metrovancouver

Monthly Operating Reports

January 2022

The following January 2022 operating report was sent to the Ministry of Environment and Climate Change Strategy on March 2, 2022.

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

January 2022

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	35.5	33.1	38.5
SO_2	200	24 hr	65.2	93.7	59.6
NOx	190	24 hr	130.3	146.0	153.7
THC	10	24 hr	0.59	0.24	0.32
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			0.63	0.52	0.35
CO			27.2	24.7	27.9
THC			0.04	0.10	0.22
SO_2			44.8	40.4	44.6
NOx			127.2	128.3	131.5

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
2-Jan 18:00	30 min	131.3	Started gas burners, adjusted airflow, modified feed rate.
5-Jan 04:30	30 min	128.3	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
7-Jan 23:30	30 min	106.7	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
13-Jan 11:30	30 min	123.0	Started gas burners, adjusted airflow, modified feed rate.
21-Jan 19:00	30 min	192.2	Started gas burners, adjusted airflow, modified feed rate.
27-Jan 16:30	30 min	135.5	Adjusted airflow, modified feed rate, checked instrumentation.
31-Jan 14:00	30 min	107.8	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
3-Jan 10:00	30 min	119.7	Started gas burners, adjusted airflow, modified feed rate.
8-Jan 18:30	30 min	102.2	Adjusted airflow, modified feed rate.
15-Jan 12:00	30 min	166.0	Started gas burners, adjusted airflow, modified feed rate.
16-Jan 16:30	30 min	201.4	Started gas burners, adjusted airflow, modified feed rate.
25-Jan 05:30	30 min	111.4	Started gas burners.

Compliance Parameter: Carbon Monoxide
Response Limit: 100 mg/dscm 1/2 hour average
Unit No. 3

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
6-Jan 14:30	30 min	160.4	Started gas burners, adjusted airflow, modified feed rate.
13-Jan 05:00	30 min	149.2	Started gas burners, adjusted airflow, modified feed rate, checked instrumentation.
15-Jan 08:00	30 min	104.9	Started gas burners, adjusted airflow, modified feed rate.
15-Jan 12:00	30 min	108.1	Started gas burners, adjusted airflow, modified feed rate.
22-Jan 09:30	30 min	127.2	Started gas burners, adjusted airflow, modified feed rate.
26-Jan 22:30	30 min	307.0	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	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	99	100	99

4. Shutdown Report

Unit 1

Duration in Hours	Reason	Date
0.47	Induced draft fan trip	January 18

Unit 2

Duration in Hours	Reason	Date
0.53	Fabric filter bag replacement	January 2
0.55	BC Hydro power interruption	January 15
0.57	Induced draft fan trip	January 22
0.68	Induced draft fan trip	January 22
24.28	Generating bank inlet fouled	January 26-27
0.70	Induced draft fan trip	January 31

Unit 3

Duration in Hours	Reason	Date
1.38	Poor refuse quality	January 7
0.98	Burner control card replaced	January 13
0.38	BC Hydro power interruption	January 15

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	**22,894**		
Waste Processed	tonnes/day	**261**	**236**	**261**
Maximum Waste Processed	tonnes/day	**275**	**265**	**275**
		Units 1, 2, and 3		
Natural Gas Consumed	m^3/day	**4,077**		
	m^3/month	**126,382**		
Fly ash disposed	tonnes	**931**		
Bottom ash disposed	tonnes	**3,372**		

7. Complaints and Responses

Date/Time	Complaint	Action Taken

ATTACHMENT 2

January 2022 - 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
1/1/22	156	9.1	41	126.3	22.5	0.00	0.55	945	152	9.1	43	128.3	25.6	0.10	0.10	929	154	8.6	44.6	132.2	25	0.21	0.38	923
1/2/22	155	9.3	44.1	127.6	31.4	0.02	0.48	927	150	9.1	33.7	127.4	26.7	0.09	0.06	910	154	8.2	41.8	131.4	25.7	0.27	0.30	914
1/3/22	154	9.2	40.6	125.8	25.6	0.00	0.44	928	150	9.7	26.3	127.6	27.4	0.12	0.01	899	156	8.3	44.3	131.4	29.5	0.25	0.25	908
1/4/22	152	9.6	35	126.6	29	0.11	0.44	929	148	9.9	18.6	126.2	25.3	0.06	0.12	889	157	9	43.6	133.6	28.8	0.27	0.29	899
1/5/22	153	10	38.8	129.9	30.8	0.01	0.52	905	152	10	19	129.7	25.9	0.03	0.02	892	157	9.1	41.1	134.2	25.1	0.27	0.36	895
1/6/22	152	9.5	34.4	125.6	20.5	0.00	0.54	911	150	9.9	24.3	127	21	0.03	0.01	894	156	9	41.7	131.5	25.7	0.24	0.38	888
1/7/22	153	9.4	49.1	129	28.5	0.01	0.46	915	151	9.6	48	128.6	26.8	0.13	0.02	906	156	8.9	47.4	130.5	29.4	0.26	0.26	894
1/8/22	153	9.4	42	126	25.2	0.00	0.54	911	152	9.4	35.5	127	29.8	0.07	0.10	917	155	8.7	42.4	130.1	26.2	0.22	0.27	907
1/9/22	154	9.4	54.9	125	25.5	0.01	0.57	927	152	9.5	49.2	124.8	24.1	0.06	0.17	919	155	8.8	47.8	129.6	24.8	0.25	0.31	913
1/10/22	156	9.8	37.9	128.4	23.6	0.02	0.48	910	153	9.9	25.6	126.6	27	0.11	0.00	898	156	8.6	35.8	129.5	28.1	0.27	0.32	919
1/11/22	155	9.3	55.5	128.3	28.2	0.02	0.45	938	150	9.8	59	127.4	23	0.08	0.00	916	156	8.5	58	130.4	28.6	0.23	0.27	929
1/12/22	156	9.5	33.5	128.4	30.9	0.05	0.46	920	148	10.4	19	127.9	23	0.03	0.01	891	157	8.6	34	130.9	27.2	0.23	0.27	908
1/13/22	156	9.5	28.5	129.6	24.6	0.01	0.43	916	150	10.5	17.4	129.8	21.8	0.07	0.07	892	156	8.7	30.3	130.2	31.9	0.32	0.23	906
1/14/22	153	9.7	26.6	127.3	26.9	0.00	0.43	918	151	10.7	19.8	127.5	25.2	0.20	0.54	881	156	8.8	33.3	130.8	30.8	0.30	0.30	901
1/15/22	152	9.6	41.6	128.9	25.7	0.00	0.44	918	146	10.4	28.9	124.7	28.7	0.11	0.58	906	152	8.6	41.4	129.6	30.6	0.24	0.31	915
1/16/22	152	9.4	34.4	126.7	23	0.00	0.52	922	148	10.2	23.9	126.9	33.1	0.24	0.66	915	154	8.6	38.5	129.9	29.9	0.24	0.34	907
1/17/22	150	9.3	30.8	125.3	22.7	0.17	0.51	932	146	10.1	27.1	127.9	29	0.09	0.37	911	154	8.6	34.9	129.9	29.5	0.23	0.34	898
1/18/22	155	9.6	61.6	127	28	0.59	0.59	931	145	10.2	44.5	127.9	25.4	0.10	1.16	914	154	8.6	42.7	132.5	28.4	0.25	0.33	914
1/19/22	153	9.6	42.7	128.8	31	0.01	0.56	932	143	10.3	26.5	126.1	21.7	0.10	1.25	920	152	8.9	37.3	130.6	33.4	0.24	0.32	914
1/20/22	152	9.6	45.1	128.1	29.3	0.00	0.66	925	143	10.3	31	129.3	19.4	0.11	0.72	908	152	8.8	43.9	131.2	31.6	0.24	0.33	921
1/21/22	154	9.6	44.6	128	35.1	0.11	0.83	918	142	10.6	34.7	125.4	24.2	0.07	1.25	909	152	8.7	46.7	133.1	22.1	0.20	0.36	922
1/22/22	154	9.5	54	127.1	26.3	0.00	0.97	939	141	10.8	31.8	125.3	27.6	0.08	0.66	902	153	8.7	37.9	130.8	28.5	0.18	0.37	922
1/23/22	154	9.4	59.9	130.3	20.9	0.00	1.24	948	142	10.8	32.8	146	20.6	0.10	0.85	915	151	8.7	43.1	153.7	24.3	0.17	0.41	932
1/24/22	155	9.3	40.5	127.1	31	0.00	1.60	948	142	11	29.5	128.7	28.4	0.15	0.78	898	154	8.4	40.6	134.6	23	0.16	0.41	941
1/25/22	155	9.8	52.6	126.2	35.5	0.00	1.68	938	138	11.4	30.4	123.4	29.2	0.11	0.62	897	155	9.3	58	131.9	25.7	0.15	0.42	921
1/26/22	152	9.5	65.2	126.3	29.3	0.01	1.33	935									151	9.1	58.9	128.8	38.5	0.21	0.42	919
1/27/22	151	9.8	61.1	126.2	28.7	0.07	0.43	949	144	9.8	90.3	132.3	22	0.13	1.60	935	150	9.3	59.6	128.8	25.8	0.11	0.41	914
1/28/22	150	9.6	51.2	126.7	25.1	0.00	0.34	955	145	10.1	82	131	16.5	0.05	1.43	924	151	9.4	56	130.3	24.4	0.16	0.46	915
1/29/22	148	9.6	45.1	125.4	24.2	0.00	0.36	957	146	9.8	88.4	129.6	15.2	0.05	1.37	936	152	8.8	57.6	129.3	24.9	0.16	0.45	925
1/30/22	149	9.8	42.7	125.8	25.4	0.01	0.33	919	147	10.4	78.3	130.9	22.2	0.06	0.80	901	152	8.8	48.5	128.9	32.2	0.22	0.47	900
1/31/22	152	9.9	54.8	124.2	28.7	0.03	0.32	907	147	10	93.7	128.7	25.8	0.17	0.38	909	152	9.2	49.9	127.6	24.7	0.18	0.46	906
Average	153	9.5	44.8	127.2	27.2	0.04	0.63	928	147.1	10.1	40.4	128.3	24.7	0.10	0.52	907.8	153.9	8.8	44.6	131.5	27.9	0.22	0.35	912.6
Min	148	9.1	26.6	124.2	20.5	0.00	0.32	905	138.0	9.1	17.4	123.4	15.2	0.03	0.00	881.0	150.0	8.2	30.3	127.6	22.1	0.11	0.23	888.0
Max	156	10.0	65.2	130.3	35.5	0.59	1.68	957	153.0	11.4	93.7	146.0	33.1	0.24	1.60	936.0	157.0	9.4	59.6	153.7	38.5	0.32	0.47	941.0
St Dev	2.1	0.21	10.18	1.53	3.73	0.11	0.36	14.4	3.98	0.53	23.23	3.89	3.95	0.05	0.51	13.58	2.08	0.29	8.11	4.42	3.51	0.05	0.07	11.94

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.