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Title: Title V Semi-Annual Emissions Report for Permits P100-R2M3 and P100-R2M4, July 1, 2019 – December 31, 2019 AI No. 856 – Los Alamos National Laboratory

Author(s): Whetham, Walter Wiley

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Symbol: ESHQSS: 20-011

LA-UR: 20-21641

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Date: **MAR 16 2020**

Mr. Edward O'Brien
Compliance Reporting Manager
New Mexico Environment Department, Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505-1816

Subject: Title V Semi-Annual Emissions Report for Permits P100-R2M3 and P100-R2M4, July 1, 2019 – December 31, 2019 AI No. 856 – Los Alamos National Laboratory

Dear Mr. O'Brien:

Please find Los Alamos National Laboratory's (LANL) Semi-Annual Emissions report for Operating permits P100-R2M3 and P100-R2M4 for the period July 1, 2019 through December 31, 2019 (*Attachment I*). This report is required by permit condition A109.B and is submitted within 90 days from the end of the reporting period as required by that condition.

The Semi-Annual Emissions report includes actual emissions from permitted sources included in LANL's Operating Permit. In this report, actual emissions are listed along with emission limits for ease in comparing and verifying compliance. No emission limits were exceeded during this reporting period.

If you have any questions or comments regarding this submittal or would like to discuss the submittal in greater detail, please contact Adrienne Nash at (505) 665-5026 or Walt Whetham at (505) 665-8885.

Sincerely,

Jennifer E. Payne
Division Leader
Environmental Protection and Compliance
Triad National Security, LLC

Sincerely,

Michael J. Weis
Manager, Los Alamos Field Office
National Nuclear Security Administration
U.S. Department of Energy
Los Alamos Field Office

JEP/MJW/WWW:jdm

Attachment(s): Attachment 1 Title V Semi-Annual Emissions Report for Permits P100-R2M3 and P100-R2M4, July 1, 2019 – December 31, 2019

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Title V Report Certification Form

I. Report Type

- Annual Compliance Certification
- Semi-Annual Monitoring Report
- Other Specify: Semi-Annual Emissions Report

II. Identifying Information

Facility Name: Los Alamos National Laboratory

Facility Address: P.O. Box 1663, MS J978

State: NM

Zip: 87545

Responsible Official (RO): Michael J. Weis

Phone: (505) 667-5105

Fax: NA

RO Title: Manager

RO e-mail: michael.weis@nnsa.doe.gov

Permit No.: P100-R2M4

Date Permit Issued: 7/18/2019

Report Due Date (as required by the permit): 3/29/2020

Permit AI number: 856

Time period covered by this Report: From: 7/18/2019

To: 12/31/2019

III. Certification of Truth, Accuracy, and Completeness

I am the Responsible Official indicated above. I, (Michael J. Weis) certify that I meet the requirements of 20.2.70.7.AE NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.

Signature



Date: 3/26/2020

Title V Report Certification Form

I. Report Type

- Annual Compliance Certification
- Semi-Annual Monitoring Report
- Other Specify: Semi-Annual Emissions Report

II. Identifying Information

Facility Name: Los Alamos National Laboratory

Facility Address: P.O. Box 1663, MS J978

State: NM

Zip: 87545

Responsible Official (RO): Michael J. Weis

Phone: (505) 667-5105

Fax: NA

RO Title: Manager

RO e-mail: michael.weis@nnsa.doc.gov

Permit No.: P100-R2M3

Date Permit Issued: 10/17/2018

Report Due Date (as required by the permit): 3/29/2020

Permit AI number: 856

Time period covered by this Report: From: 7/1/2019

To: 7/17/2019

III. Certification of Truth, Accuracy, and Completeness

I am the Responsible Official indicated above. I, (Michael J. Weis) certify that I meet the requirements of 20.2.70.7.AE NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.

Signature



Date:

3/16/2020

**Title V Semi-Annual Emissions Report
AI 856, Permits P100-R2M3 & P100-R2M4
July 1, 2019 - December 31, 2019**

Emission Reporting Requirements

A109 Facility: Reporting Schedules

- A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on January 1st and July 1st of each year.

- B. A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Specific Emissions Reports:

A600 Asphalt Production

A602 Emission Limits - Asphalt Production

Unit No.	Nox tpy	SO2 tpy	PM tpy	CO tpy	VOC tpy
TA-60-BDM	50.0	50.0	50.0	30.0	50.0

Reporting Requirement

A607 F The permittee shall submit reports described in Section A109 and in accordance with B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NOx, CO, SO2, VOC, TSP, PM10, and PM2.5 shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Asphalt Plant TA-60-BDM	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A602 A) (tons per year)
NOx	0.0023	0.0011	0.003	50.0
SO ₂	0.0009	0.0004	0.001	50.0
PM	0.0014	0.0007	0.002	50.0
CO	0.0809	0.0388	0.120	30.0
VOC	0.0015	0.0007	0.002	50.0
HAPs	0.0014	0.0007	0.002	No Source Permit Limit

A700 Beryllium Activities

A702 Emission Limits - Beryllium Activities

Source	Beryllium Particulate Matter	Aluminum Particulate Matter
Sigma Facility TA-3-66	10 gm/24 hr	N/A
Beryllium Technology Facility TA-3-141	3.5 gm/yr	N/A
Target Fabrication Facility TA-35-213	0.36 gm/yr	N/A
Plutonium Facility TA-55-PF-4 Machining Operation	2.99 gm/yr	2.99 gm/yr
Plutonium Facility TA-55-PF-4 Foundry Operation	8.73X10 ⁻⁰⁴ gm/yr	8.73X10 ⁻⁰⁴ gm/yr

Reporting Requirement

A707 D The permittee shall submit reports described in Section A109 and in accordance with B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments: To meet condition of 5.f in NSR permit #634-M2, LANL submitted the following quarterly beryllium emissions reports for the Beryllium Technology Facility: first quarter report, May 7, 2019 (SBR20190006), second quarter report, August 12, 2019 (SBR20190007), third quarter, November 14, 2019 (SBR201900010), and fourth quarter, February 13, 2020, (SBR20200004).

A700 Beryllium Activities - continued

Comments:

Source	Pollutant	January - June Emissions	July - December Emissions	Annual Emissions	Permit Limits (Condition A702 A)
Sigma Facility TA-3-66 ⁽¹⁾	Beryllium (grams)	2.80E-07	0	2.80E-07	10 gm/24 hr
Beryllium Technology Facility TA-3-141 ⁽²⁾	Beryllium (grams)	0.0034	0.0029	0.006	3.5 gm/yr
Target Fabrication Facility TA-35-213 ⁽³⁾	Beryllium (grams)	< 0.00944	< 0.009	< 0.018	0.36 gm/yr
Plutonium Facility TA-55-PF4 Machining Operation ⁽⁴⁾	Beryllium (grams)	< 1.495	< 1.41	< 2.91	2.99 gm/yr
	Aluminum (grams)	< 1.495	< 1.41	< 2.91	2.99 gm/yr
Plutonium Facility TA-55-PF4 Foundry Operation ⁽⁵⁾	Beryllium (grams)	0	0	0.00	8.73×10^{-4} gm/yr
	Aluminum (grams)	0	0	0.00	8.73×10^{-4} gm/yr
Beryllium Total⁽⁵⁾ (tons) =		< 1.69E-06	< 1.57E-06	< 3.26E-06	
Aluminum Total (tons) =		< 1.65E-06	< 1.55E-06	< 3.30E-06	

Notes: (1) Emissions from the Sigma Facility are from electroplating, chemical milling, and metallographic operations. (2) Emission values shown for the Beryllium Technology Facility are from actual stack emission measurements which are submitted to NMED quarterly. (3) Emissions for the Target Fabrication Facility are from initial compliance testing of that source and calculated based on a conservative assumption of 8 hour work days. Log books were checked to verify that work days were much less than 8 hours. (4) Emissions for the Plutonium Facility are calculated based on permitted throughputs. Log books were checked to verify that throughputs were much less than permitted values. (5) The Plutonium Facility foundry operations did not operate during 2019.

A800 External Combustion

A802 Emission Limits - External Combustion

Unit No.	NOx tpy	CO tpy	VOC tpy	SO ₂ tpy	TSP tpy	PM ₁₀ tpy
All Boilers	80.0	80.0	50.0	50.0	50.0	50.0

Unit No.	NOx tpy	CO tpy	SO ₂ tpy	TSP tpy	PM ₁₀ tpy	PM _{2.5} tpy
RLUOB-BHW-1 (gas)	2.9	4.8	0.3	0.4	0.4	0.4
RLUOB-BHW-2 (gas)	2.9	4.8	0.3	0.4	0.4	0.4
RLUOB-BHW-3 (gas)	2.9	4.8	0.3	0.4	0.4	0.4
RLUOB-BHW-4 (gas)	2.9	4.8	0.3	0.4	0.4	0.4
RLUOB Boilers (oil)	2.9	0.9	10.4	0.5	0.3	0.3
RLUOB Boilers Total	14.5	20.1	11.6	2.1	1.9	1.9

Reporting Requirement

A807 B The permittee shall submit reports described in Section A109 and in accordance with B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NOx, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Boilers	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A802 A) (tons per year)
NOx	12.37	7.03	19.4	80
SO ₂	0.08	0.04	0.1	50
TSP	0.99	0.57	1.6	50
PM-10	0.99	0.57	1.6	50
CO	9.97	5.53	15.5	80
VOCs	0.70	0.40	1.1	50
HAPs	0.24	0.13	0.4	No Source Limit

Note: The emissions shown in this table includes all exempt, non-exempt, metered, and non-metered boilers at LANL except for the TA-3-22 Power Plant boilers. The Power Plant boilers can be found under Section A1300 of this report.

Continued on the next page

A800 External Combustion - continued

RLUOB-BHW-1 (Gas)	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A802 B) (tons per year)
NOx	0.0057	0.0054	0.011	2.9
SO ₂	0.0001	0.0001	0.0002	0.3
TSP	0.0010	0.0009	0.002	0.4
PM-10	0.0010	0.0009	0.002	0.4
PM-2.5	0.0010	0.0009	0.002	0.4
CO	0.0073	0.0069	0.014	4.8
VOCs	0.0050	0.0046	0.010	No Source Limit
HAPs	3.64E-04	3.40E-04	0.001	No Source Limit

RLUOB-BHW-2 (Gas)	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A802 B) (tons per year)
NOx	0.0057	0.0054	0.011	2.9
SO ₂	0.0001	0.0001	0.0002	0.3
TSP	0.0010	0.0009	0.002	0.4
PM-10	0.0010	0.0009	0.002	0.4
PM-2.5	0.0010	0.0009	0.002	0.4
CO	0.0073	0.0069	0.014	4.8
VOCs	0.0050	0.0046	0.010	No Source Limit
HAPs	3.64E-04	3.40E-04	0.001	No Source Limit

RLUOB-BHW-3 (Gas)	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A802 B) (tons per year)
NOx	0.0057	0.0054	0.011	2.9
SO ₂	0.0001	0.0001	0.0002	0.3
TSP	0.0010	0.0009	0.002	0.4
PM-10	0.0010	0.0009	0.002	0.4
PM-2.5	0.0010	0.0009	0.002	0.4
CO	0.0073	0.0069	0.014	4.8
VOCs	0.0050	0.0046	0.010	No Source Limit
HAPs	3.64E-04	3.40E-04	0.001	No Source Limit

RLUOB-BHW-4 (Gas)	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A802 B) (tons per year)
NOx	0	0	0	2.9
SO ₂	0	0	0	0.3
TSP	0	0	0	0.4
PM-10	0	0	0	0.4
PM-2.5	0	0	0	0.4
CO	0	0	0	4.8
VOCs	0	0	0	No Source Limit
HAPs	0	0	0	No Source Limit

Note: The RLUOB-BHW-4 boiler has not been installed.

Continued on the next page.

A800 External Combustion - continued

RLUOB Boilers Totals (Oil)	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A802 B) (tons per year)
NOx	0	0	0	2.9
SO ₂	0	0	0	10.4
TSP	0	0	0	0.5
PM-10	0	0	0	0.3
PM-2.5	0	0	0	0.3
CO	0	0	0	0.9
VOCs	0	0	0	No Source Limit
HAPs	0	0	0	No Source Limit

Note: The RLUOB boilers did not operate on fuel oil during 2019.

RLUOB Boilers Totals (Gas and Oil)	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A802 B) (tons per year)
NOx	0.0172	0.0161	0.033	14.5
SO ₂	0.0003	0.0003	0.001	11.6
TSP	0.0029	0.0027	0.006	2.1
PM-10	0.0029	0.0027	0.006	1.9
PM-2.5	0.0029	0.0027	0.006	1.9
CO	0.0220	0.0206	0.043	20.1
VOCs	0.0149	0.0139	0.029	No Source Limit
HAPs	1.09E-03	1.02E-03	0.002	No Source Limit

A900 Chemical Usage

A902 Emission Limits - Chemical Usage

Unit No.	VOC/HAPs tpy
LANL-FW-CHEM	3.75 ¹
CMRR-CHEM	3.75 ¹

¹ The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in Table 106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs. Any VHAPs that are also defined as a VOC shall be included in the VOC total.

Reporting Requirement

A907 A The permittee shall submit reports described in Section A109 and in accordance with B110. With respect to individual HAPs, reports shall include any HAP emitted in quantity greater than 0.5 tons per year.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Chemical Usage LANL-FW-CHEM		January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A902 B)
VOCs		6.46	5.56	12.02	Source limits refer to facility-wide limits.
HAPs		2.46	2.40	4.86	
Individual HAPs greater than 0.5 tons	Methanol	0.61	0.31	0.92	
	Hydrochloric Acid	0.23	0.35	0.58	
	Methylene Chloride	0.22	0.32	0.54	

Chemical Usage CMRR-CHEM		January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A902 B)
HAPs		0.0023	0	0.0023	3.75
VOCs		0	0.0035	0.0035	3.75
TAPs		0.0511	0.0174	0.0685	No Source Limit

A1000 Degreasers

A1002 Emission Limits - Degreasers

Unit No.	VOC/HAPs tpy
TA-55-DG-1	--

1 The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in Table 106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs. Any VHAPs that are also defined as a VOC shall be included in the VOC total.

Reporting Requirement

A1007 A The permittee shall submit reports described in Section A109 and in accordance with B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Degreaser TA-55-DG-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1002 A) (tons per year)
VOCs	0.022	0.039	0.061	Source limits refer to facility-wide limits.
HAPs	0.022	0.039	0.061	

A1100 Internal Combustion

A1102 Emission Limits - Internal Combustion

Unit No.	NO _x tpy	CO tpy	VOC tpy	SO ₂ tpy	TSP tpy	PM ₁₀ tpy
TA-33-G-1P	18.1	15.2	0.3	2.5	0.6	0.6
TA-33-G-2	0.21	0.1	-- ¹	--	--	--
TA-33-G-3	0.21	0.1	-- ¹	--	--	--
TA-33-G-4	2.33	1.4	0.2	0.16	--	--

¹ The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in condition 106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs.

Reporting Requirement

A1107 A The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in 60.4218 and in accordance with Section B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Generator TA-33-G-1P	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1102 A) (tons per year)
NO _x	1.49	0.0067	1.50	18.1
SO ₂	0.04	0.0002	0.04	2.5
TSP	0.05	0.0002	0.05	0.6
PM ₁₀	0.05	0.0002	0.05	0.6
CO	0.15	0.0007	0.15	15.2
VOC	0.11	0.0005	0.11	0.3
HAPs	0.0004	1.94E-06	4.33E-04	No Source Limit

Generator TA-33-G-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1102 A) (tons per year)
NO _x	0.0047	0.0007	0.0054	0.21
SO ₂	0.0003	0.0001	0.0004	Not Required
TSP	0.0003	0.0001	0.0004	Not Required
PM ₁₀	0.0003	0.0001	0.0004	Not Required
CO	0.0014	0.0002	0.0016	0.1
VOC	0.0004	0.0001	0.0004	Not Required
HAPs	1.52E-06	2.37E-07	1.76E-06	No Source Limit

Continued on the next page.

A1100 Internal Combustion- continued

Generator TA-33-G-3	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1102 A) (tons per year)
NOx	0	0	0	0.21
SO ₂	0	0	0	Not Required
TSP	0	0	0	Not Required
PM ₁₀	0	0	0	Not Required
CO	0	0	0	0.1
VOC	0	0	0	Not Required
HAPs	0	0	0	No Source Limit

Note: The TA-33-G-3 generator did not operate during 2019.

Generator TA-33-G-4	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1102 A) (tons per year)
NOx	0.0293	0.0234	0.053	2.38
SO ₂	0.0020	0.0016	0.004	0.18
TSP	0.0020	0.0016	0.004	Not Required
PM ₁₀	0.0020	0.0016	0.004	Not Required
CO	0.0177	0.0141	0.032	1.4
VOC	0.0023	0.0019	0.004	0.2
HAPs	9.51E-06	7.60E-06	1.71E-05	No Source Limit

Generator RLUOB-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.0034	0	0.0034	No Source Specific Emission Limits for the CMRR Generators
SO ₂	0.0001	0	0.0001	
TSP	0.0002	0	0.0002	
PM ₁₀	0.0002	0	0.0002	
CO	0.0042	0	0.0042	
VOC	0.0005	0	0.0005	
HAPs	9.64E-07	0	9.64E-07	

Note: The RLUOB-GEN-1 generator did not operate during the second 6 months of 2019.

Generator RLUOB-GEN-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.245	0.297	0.54	No Source Specific Emission Limits for the CMRR Generators
SO ₂	0.006	0.008	0.01	
TSP	0.014	0.017	0.03	
PM ₁₀	0.012	0.015	0.03	
CO	0.304	0.368	0.67	
VOC	0.035	0.042	0.08	
HAPs	7.04E-05	8.53E-05	1.56E-04	

Continued on the next page.

A1100 Internal Combustion- continued

Generator RLUOB-GEN-3	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.203	0.272	0.48	No Source Specific Emission Limits for the CMRR Generators
SO ₂	0.005	0.007	0.01	
TSP	0.012	0.016	0.03	
PM ₁₀	0.010	0.013	0.02	
CO	0.252	0.337	0.59	
VOC	0.029	0.038	0.07	
HAPs	5.83E-05	7.81E-05	1.36E-04	

Generator TA-48-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0	0	0	No Source Specific Emission Limits for the TA-48 Generator
SO ₂	0	0	0	
TSP	0	0	0	
PM ₁₀	0	0	0	
CO	0	0	0	
VOC	0	0	0	
HAPs	0	0	0	

Note: The TA-48-GEN-1 generator did not operate during 2019.

Generator TA-55-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0	0	0	No Source Specific Emission Limits for the TA-55 Generators
SO ₂	0	0	0	
TSP	0	0	0	
PM ₁₀	0	0	0	
CO	0	0	0	
VOC	0	0	0	
HAPs	0	0	0	

Note: The TA-55-GEN-1 generator did not operate during 2019.

Generator TA-55-GEN-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0	0.007	0.007	No Source Specific Emission Limits for the TA-55 Generators
SO ₂	0	0.001	0.001	
TSP	0	0.001	0.001	
PM ₁₀	0	0.001	0.001	
CO	0	0.002	0.002	
VOC	0	0.001	0.001	
HAPs	0	2.31E-06	2.31E-06	

Note: The TA-55-GEN-2 generator did not operate during the first 6 months of 2019.

Continued on the next page.

A1100 Internal Combustion- continued

Generator TA-55-GEN-3	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.207	0.128	0.34	No Source Specific Emission Limits for the TA-55 Generators
SO₂	0.0035	0.0022	0.006	
TSP	0.006	0.004	0.01	
PM₁₀	0.006	0.004	0.01	
CO	0.045	0.028	0.07	
VOC	0.006	0.004	0.01	
HAPs	3.77E-05	2.33E-05	6.10E-05	

A1200 Data Disintegrator

A1202 Emission Limits - Data Disintegrator

Unit No.	TSP tpy	PM10 tpy
TA-52-11	9.9	9.9

Reporting Requirement

A1207 A The permittee shall submit reports described in Section A109 and in accordance with B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NOx, CO, SO2, VOC, TSP, PM10, and PM2.5 shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Data Disintegrator TA-52-11	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1202 A) (tons per year)
TSP	0.011	0.18	0.19	9.9
PM10	0.010	0.16	0.17	9.9

A1300 TA-3 Power Plant

A1302 Emission Limits - TA-3 Power Plant

All TA-3 Power Plant Boilers Combined (TA-33-1, TA-33-2, TA-33-3)

NOx tpy	CO tpy	VOC tpy	SOx tpy	TSP tpy	PM ₁₀ tpy	PM2.5 tpy
31.5	21.5	2.8	4.9	4.7	4.4	4.2

TA-3 Power Plant Turbine (TA-3-22-CT-1)

NOx tpy	CO tpy	VOC tpy	SOx tpy	TSP tpy	PM ₁₀ tpy	PM2.5 tpy
59.4	72.3	1.5	4.2	4.8	4.8	4.8

Reporting Requirement

A1307 A The permittee shall submit reports described in Section A109 and in accordance with B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NOx, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Boilers TA-3-22-1, TA-3-22-2, TA-3-22-3	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limit (Condition A1302 A) (tons per year)
NOx	5.954	4.342	10.30	31.5
SO ₂	0.062	0.049	0.11	4.9
TSP	0.780	0.570	1.35	4.7
PM ₁₀	0.780	0.570	1.35	4.4
PM _{2.5}	0.780	0.569	1.35	4.2
CO	4.106	2.994	7.10	21.5
VOC	0.565	0.411	0.98	2.8
HAPs	0.194	0.141	0.34	No Source Limit

Combustion Turbine TA-3-22 CT-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limit (Condition A1302 A) (tons per year)
NOx	0.615	1.687	2.30	59.4
SOx	0.043	0.117	0.16	4.2
TSP	0.083	0.227	0.31	4.8
PM ₁₀	0.083	0.227	0.31	4.8
PM _{2.5}	0.083	0.227	0.31	4.8
CO	0.128	0.351	0.48	72.3
VOC	0.027	0.074	0.10	1.5
HAPs	0.017	0.046	0.06	No Source Limit

A1400 Open Burning

A1402 Emission Limits - Open Burning

Unit No.	Individual HAP ¹ (tpy)	Total HAPs ¹ (tpy)
Facility-Wide Open Burning	8.0	24.0

¹ Individual and Total HAPs emitted by Open Burning are included in facility-wide HAP emission limits at Table 106.B.

Reporting Requirement

A1407 A The permittee shall submit reports as outlined in the Condition 1407.A Requirements, as described in Section A109, and in accordance with Section B110.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources and the Soil Vapor Extraction equipment at Material Disposal Area L shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

No open burning activities took place during 2019.

A1500 Evaporative Sprayers

A1502 Emission Limits - Evaporative Sprayers

Unit No.	HAPs tpy
TA-60-EVAP-1	-- ¹
TA-60-EVAP-2	-- ¹
TA-60-EVAP-3	-- ¹
TA-60-EVAP-4	-- ¹
TA-60-EVAP-5	-- ¹

¹ Hazardous air pollutants (HAPs) from the evaporative coolers are included in and subject to the individual and total HAP facility-wide emission limits in Table 106.B: 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs.

Reporting Requirement

A1507 A The permittee shall submit reports described in Section A109 and in accordance with B111.

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment.

Comments:

Evaporative Sprayer TA-60-EVAP-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1502.A) (tons per year)
Polychlorinated biphenyls	7.07E-10	0	7.07E-10	Source limits refer to facility-wide limits.
Chloroform	4.31E-06	0	4.31E-06	
Chloromethane	7.90E-06	0	7.90E-06	
Bromoform	8.97E-07	0	8.97E-07	
Cyanide Compounds	3.88E-05	0	3.88E-05	
Manganese Compounds	1.69E-05	0	1.69E-05	
Antimony Compounds	1.13E-05	0	1.13E-05	
TOTAL HAPs	2.06E-04	0	2.06E-04	

Note: The TA-60-EVAP-1 evaporative sprayer did not operate during the second six months of 2019.

Evaporative Sprayer TA-60-EVAP-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1502.A) (tons per year)
Polychlorinated biphenyls	3.18E-10	0	3.18E-10	Source limits refer to facility-wide limits.
Chloroform	1.94E-06	0	1.94E-06	
Chloromethane	3.55E-06	0	3.55E-06	
Bromoform	4.04E-07	0	4.04E-07	
Cyanide Compounds	1.74E-05	0	1.74E-05	
Manganese Compounds	7.59E-06	0	7.59E-06	
Antimony Compounds	5.08E-06	0	5.08E-06	
TOTAL HAPs	9.27E-05	0	9.27E-05	

Note: The TA-60-EVAP-2 evaporative sprayer did not operate during the second six months of 2019.

Continued on the next page.

A1500 Evaporative Sprayers - continued

Evaporative Sprayer TA-60-EVAP-3	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1502 A) (tons per year)
Polychlorinated biphenyls	0	0	0	Source limits refer to facility-wide limits.
Chloroform	0	0	0	
Chloromethane	0	0	0	
Bromoform	0	0	0	
Cyanide Compounds	0	0	0	
Manganese Compounds	0	0	0	
Antimony Compounds	0	0	0	
TOTAL HAPs	0	0	0	

Note: The TA-60-EVAP-3 evaporative sprayer did not operate during 2019.

Evaporative Sprayer TA-60-EVAP-4	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1502 A) (tons per year)
Polychlorinated biphenyls	4.14E-10	5.11E-10	9.25E-10	Source limits refer to facility-wide limits.
Chloroform	2.52E-06	3.11E-06	5.63E-06	
Chloromethane	4.62E-06	5.70E-06	1.03E-05	
Bromoform	5.25E-07	6.48E-07	1.17E-06	
Cyanide Compounds	2.27E-05	2.80E-05	5.07E-05	
Manganese Compounds	9.88E-06	1.22E-05	2.21E-05	
Antimony Compounds	6.61E-06	8.15E-06	1.48E-05	
TOTAL HAPs	1.21E-04	1.49E-04	2.69E-04	

Evaporative Sprayer TA-60-EVAP-5	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1502 A) (tons per year)
Polychlorinated biphenyls	0	8.29E-10	8.29E-10	Source limits refer to facility-wide limits.
Chloroform	0	5.05E-06	5.05E-06	
Chloromethane	0	9.26E-06	9.26E-06	
Bromoform	0	1.05E-06	1.05E-06	
Cyanide Compounds	0	4.55E-05	4.55E-05	
Manganese Compounds	0	1.98E-05	1.98E-05	
Antimony Compounds	0	1.32E-05	1.32E-05	
TOTAL HAPs	0	2.42E-04	2.42E-04	

Note: The TA-60-EVAP-5 did not operate during the first six months of 2019.

Evaporative Sprayer TA-60-EVAP-6	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1502 A) (tons per year)
Polychlorinated biphenyls	1.33E-10	5.39E-10	6.72E-10	Source limits refer to facility-wide limits.
Chloroform	8.11E-07	3.28E-06	4.09E-06	
Chloromethane	1.49E-06	6.02E-06	7.50E-06	
Bromoform	1.69E-07	6.84E-07	8.52E-07	
Cyanide Compounds	7.30E-06	2.95E-05	3.68E-05	
Manganese Compounds	3.18E-06	1.29E-05	1.60E-05	
Antimony Compounds	2.12E-06	8.60E-06	1.07E-05	
TOTAL HAPs	3.88E-05	1.57E-04	1.96E-04	

A102 Facility Wide Emission Limits

Table 102.A: Total Potential Criteria Pollutant Emissions from Entire Facility

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NO _x)	245.0
Carbon Monoxide (CO)	225.0
Volatile Organic Carbons (VOC)	200.0
Sulfur Dioxide (SO ₂)	150.0
Total Particulate Matter (TSP)	120.0
Particulate Matter less than 10 microns (PM ₁₀)	120.0
Particulate Matter less than 2.5 microns (PM _{2.5})	120.0

Table 102.B: Total Potential HAPs that exceed 1.0 tons per year

Pollutant	Emissions (tons per year)
Individual HAP	8.0
Total HAPs	24.0

Reporting Requirement

A109 B A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of criteria pollutants NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

Has this reporting requirement been met during this reporting period with a separate reporting submittal? Answer Yes or No below.

Yes

Date report submitted:

Tracking Number:

No

Provide comments and identify any supporting documentation as an attachment.

Comments:

Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	2019 Annual Emissions (tons)	Facility Wide Permit Limits (Condition A102) (tons per year)
Nitrogen Oxides	21.13	13.80	34.93	245
Carbon Monoxide	15.06	9.66	24.72	225
Volatile Organic Carbons	7.96	6.57	14.53	200
Sulfur Dioxide	0.24	0.23	0.47	150
Total Particulate Matter	1.95	1.59	3.53	120
Particulate Matter less than 10 microns	1.94	1.56	3.50	120
Particulate Matter less than 2.5 microns	0.87	0.80	1.66	120
Hazardous Air Pollutants	2.93	2.76	5.69	24