

Monthly Operating Reports

June 2023

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



August 14, 2023

File: SW-02-02-WTEF-10-02

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Solid Waste Authorizations – South (Kamloops)
Environmental Protection Division
Ministry of Environment and Climate Change Strategy
1259 Dalhousie Drive
Kamloops, BC V2C 5Z5
VIA EMAIL: EnvAuthorizationsReporting@gov.bc.ca

Dear Carol Danyluk:

Metro Vancouver Waste-to-Energy Facility – Monthly Emission Summary for June 2023

Attached is the emission summary for June 2023. All monitored parameters were in compliance with the requirements of Amended Operational Certificate 107051 which was issued by the Province on December 3, 2020. Monitored parameters which exceeded response limit thresholds and the corresponding response action have been identified in the summary.

If you have any questions or comments, please contact Brent Kirkpatrick at 604-451-6623 or at Brent.Kirkpatrick@metrovancouver.org.

Yours truly,



Chris Allan, P.Eng.
Director, Solid Waste Operations

CA/BK/sw

cc: Nicole Victor, Covanta Energy
Erica Lay, City of Burnaby
Arnold Fok, Fraser Health Authority

Attachments: 1. Emission Summary for June 2023
2. June 2023 – Monthly Continuous Emission Monitoring System Data

61713043

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

June 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	45.4	37.8	40.0
SO ₂	200	24 hr	83.7	124.3	85.0
NOx	190	24 hr	132.7	135.6	139.4
THC	10	24 hr	0.17	0.47	1.79
			Monthly Average (mg/dscm)		
			Unit 1	Unit 2	Unit 3
Opacity (%)			0.4	1.14	0.61
CO			35.2	29.1	34.2
THC			0.07	0.07	0.57
SO ₂			48.4	64.2	55.6
NOx			126.7	128.8	132.6

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. 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
1-Jun 09:30	30 min	103.1	Started gas burners, adjusted airflow, modified feed rate.
7-Jun 11:30	30 min	152.1	Started gas burners, adjusted airflow, modified feed rate.
20-Jun 04:30	30 min	131.5	Started gas burners, adjusted airflow, modified feed rate.
22-Jun 10:00	30 min	144.9	Started gas burners, adjusted airflow, modified feed rate.
30-Jun 15:30	30 min	157.2	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
6-Jun 05:00	30 min	120.9	Started gas burners, adjusted airflow, modified feed rate.
6-Jun 15:00	60 min	112.5	Feeder hang up. Started gas burners, adjusted airflow, modified feed rate.
30-Jun 08:30	30 min	146.3	Started gas burners, adjusted airflow, modified feed rate.
30-Jun 18:00	30 min	118.7	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
7-Jun 13:00	60 min	156.6	Online boiler wash. Started gas burners, adjusted airflow, modified feed rate.
7-Jun 15:00	30 min	262.0	Online boiler wash. Started gas burners, adjusted airflow, modified feed rate.
19-Jun 06:00	30 min	117.3	Started gas burners, adjusted airflow, modified feed rate.
30-Jun 08:30	30 min	137.2	Started gas burners, adjusted airflow, modified feed rate.

Compliance Parameter: Total Hydrocarbons
Response Limit: 20 mg/dscm 1/2 hour average
Unit No. 3

Date / Time	Duration	Exceedance (mg/dscm)	Action Taken
1-Jun 09:00	30 min	33.3	Monitored CO, 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	98	98
CO	90	Hour	99	98	98
SO ₂	90	Hour	99	98	98
NOx	90	Hour	99	98	98
THC	90	Hour	99	97	98
Stack Flow	90	Hour	100	100	100

4. Shutdown Report

Unit 1

Duration in Hours	Reason	Date
0.80	BC Hydro power interruption	June 4
0.12	BC Hydro power interruption	June 24

Unit 2

Duration in Hours	Reason	Date
1.28	BC Hydro power interruption	June 4
0.23	Attemperator pump trip	June 10
0.80	Ground fault trip	June 23
0.22	BC Hydro power interruption	June 24
27.88	Boiler water wash	June 27-29

Unit 3

Duration in Hours	Reason	Date
0.67	BC Hydro power interruption	June 4
51.02	Fire in the grate drive area, repairs	June 9-11
0.27	BC Hydro power interruption	June 24
14.37	Boiler water wash	June 28

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	21,835		
Waste Processed	tonnes/day	248	217	223
Maximum Waste Processed	tonnes/day	272	243	259
		Units 1, 2, and 3		
Natural Gas Consumed	m ³ /day	1,502		
	m ³ /month	45,068		
Fly ash disposed	tonnes	904		
Bottom ash disposed	tonnes	3,946		

7. Complaints and Responses

Date/Time	Complaint	Action Taken

ATTACHMENT 2

June 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
6/1/23	143	10.9	39.4	132.7	35	0.00	0.02	924	152	9.9	64.3	129.7	23	0.06	1.24	950	151	9.7	56.6	131.3	32.5	1.79	0.00	930
6/2/23	141	10.7	41.9	128.3	29.2	0.02	0.00	940	153	9.9	74	127	25	0.00	1.26	945	152	10	59.7	131.5	28.6	0.80	0.00	906
6/3/23	143	10.9	49.4	129.9	27.2	0.03	0.02	938	153	9.9	71.1	129.3	27.6	0.05	1.27	952	151	10.4	61.7	131	33.8	0.67	0.01	908
6/4/23	143	10.8	46	126.2	28.8	0.07	0.00	952	152	9.7	73.9	125.9	24.9	0.00	1.26	964	151	9.7	45.6	129.7	28.5	0.42	0.01	918
6/5/23	141	11	27	126.7	34.2	0.07	0.34	925	153	9.5	50.3	126.1	25.2	0.36	1.36	960	150	9.3	26.5	130.7	27.3	0.59	0.03	924
6/6/23	140	10.4	38.9	126.6	29.2	0.06	0.47	956	150	10.2	53.1	128.4	34.3	0.47	1.30	921	147	9.2	60.1	135.2	33.1	0.80	0.04	939
6/7/23	142	9.8	49.2	123.8	41.1	0.05	0.43	990	150	9.4	60.2	127.7	30.1	0.15	1.12	962	148	9.3	45	130	37.2	1.05	0.42	940
6/8/23	145	9.8	57.2	129.3	34.1	0.05	0.42	975	154	9.9	65.9	133.2	30.1	0.10	1.10	933	152	9.5	54.5	137.3	34.3	0.66	0.72	931
6/9/23	148	10.2	55.9	129.9	25.2	0.03	0.49	958	154	10.3	74.1	130.5	31.4	0.11	1.08	940								
6/10/23	151	10.2	56.5	130.9	32.9	0.00	0.63	932	152	9.8	59.9	129.7	25.4	0.00	1.08	942								
6/11/23	149	10	41.8	126.7	26.8	0.05	0.85	938	153	9.8	56.3	127.3	24.5	0.00	1.10	937								
6/12/23	150	9.7	35.3	127.9	30.7	0.06	1.03	938	153	10.2	44.1	132.3	31	0.01	1.08	906	155	9.3	58.9	137.9	36.3	0.97	0.59	899
6/13/23	148	9.5	55.2	128	27.5	0.08	1.42	949	151	9.7	74.6	135.6	26.4	0.11	1.07	943	154	9.3	75.9	139.4	32.2	0.83	0.66	912
6/14/23	147	10.4	35.4	128.4	33.9	0.10	1.95	929	153	10.8	58.3	128.3	33.6	0.03	1.12	931	156	9.9	67.5	128.1	30.1	1.15	0.69	913
6/15/23	143	10.1	35.1	125.9	36.8	0.11	1.14	944	152	10.2	56.7	131.7	21.1	0.02	1.13	953	155	9.1	54.4	131.3	31.7	0.56	0.73	936
6/16/23	145	10	41.3	125.5	36.2	0.00	0.18	946	153	10	69.2	128.6	24	0.00	1.09	949	156	9.3	85	130.6	36	0.00	0.79	914
6/17/23	144	10.1	45.8	125.8	36.8	0.08	0.24	952	153	9.7	74.3	127.4	25.8	0.00	1.09	965	154	9.2	71.6	133.1	34.8	0.45	0.82	923
6/18/23	146	9.9	42	125.3	35.8	0.00	0.27	962	153	9.6	66.3	128.7	27.2	0.00	1.11	953	154	8.9	62.6	131.7	33.3	0.33	0.82	924
6/19/23	148	9.4	33.1	120.6	39.4	0.10	0.31	953	152	9.6	48.1	125.6	30.6	0.01	1.12	944	153	9.2	39.8	129.8	35.6	0.14	0.91	906
6/20/23	148	9.7	82.1	125.1	44.8	0.09	0.31	952	150	10	62.7	126.9	34.3	0.01	1.12	938	150	9.1	59.7	129.2	38	0.12	0.88	916
6/21/23	144	10.5	36.1	129.6	36.5	0.10	0.24	922	150	10.8	48.7	127.5	33.3	0.03	1.09	920	152	9.4	47.7	130.4	35.1	0.54	0.80	921
6/22/23	146	10.4	36.7	128	40.4	0.09	0.23	931	148	10.8	46.1	129.3	34.5	0.03	1.11	926	152	9.7	42.4	131.4	36.4	0.28	0.78	911
6/23/23	145	9.4	51.6	123.1	37.6	0.10	0.15	969	150	10.4	69.7	128.6	27.5	0.01	1.11	929	154	9.8	50.5	134.2	33.8	0.05	0.82	895
6/24/23	145	9.9	53	123.9	39.6	0.12	0.21	950	150	10.6	65.1	129.3	29	0.02	1.11	934	153	9.4	50.3	134.5	32.1	0.54	0.86	912
6/25/23	149	9.5	49.2	123.4	32.6	0.08	0.22	950	148	10.1	55.5	129.1	26.3	0.02	1.12	927	153	9.2	41.1	132.5	40	0.07	0.88	905
6/26/23	148	10.2	39.1	123.4	41.1	0.12	0.20	944	148	10.3	51.2	126.6	29	0.01	1.11	935	153	9.9	41.9	132.5	38.1	0.40	0.85	891
6/27/23	149	10.5	64.8	127	44.2	0.11	0.26	937	150	10.4	63.5	127.6	37.8	0.09	1.11	949	155	9.6	60.7	132.3	38	0.18	0.90	917
6/28/23	145	10.4	79.8	126.6	35	0.09	0.23	946																
6/29/23	147	10.4	83.7	124.5	38.1	0.11	0.29	952	155	8.9	124.3	128	31.8	0.08	1.15	971	158	9.6	71.7	135.4	36.3	0.81	0.98	913
6/30/23	146	10.8	50.6	127.9	45.4	0.17	0.24	928	153	9.3	81.4	129.4	37.8	0.17	1.15	966	157	9	53.6	136.2	36.3	0.57	0.93	941
Average	146	10.2	48.4	126.7	35.2	0.07	0.43	946	151.7	10.0	64.2	128.8	29.1	0.39	1.14	942.9	152.9	9.5	55.6	132.6	34.2	0.57	0.61	917.1
Min	140	9.4	27.0	120.6	25.2	0.00	0.00	922	148.0	8.9	44.1	125.6	21.1	0.00	1.07	906.0	147.0	8.9	26.5	128.1	27.3	0.00	0.00	891.0
Max	151	11.0	83.7	132.7	45.4	0.17	1.95	990	155.0	10.8	124.3	135.6	37.8	9.30	1.36	971.0	158.0	10.4	85.0	139.4	40.0	1.79	0.98	941.0
St Dev	2.9	0.47	14.22	2.64	5.50	0.04	0.44	15.4	1.90	0.46	15.24	2.23	4.39	1.72	0.08	15.67	2.61	0.35	12.83	2.88	3.22	0.40	0.35	13.48

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.