metrovancouver

Monthly Operating Reports

August 2023

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

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

August 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	42.5	41.2	46.5
SO_2	200	24 hr	77.5	81.8	76.3
NOx	190	24 hr	154.2	131.8	156.9
THC	10	24 hr	0.25	0.29	0.79
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			0.63	1.08	0.31
CO			35.4	29.0	35.8
THC			0.13	0.12	0.26
SO_2			45.7	56.9	48.8
NOx			129.1	125.4	136.4

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_2 – 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
4-Aug 13:30	30 min	272.0	Boiler tripped. Started gas burners, adjusted airflow, modified feed rate.
9-Aug 11:30	30 min	115.3	Started gas burners, adjusted airflow.
10-Aug 11:30	30 min	121.4	Started gas burners, adjusted airflow.
11-Aug 18:30	30 min	211.4	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
14-Aug 11:00	30 min	135.3	Started gas burners, adjusted airflow.
17-Aug 10:00	30 min	115.3	Online wash. Started gas burners, adjusted airflow.
21-Aug 11:00	30 min	218.0	Feed chute plugged. Started gas burners, adjusted airflow, modified feed rate.
21-Aug 21:00	30 min	105.2	Started gas burners, adjusted airflow, modified feed rate.
22-Aug 08:30	30 min	154.3	Started gas burners, adjusted airflow, modified feed rate.
22-Aug 16:30	30 min	101.3	Started gas burners, adjusted airflow, modified feed rate.
24-Aug 17:00	60 min	124.8	Started gas burners, adjusted airflow, modified feed rate.

24-Aug 21:30	30 min	138.9	Started gas burners, adjusted airflow, modified feed rate.
25-Aug 08:30	30 min	116.9	Adjusted airflow.
31-Aug 16:00	30 min	102.0	Started gas burners, adjusted airflow.
31-Aug 18:30	30 min	102.2	Feed chute plugged. 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
2-Aug 18:30	30 min	130.1	Started gas burners, adjusted airflow.
19-Aug 19:30	30 min	111.0	Adjusted airflow.
21-Aug 08:30	30 min	117.8	Poor refuse quality. Started gas burners, adjusted airflow, modified feed rate.
25-Aug 09:00	30 min	132.8	Adjusted airflow.
29-Aug 13:30	30 min	142.5	Adjusted airflow.
30-Aug 19:30	30 min	103.3	Volatile fuel. Adjusted airflow.

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-Aug 00:00	30 min	139.1	Started gas burners, adjusted airflow.
2-Aug 08:30	30 min	128.1	Started gas burners, adjusted airflow, modified feed rate.
4-Aug 15:30	30 min	125.6	Started gas burners, adjusted airflow, modified feed rate.
6-Aug 21:30	30 min	150.8	Started gas burners, adjusted airflow, modified feed rate.
7-Aug 02:00	30 min	151.9	Started gas burners, adjusted airflow, modified feed rate.
13-Aug 03:30	30 min	125.7	Poor refuse quality. Started gas burners, adjusted airflow, modified feed rate.
16-Aug 11:00	30 min	135.0	Fire in feed chute. Started gas burners, adjusted airflow.
21-Aug 15:00	30 min	103.9	Started gas burners, adjusted airflow, modified feed rate.
23-Aug 22:00	30 min	116.2	Started gas burners, adjusted airflow.
27-Aug 06:00	30 min	147.8	Started gas burners, adjusted airflow, modified feed rate.
28-Aug 09:30	30 min	190.7	Started gas burners, adjusted airflow, modified feed rate.
31-Aug 10:30	30 min	108.0	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.

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	99	99
CO	90	Hour	99	99	99
SO_2	90	Hour	99	99	99
NOx	90	Hour	99	99	99
THC	90	Hour	99	99	99
Stack Flow	90	Hour	100	100	100

4. Shutdown Report

Unit 1

Duration in Hours	Reason	Date
0.23	Induced draft fan trip	August 4
2.52	Refuse crane failure	August 6
4.53	Refuse crane failure	August 8
8.38	Refuse crane failure	August 8
1.15	Offline boiler wash	August 31

Unit 2

Duration in Hours	Reason	Date
1.90	Refuse crane failure	August 6
5.12	Refuse crane failure	August 8
8.13	Refuse crane failure	August 8

Unit 3

Duration in Hours	Reason	Date
2.77	Refuse crane failure	August 6
5.20	Refuse crane failure	August 8
7.72	Refuse crane failure	August 8

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	**20,216**		
Waste Processed	tonnes/day	**223**	**203**	**230**
Maximum Waste Processed	tonnes/day	**265**	**238**	**256**
Natural Gas Consumed	m^3/day	**2,854**		
	m^3/month	**88,480**		
Fly ash disposed	tonnes	**814**		
Bottom ash disposed	tonnes	**3,629**		

7. Complaints and Responses

Date/Time	Complaint	Action Taken

ATTACHMENT 2

August 2023 - Monthly CEMS Data

	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
Date	Temp	(%)	(mg/m³)	(mg/m³)	(mg/m³)	(mg/m³)	(%)	Temp	Temp	(%)	(mg/m³)	(mg/m³)	(mg/m³)	(mg/m³)	(%)	Temp	Temp	(%)	(mg/m³)	(mg/m³)	(mg/m³)	(mg/m³)	(%)	Temp
8/1/23	145	9.4	40.9	125.4	35	0.15	0.52	961	162	10	61.1	119.6	28.5	0.10	0.57	964	151	9.7	39.4	133	38.4	0.49	0.15	928
8/2/23	144	9.8	34.7	126.4	37.1	0.16	0.57	944	152	10.4	55.8	122	30.3	0.12	0.63	954	151	10.1	37.8	130.1	35.5	0.17	0.16	897
8/3/23	143	9.8	30.7	127.7	29.6	0.10	0.53	948	155	10.6	52.3	125	37.7	0.09	1.01	932	151	10.4	32.5	131.5	37.8	0.79	0.16	921
8/4/23	143	10.1	39.1	134.8	40.2	0.25	0.50	937	155	10.7	52.9	126.9	35.6	0.11	0.97	926	152	9.9	41.8	143.5	36.5	0.21	0.14	943
8/5/23	144	9.8	29.5	126.9	35.6	0.19	0.54	946	154	10.4	49.3	125.7	29.6	0.14	0.97	938	157	9.1	46.9	134.6	32.4	0.32	0.19	941
8/6/23	147	9.7	48.3	154.2	29.7	0.17	0.58	925	154	10.8	70.3	123.5	18.6	0.12	0.99	908	161	9.4	56	133.7	40.4	0.39	0.19	926
8/7/23	148	9.7	30.1	152	33.7	0.18	0.58	928	154	11	49	120.8	25.2	0.14	0.94	917	160	10.1	46.6	131.6	38.6	0.11	0.16	894
8/8/23																								
8/9/23	147	10.4	28.8	134.4	40.8	0.14	0.68	921	158	10.4	48.3	125.1	27.2	0.19	0.99	940	159	9.7	42	131.1	37	0.13	0.25	903
8/10/23	143	10.6	32.1	118.6	37.4	0.16	0.63	918	159	10.2	56.7	124	28.1	0.14	1.00	955	156	10.3	46.5	133.2	34.6	0.43	0.21	904
8/11/23	143	11	30.8	123.5	36.1	0.15	0.61	909	157	9.9	59.3	124.6	24.7	0.09	1.04	946	155	10.5	34.9	134.5	36.9	0.43	0.20	875
8/12/23	149	10.3	44	113.2	32.9	0.13	0.62	930	157	9.6	59.9	123.1	23.3	0.15	1.07	955	156	9.9	49.2	133.4	30.4	0.44	0.21	916
8/13/23	153	10.7	42.4	105.8	30.8	0.12	0.60	900	161	9.8	53.8	122.8	21.3	0.13	1.11	921	157	10	54.8	129.4	34.6	0.28	0.21	884
8/14/23	149	10.7	40.3	126.5	34	0.12	0.54	898	161	10	52.6	122.8	24.2	0.11	1.06	922	157	9.6	46	130.7	30.4	0.25	0.18	903
8/15/23	147	10	44.6	127.3	35.5	0.16	0.52	944	162	9.4	65.2	124.6	23.4	0.11	1.12	969	158	9.4	54.1	134.5	36.3	0.21	0.19	910
8/16/23	141	10.1	36.3	128.8	35.9	0.17	0.51	949	160	9.4	60.9	127.9	22.5	0.11	1.06	966	158	9.1	47.7	134.1	34.6	0.31	0.22	935
8/17/23	146	9.2	73.4	127.7	39	0.20	0.54	991	158	9.2	64.1	128	26.4	0.22	1.09	991	160	8.6	52.7	138	32.7	0.26	0.19	955
8/18/23	151	8.9	59.3	125.8	34.9	0.08	0.63	1004	157	10.1	59.4	126.4	29.3	0.14	1.18	971	160	8.7	58.3	133.3	32.9	0.08	0.28	952
8/19/23	145	9.9	57.8	129.3	35.7	0.00	0.64	951	156	10	66.7	125.9	29.3	0.24	1.15	953	160	9.8	62.2	134.4	34.3	0.01	0.32	917
8/20/23	145	10.1	41.7	130.5	33.5	0.00	0.67	907	156	10.7	47.3	128.1	26.1	0.00	1.13	912	157	9.7	41.4	131	33.3	0.00	0.32	893
8/21/23	145	10	41.9	128.3	40.7	0.22	0.69	921	154	10.8	49.7	125.3	36.4	0.25	1.11	922	157	9.8	37.3	131.4	46.5	0.50	0.30	879
8/22/23	145	9.7	69	133.2	42.5	0.16	0.70	959	155	10.7	81.8	128.4	39.1	0.11	1.23	951	157	9.6	76.3	137.7	35.7	0.42	0.30	924
8/23/23	144	9.6	45	130.4	39.6	0.12	0.75	964	154	10.8	50.2	126.3	32.1	0.16	1.19	948	157	9	48.6	131.4	35	0.07	0.35	947
8/24/23	145	9.7	49.4	134.3	39.8	0.13	0.71	960	149	11.3	52.5	123.6	35.1	0.14	1.15	953	157	9.1	52.8	141.3	34.9	0.22	0.33	943
8/25/23	147	9.9	57	131.1	35.8	0.00	0.70	940	151	11.8	56.6	127.8	32.8	0.00	1.15	936	158	9.9	50.1	151.8	38.4	0.00	0.34	915
8/26/23	146	9.7	56.6	130.6	28.3	0.00	0.70	969	153	11.5	64.7	127.5	24.9	0.00	1.21	947	159	9.4	56	151.2	33.3	0.00	0.32	939
8/27/23	146	9.8	50.3	133.1	32.4	0.00	0.72	943	149	11.6	52.1	127.2	23.4	0.00	1.20	936	159	9.6	45.5	156.9	37.7	0.00	0.34	906
8/28/23	143	9.6	37.1	126.2	40	0.18	0.74	950	146	12	45	124.4	33.4	0.29	1.21	927	158	8.9	42.9	134.1	40.8	0.12	0.43	916
8/29/23	144	10.5	77.5	129	32.3	0.16	0.78	947	143	12.5	66.3	126.8	41.2	0.22	1.24	927	157	9.5	68.7	140.4	33.5	0.43	0.55	921
8/30/23	143	9.9	61.2	127.4	30	0.16	0.77	969	148	12.3	47.8	126.2	31	0.07	1.21	889	159	9.6	48.1	136.8	36.4	0.42	0.84	890
8/31/23	143	11.2	39.8	129.5	32.7	0.09	0.75	929	156	10.8	55.1	131.8	28.6	0.01	1.29	934	157	10.2	47.8	144	33.9	0.21	1.17	909
Average	145	10.0	45.7	129.1	35.4	0.13	0.63	942	154.9	10.6	56.9	125.4	29.0	0.12	1.08	940.3	157.0	9.6	48.8	136.4	35.8	0.26	0.31	916.2
Min	141	8.9	28.8	105.8	28.3	0.00	0.50	898	143.0	9.2	45.0	119.6	18.6	0.00	0.57	889.0	151.0	8.6	32.5	129.4	30.4	0.00	0.14	875.0
Max	153	11.2	77.5	154.2	42.5	0.25	0.78	1004	162.0	12.5	81.8	131.8	41.2	0.29	1.29	991.0	161.0	10.5	76.3	156.9	46.5	0.79	1.17	955.0
St Dev	2.6	0.51	13.21	8.88	3.79	0.07	0.09	24.7	4.64	0.85	8.18	2.54	5.60	0.08	0.16	21.59	2.70	0.49	9.55	6.89	3.27	0.19	0.22	21.89

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.