

Monthly Operating Reports

January 2023

The following January 2023 operating report was sent to the Ministry of Environment and Climate Change Strategy on March 14, 2023.



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

January 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	33.6	34.3	26.4
SO ₂	200	24 hr	179.9	181.0	157.2
NOx	190	24 hr	131.6	145.4	142.8
THC	10	24 hr	0.16	0.05	1.24
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			0.32	0.99	0.46
CO			26.3	23.6	21.5
THC			0.07	0.01	0.14
SO ₂			68.4	79.3	72.8
NOx			126.8	134.9	135.7

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

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-Jan 13:00	30 min	128.7	Started gas burners, adjusted airflow, modified feed rate.
20-Jan 09:00	30 min	112.5	Poor refuse quality. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
27-Jan 10:30	30 min	114.8	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
3-Jan 19:00	30 min	105.3	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
12-Jan 03:30	30 min	142.1	Started gas burners, adjusted airflow, modified feed rate.
12-Jan 08:30	30 min	238.0	Volatile fuel. Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
13-Jan 08:30	30 min	111.4	Started gas burners, adjusted airflow, modified feed rate.
18-Jan 21:00	30 min	112.9	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-Jan 05:30	30 min	149.6	Started gas burners, adjusted airflow, modified feed rate.
3-Jan 12:00	30 min	136.1	Started gas burners, adjusted airflow, modified feed rate.
8-Jan 08:30	30 min	111.7	Started gas burners, adjusted airflow, modified feed rate.
23-Jan 03:00	30 min	111.2	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
31-Jan 06:30	30 min	156.0	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	100	100	100
CO	90	Hour	100	100	100
SO ₂	90	Hour	100	100	100
NOx	90	Hour	100	100	100
THC	90	Hour	100	100	100
Stack Flow	90	Hour	100	100	100

4. Shutdown Report

Unit 1

Duration in Hours	Reason	Date
0.32	BC Hydro power interruption	January 1
8.22	Induced draft fan repair	January 10
0.17	Broken grate bar	January 10
46.28	Boiler wash	January 18-19
1.13	Ash discharger plugged	January 20
2.42	Feed hopper plugged	January 31

Unit 2

Duration in Hours	Reason	Date
0.27	BC Hydro power interruption	January 1
19.07	Boiler wash	January 20
0.72	Primary economizer inspection	January 26
0.27	Primary economizer inspection	January 27
0.12	Underfire air plugged	January 28
0.90	Underfire air plugged	January 30

Unit 3

Duration in Hours	Reason	Date
0.33	BC Hydro power interruption	January 1
0.43	Feed chute plugged	January 3
43.98	Boiler wash	January 16-17
1.55	Fabric filter bag changed	January 31

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	19,737		
Waste Processed	tonnes/day	235	222	239
Maximum Waste Processed	tonnes/day	276	247	272
		Units 1, 2, and 3		
Natural Gas Consumed	m ³ /day	6,430		
	m ³ /month	199,328		
Fly ash disposed	tonnes	848		
Bottom ash disposed	tonnes	3,220		

7. Complaints and Responses

Date/Time	Complaint	Action Taken

January 2023 - Monthly CEMS Data

Date	Boiler #1								Boiler #2								Boiler #3							
	Stack Temp	O ₂ (%)	SO ₂ (mg/m ³)	NO _x (mg/m ³)	CO (mg/m ³)	THC (mg/m ³)	Opacity (%)	Furnace Temp	Stack Temp	O ₂ (%)	SO ₂ (mg/m ³)	NO _x (mg/m ³)	CO (mg/m ³)	THC (mg/m ³)	Opacity (%)	Furnace Temp	Stack Temp	O ₂ (%)	SO ₂ (mg/m ³)	NO _x (mg/m ³)	CO (mg/m ³)	THC (mg/m ³)	Opacity (%)	Furnace Temp
1/1/23	153	9.2	28.8	127.6	20.1	0.03	0.17	904	141	11.5	35.1	133.7	17.3	0.00	0.30	881	148	9.4	33.4	130.5	20.5	0.11	0.24	876
1/2/23	155	9.4	30.8	125.7	22.3	0.06	0.16	912	139	11.2	40.2	136	24.2	0.00	0.37	905	151	8.6	41.7	130.7	26.2	0.15	0.36	907
1/3/23	156	9.3	44.9	127.4	30.2	0.04	0.17	923	139	11.1	62.8	132.1	29.4	0.01	0.40	935	151	8.9	46.7	135.7	26.4	0.09	0.44	929
1/4/23	155	9.5	26.3	128.5	28.5	0.04	0.20	920	138	10.8	47.7	133.2	27.2	0.01	0.41	943	151	9.1	44	135.5	21.8	0.10	0.32	918
1/5/23	153	9.2	31.4	129.7	29.8	0.02	0.21	931	138	10.8	44	139.9	25.1	0.00	0.41	944	149	8.9	44.7	142.8	23.9	0.11	0.34	933
1/6/23	153	9.3	32.2	126.1	27.4	0.03	0.19	943	139	10.8	59.8	135.2	21.7	0.01	0.39	937	152	9.3	45.5	137.1	20.5	0.07	0.42	910
1/7/23	156	9.5	38.8	124.9	29	0.04	0.19	929	138	11.2	60.8	137.9	24.3	0.01	0.48	911	152	9.1	54.3	136.5	19.7	0.02	0.67	906
1/8/23	155	9.3	49.3	125.1	21.7	0.03	0.26	948	138	11	68.7	133.9	26.5	0.01	0.83	933	152	8.9	65.7	140.2	22.6	0.15	1.05	926
1/9/23	156	9	27.4	126.9	23	0.07	0.36	950	139	11.2	40.9	132.4	25.7	0.00	0.86	913	152	8.9	40.3	137.2	21.3	0.12	1.53	914
1/10/23									139	11.4	58.8	140.7	29.8	0.01	0.42	909	154	9.1	53.7	138.5	24.4	0.10	0.96	917
1/11/23	157	9.8	44.6	125.8	31.2	0.07	0.54	908	139	11.1	44.9	131.9	28.6	0.00	0.57	920	150	9.1	43.2	134.7	20.5	0.09	0.20	916
1/12/23	155	9.6	33.2	127.1	24.2	0.05	0.65	932	138	10.7	40	135.6	34.3	0.05	0.91	932	147	9.1	26.2	132.8	21.1	0.08	0.17	921
1/13/23	155	9.5	35.7	121	25.6	0.11	0.69	934	139	11.1	46.9	139.2	25.1	0.01	1.03	917	151	8.9	40.3	134.1	19	0.09	0.18	921
1/14/23	155	9.9	36.8	125.2	33.6	0.11	0.90	923	139	10.9	48.2	133.9	26.6	0.00	1.11	929	148	8.6	42.5	135.4	19.7	0.11	0.15	924
1/15/23	156	9.6	46.9	122.5	30.6	0.09	1.14	931	140	11.2	58.6	137.8	23.6	0.02	1.96	924	153	9.1	57.6	138.7	17	0.15	0.21	920
1/16/23	152	9.9	17.4	117	28.8	0.10	1.46	909	140	10.9	42.6	129.6	26.3	0.01	1.75	925								
1/17/23	147	10.6	80.4	123	28.2	0.16	1.75	926	139	11.4	114.3	137.5	21.2	0.00	1.23	926								
1/18/23									137	11.2	61.3	132.5	29.1	0.00	1.23	920	154	8.6	114.5	139.8	22	0.08	0.24	920
1/19/23									137	11.6	68.6	132.4	20	0.01	1.28	916	153	8.7	136	140	16.6	0.06	0.33	940
1/20/23	155	9.6	179.9	127	30.5	0.12	0.00	915								156	9.4	157.2	135	24.5	0.12	0.40	917	
1/21/23	154	9.7	168.4	130.4	20.5	0.06	0.00	921	153	9.8	181	133.7	16.4	0.01	1.33	921	156	9.4	155.6	133.8	22.5	0.09	0.43	931
1/22/23	158	9.6	126	126.7	24	0.04	0.00	914	154	9.2	149	134.6	19	0.01	1.35	934	156	9	105.2	131.9	22.8	0.25	0.38	915
1/23/23	156	9.9	88.7	130.1	27.5	0.05	0.00	919	156	9.4	104.9	138	17.1	0.00	1.31	927	157	8.7	75.1	133.3	18.7	0.14	0.32	925
1/24/23	156	9.2	111.4	126	23.4	0.04	0.00	940	155	9.9	112.5	138.5	20.3	0.00	1.26	903	156	8.2	99.2	132.2	19.2	0.10	0.34	930
1/25/23	156	9.9	105.8	130.3	28.7	0.07	0.00	918	157	9.8	131.3	145.4	20	0.00	1.21	908	158	9	93.9	136.1	26.3	0.15	0.38	916
1/26/23	154	9.8	107.5	131.6	26	0.15	0.00	936	156	9.9	112.2	134.9	23	0.00	1.15	913	155	8.1	96	133.8	23.5	0.05	0.37	934
1/27/23	157	9.4	104	130.6	26.8	0.09	0.00	923	156	9	115.4	132.1	22.7	0.02	1.13	928	157	8.6	86.9	133.8	26.2	0.15	0.33	912
1/28/23	155	9.2	94.9	129.8	17.1	0.04	0.00	943	155	8.9	113.8	130.8	23	0.02	1.18	938	156	8.2	84.4	135.1	15.4	0.08	0.38	951
1/29/23	157	9.6	91.5	128.9	23	0.09	0.00	936	157	8.7	118.2	132.6	18.6	0.00	1.30	945	157	8.6	87	136.5	15.5	0.01	0.46	942
1/30/23	156	9.3	54.9	127.5	24.7	0.05	0.00	941	155	8.7	85.6	130.1	20	0.00	1.31	938	156	8.1	61	135.3	22.1	1.24	0.52	955
1/31/23	155	9.4	76.9	128.3	31.2	0.08	0.00	938	156	8.8	111.4	131.9	22.9	0.02	1.30	945	154	8.3	79.7	138.6	22.3	0.07	1.12	948
Average	155	9.5	68.4	126.8	26.3	0.07	0.32	927	144.9	10.4	79.3	134.9	23.6	0.01	0.99	924.0	153.2	8.8	72.8	135.7	21.5	0.14	0.46	923.2
Min	147	9.0	17.4	117.0	17.1	0.02	0.00	904	137.0	8.7	35.1	129.6	16.4	0.00	0.30	881.0	147.0	8.1	26.2	130.5	15.4	0.01	0.15	876.0
Max	158	10.6	179.9	131.6	33.6	0.16	1.75	950	157.0	11.6	181.0	145.4	34.3	0.05	1.96	945.0	158.0	9.4	157.2	142.8	26.4	1.24	1.53	955.0
St Dev	2.1	0.33	43.75	3.20	4.00	0.04	0.47	12.6	8.26	0.96	38.39	3.57	4.28	0.01	0.44	14.76	3.07	0.39	35.76	2.96	3.11	0.22	0.32	15.67

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.