100	99
Stack Flow	90	Hour	100	100	100

4. Shutdown Report

Unit 1

Duration in Hours	Reason	Date
148.75	Major outage	May 1-7
0.20	Poor refuse quality	May 8
0.17	Fabric filter bag replacement	May 9
0.42	Tube inspection	May 10
0.68	Fabric filter bag replacement	May 13

Unit 2

Duration in Hours	Reason	Date
29.25	Boiler wash	May 3-5
0.73	Fabric filter bag replacement	May 5
0.30	BC Hydro power interruption	May 21
0.23	Tube inspection	May 24
0.87	Ash discharger plug	May 27

Unit 3

Duration in Hours	Reason	Date
0.75	Poor refuse quality	May 5
0.53	Poor refuse quality	May 5
1.52	Fabric filter bag replacement	May 9
0.50	Fabric filter bag replacement	May 10
0.87	Fabric filter bag replacement	May 12
7.33	Fabric filter bag replacement	May 13
7.98	Fabric filter bag replacement	May 16

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	19,831		
Waste Processed	tonnes/day	203	210	237
Maximum Waste Processed	tonnes/day	263	243	259
		Units 1, 2, and 3		
Natural Gas Consumed	m ³ /day	2,415		
	m ³ /month	74,880		
Fly ash disposed	tonnes	842		
Bottom ash disposed	tonnes	3,534		

7. Complaints and Responses

Date/Time	Complaint	Action Taken

May 2023 - Monthly CEMS Data

Date	Boiler #1								Boiler #2								Boiler #3							
	Stack	O ₂	SO ₂	NO _x	CO	THC	Opacity	Furnace	Stack	O ₂	SO ₂	NO _x	CO	THC	Opacity	Furnace	Stack	O ₂	SO ₂	NO _x	CO	THC	Opacity	Furnace
	Temp	(%)	(mg/m ³)	(mg/m ³)	(mg/m ³)	(mg/m ³)	(%)	Temp	Temp	(%)	(mg/m ³)	(mg/m ³)	(mg/m ³)	(mg/m ³)	(mg/m ³)	(%)	Temp	Temp	(%)	(mg/m ³)	(mg/m ³)	(mg/m ³)	(mg/m ³)	(%)
5/1/23									149	10	49.7	122.2	27.5	0.01	0.82	941	155	9.3	47.6	135.9	38.4	0.86	1.74	907
5/2/23									148	10.2	55.6	122.1	24.4	0.00	0.85	943	154	9.3	75.3	143.9	28.8	0.74	1.81	912
5/3/23									149	9.9	41.8	118	35.1	0.05	0.86	959	152	9.1	48.5	141.5	38.9	0.86	1.82	931
5/4/23																	152	9.4	86.8	138.2	40.8	0.83	2.20	904
5/5/23									151	9.7	144.4	124.8	33.4	0.23	0.87	937	152	9.6	109.7	127.7	40.2	0.56	1.81	905
5/6/23									149	10	74.1	124.9	22.7	0.00	0.91	928	152	10	70.2	130.4	36.3	1.27	1.68	902
5/7/23	129	8.8	86.5	127.8	34.6	0.12	0.00	873	151	10.1	68	125.7	17.7	0.00	0.91	917	151	9.7	56.3	133.4	35.7	0.81	1.53	903
5/8/23	144	9.3	87.1	138.5	20.8	0.07	0.00	911	149	10.6	54.5	125.1	22	0.00	0.91	920	151	10.1	43.1	130.6	38.6	1.01	1.87	908
5/9/23	147	9.8	138.8	134.6	25.9	0.10	0.00	918	146	10.8	60.8	122.5	23	0.00	0.92	911	152	9.7	68.1	133.2	36.2	1.15	1.52	930
5/10/23	152	9.5	82.1	129	21.1	0.06	0.00	949	145	10.2	50.4	124	16.1	0.02	0.96	928	150	9	59.2	129.4	28.9	1.07	0.98	917
5/11/23	152	9.3	67	126.8	21.4	0.03	0.00	957	154	9.3	59.3	125.2	18.5	0.00	0.99	949	155	9	60.4	143	39.8	1.21	1.16	937
5/12/23	150	9.2	76.9	128	16.9	0.00	0.00	951	153	9.2	74.9	124.8	19.8	0.00	1.00	956	155	9.6	68.7	142.1	38.2	0.00	0.97	920
5/13/23	146	9.3	73.9	129	19.7	0.00	0.00	942	153	8.6	65.4	125	20.2	0.00	1.02	962								
5/14/23	146	9.6	76.5	126.2	21.7	0.07	0.00	947	152	8.7	64.1	122.3	17.8	0.00	1.01	960	154	9.3	70.7	155.4	26	0.99	1.00	918
5/15/23	146	9.5	75.8	126.2	20.4	0.06	0.00	945	148	9.4	56.6	124.2	17.1	0.01	1.01	952	152	8.7	64.5	158.6	26.5	1.02	0.67	940
5/16/23	147	9.6	84.9	127.9	31.4	0.10	0.00	955	149	9.6	74.9	127	19.9	0.00	1.02	957								
5/17/23	150	9.8	49.2	138.8	25.2	0.09	0.00	931	147	9.4	45.6	125.4	20.7	0.00	1.04	949	150	9.2	47.2	139.3	29.5	1.16	0.04	935
5/18/23	147	9.4	48.6	126.1	34.4	0.05	0.00	939	147	9.5	44.3	125.6	21.3	0.00	1.04	944	152	8.8	47.2	134.1	33.6	0.59	0.03	924
5/19/23	145	9.4	48.7	126.2	34	0.10	0.00	935	146	9.5	47.6	123.7	26.4	0.00	1.22	951	152	9.7	48	141.5	36	0.71	0.05	909
5/20/23	141	9.7	53	127.8	33.9	0.07	0.00	926	147	9.6	57.6	125.3	26.7	0.01	1.23	937	153	9.8	67.6	135	32.6	0.81	0.07	899
5/21/23	145	10.3	51.7	126.4	32.1	0.39	0.00	903	147	9.8	55.4	124.6	18.6	0.02	1.13	919	153	10.5	45.2	129.4	35.9	0.84	0.11	876
5/22/23	142	9.8	49	132.1	24.9	0.04	0.00	927	146	9.7	67.1	124.9	18.6	0.00	1.16	954	153	10.1	72.6	135.6	33.8	0.65	0.11	901
5/23/23	141	10	44.6	133.7	33.8	0.06	0.00	929	148	10.1	94.2	126.2	21.4	0.00	1.18	941	151	9.9	64.6	136.5	27.4	0.45	0.06	921
5/24/23	139	10	49.4	128.7	33.8	0.07	0.00	941	143	10.5	56.4	125.9	18.9	0.00	1.19	939	149	9.3	59.9	134	26.2	0.68	0.02	944
5/25/23	143	10.3	36.4	127.7	33.4	0.06	0.00	945	140	11.1	44	126.8	20.5	0.01	1.18	919	150	9.7	42.3	134.9	28	0.60	0.00	924
5/26/23	145	9.7	45.4	126.6	39.1	0.06	0.00	944	148	10.4	55.7	128.7	27	0.00	1.20	930	150	9.4	55	140.4	32.6	0.82	0.00	921
5/27/23	145	9.5	52.6	127.1	43.2	0.15	0.00	951	153	9.8	79.7	129.7	21.5	0.00	1.18	937	149	8.9	62	140.8	34.3	0.49	0.00	927
5/28/23	149	10	49.3	128.5	34.4	0.03	0.00	935	154	9.5	76.3	127.2	25.1	0.00	1.20	926	152	9.4	62.3	133.1	39	0.94	0.00	924
5/29/23	145	9.7	35.2	131.7	35.1	0.10	0.00	957	153	9.6	58.5	129.7	24.1	0.01	1.21	931	152	9.3	42.1	134	27.2	0.91	0.00	934
5/30/23	142	10	59.1	126.2	38	0.00	0.00	948	152	10	88.5	129.3	22.4	0.00	1.22	944	152	9.7	75.7	137	26.7	0.96	0.00	921
5/31/23	142	10.3	37.4	127.9	34.6	0.00	0.06	950	151	9.7	66.6	130.7	21.7	0.00	1.25	956	152	9.9	61.8	132.6	29.5	0.76	0.00	921
Average	145	9.7	62.4	129.2	29.8	0.08	0.00	936	148.9	9.8	64.4	125.4	22.3	0.01	1.06	939.9	152.0	9.5	61.5	137.3	33.3	0.82	0.73	917.8
Min	129	8.8	35.2	126.1	16.9	0.00	0.00	873	140.0	8.6	41.8	118.0	16.1	0.00	0.82	911.0	149.0	8.7	42.1	127.7	26.0	0.00	0.00	876.0
Max	152	10.3	138.8	138.8	43.2	0.39	0.06	957	154.0	11.1	144.4	130.7	35.1	0.23	1.25	962.0	155.0	10.5	109.7	158.6	40.8	1.27	2.20	944.0
St Dev	4.7	0.37	23.00	3.68	7.21	0.08	0.01	19.2	3.34	0.55	19.95	2.64	4.45	0.04	0.14	14.45	1.64	0.43	14.85	7.00	4.96	0.26	0.80	14.89

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.