

## LA-UR-19-21018

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Title: Title V Semi-Annual Emissions Report AI 856, Permits P100-R2M2 and P100-R2M3 July 1, 2018 - December 31, 2018

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**Title V Semi-Annual Emissions Report AI 856,  
Permits P100-R2M2 and P100-R2M3  
July 1, 2018 – December 31, 2018**

**ESHQSS-19-015**

**LA-UR-19-21018**

**Title V Semi-Annual Emissions Report**  
**AI 856, Permits P100-R2M2 and P100-R2M3**  
**July 1, 2018 - December 31, 2018**

**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 1<sup>st</sup> and July 1<sup>st</sup> 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<sub>x</sub>, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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	SO <sub>2</sub> 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, SO<sub>2</sub>, 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	0.0026	0.0021	0.005	50.0
SO <sub>2</sub>	0.0010	0.0008	0.002	50.0
PM	0.0016	0.0013	0.003	50.0
CO	0.0942	0.0762	0.170	30.0
VOC	0.0018	0.0014	0.003	50.0
HAPs	0.0017	0.0013	0.003	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 <sup>-04</sup> gm/yr	8.73X10 <sup>-04</sup> 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<sub>x</sub>, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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, April 18, 2018 (SBR20180006), second quarter report, August 17, 2018 (SBR20180008), third quarter, October, 24, 2018 (SBR20180011), and fourth quarter report, February 06, 2019 (SBR20190003).

## 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 <sup>(1)</sup>	Beryllium (grams)	0.020	0.0006	0.021	10 gm/24 hr
Beryllium Technology Facility TA-3-141 <sup>(2)</sup>	Beryllium (grams)	0.0032	0.0031	0.0062	3.5 gm/yr
Target Fabrication Facility TA-35-213 <sup>(3)</sup>	Beryllium (grams)	< 0.00944	< 0.009	< 0.018	0.36 gm/yr
Plutonium Facility TA-55-PF4 Machining Operation <sup>(4)</sup>	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 <sup>(5)</sup>	Beryllium (grams)	0	0	0.00	$8.73 \times 10^{-4}$ gm/yr
	Aluminum (grams)	0	0	0.00	$8.73 \times 10^{-4}$ gm/yr
<b>Beryllium Total<sup>(6)</sup> (tons) =</b>		<b>&lt; 1.69E-06</b>	<b>&lt; 1.57E-06</b>	<b>&lt; 3.26E-06</b>	
<b>Aluminum Total (tons) =</b>		<b>&lt; 1.65E-06</b>	<b>&lt; 1.55E-06</b>	<b>&lt; 3.30E-06</b>	

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 the last 6 months of 2018.

### A800 External Combustion

#### A802 Emission Limits - External Combustion

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

Unit No.	NOx tpy	CO tpy	SO <sub>2</sub> tpy	TSP tpy	PM <sub>10</sub> tpy	PM <sub>2.5</sub> 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, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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	10.98	9.32	20.3	80
SO <sub>2</sub>	0.07	0.06	0.1	50
TSP	0.88	0.75	1.6	50
PM-10	0.88	0.75	1.6	50
CO	8.86	7.46	16.3	80
VOCs	0.63	0.53	1.2	50
HAPs	0.21	0.18	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	0.0056	0.0049	0.011	2.9
SO <sub>2</sub>	0.0001	0.0001	0.0002	0.3
TSP	0.0009	0.0008	0.002	0.4
PM-10	0.0009	0.0008	0.002	0.4
PM-2.5	0.0009	0.0008	0.002	0.4
CO	0.0072	0.0063	0.013	4.8
VOCs	0.0048	0.0042	0.009	No Source Limit
HAPs	3.55E-04	3.12E-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	0.0056	0.0049	0.011	2.9
SO <sub>2</sub>	0.0001	0.0001	0.0002	0.3
TSP	0.0009	0.0008	0.002	0.4
PM-10	0.0009	0.0008	0.002	0.4
PM-2.5	0.0009	0.0008	0.002	0.4
CO	0.0072	0.0063	0.013	4.8
VOCs	0.0048	0.0042	0.009	No Source Limit
HAPs	3.55E-04	3.12E-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	0.0056	0.0049	0.011	2.9
SO <sub>2</sub>	0.0001	0.0001	0.0002	0.3
TSP	0.0009	0.0008	0.002	0.4
PM-10	0.0009	0.0008	0.002	0.4
PM-2.5	0.0009	0.0008	0.002	0.4
CO	0.0072	0.0063	0.013	4.8
VOCs	0.0048	0.0042	0.009	No Source Limit
HAPs	3.55E-04	3.12E-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 <sub>2</sub>	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**

<b>RLUOB Boilers Totals (Oil)</b>	<b>January - June Emissions (tons)</b>	<b>July - December Emissions (tons)</b>	<b>Annual Emissions (tons)</b>	<b>Permit Limits (Condition A802 B) (tons per year)</b>
NOx	0	0	0	2.9
SO <sub>2</sub>	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 2018.

<b>RLUOB Boilers Totals (Gas and Oil)</b>	<b>January - June Emissions (tons)</b>	<b>July - December Emissions (tons)</b>	<b>Annual Emissions (tons)</b>	<b>Permit Limits (Condition A802 B) (tons per year)</b>
NOx	0.0168	0.0148	0.032	14.5
SO <sub>2</sub>	0.0003	0.0003	0.001	11.6
TSP	0.0028	0.0024	0.005	2.1
PM-10	0.0028	0.0024	0.005	1.9
PM-2.5	0.0028	0.0024	0.005	1.9
CO	0.0215	0.0189	0.040	20.1
VOCs	0.0145	0.0127	0.027	No Source Limit
HAPs	1.07E-03	9.35E-04	0.002	No Source Limit

## A900 Chemical Usage

### A902 Emission Limits - Chemical Usage

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

<sup>1</sup> 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<sub>x</sub>, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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		5.64	5.61	11.25	Source limits refer to facility-wide limits.
HAPs		3.07	2.81	5.88	
Individual HAPs greater than 0.5 tons	Hydrochloric Acid	0.70	0.54	1.24	
	Methanol	0.57	0.57	1.14	
	Methylene Chloride	0.28	0.56	0.84	
	Hexane	0.20	0.34	0.54	

Chemical Usage CMRR-CHEM		January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A902 B)
HAPs		0.0124	0.0000	0.0124	3.75
VOCs		0.0034	0.0000	0.0034	3.75
TAPs		0.0369	0.0110	0.0479	No Source Limit

## A1000 Degreasers

### A1002 Emission Limits - Degreasers

Unit No.	VOC/HAPs tpy
TA-55-DG-1	0.011

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 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:

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	0.011	0.011	Source limits refer to facility-wide limits.
HAPs	0	0.011	0.011	

Note: The TA-55-DG-1 degreaser did not operate during the first 6 months of 2018.

## A1100 Internal Combustion

### A1102 Emission Limits - Internal Combustion

Unit No.	NOx tpy	CO tpy	VOC tpy	SO <sub>2</sub> tpy	TSP tpy	PM <sub>10</sub> 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	-- <sup>1</sup>	--	--	--
TA-33-G-3	0.21	0.1	-- <sup>1</sup>	--	--	--
TA-33-G-4	2.33	1.4	0.2	0.16	--	--

<sup>1</sup> 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 NOx, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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)
NOx	0.0157	0.1822	0.198	18.1
SO <sub>2</sub>	0.0004	0.0049	0.005	2.5
TSP	0.0005	0.0056	0.006	0.6
PM <sub>10</sub>	0.0005	0.0056	0.006	0.6
CO	0.0016	0.0182	0.020	15.2
VOC	0.0011	0.0134	0.015	0.3
HAPs	4.53E-06	5.27E-05	5.72E-05	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)
NOx	5.21E-05	0	5.21E-05	0.21
SO <sub>2</sub>	3.58E-06	0	3.58E-06	Not Required
TSP	3.58E-06	0	3.58E-06	Not Required
PM <sub>10</sub>	3.58E-06	0	3.58E-06	Not Required
CO	1.52E-05	0	1.52E-05	0.1
VOC	4.13E-06	0	4.13E-06	Not Required
HAPs	1.69E-08	0	1.69E-08	No Source Limit

Note: The TA-33-G-2 generator did not operate during the second six months of 2018.

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 <sub>2</sub>	0	0	0	Not Required
TSP	0	0	0	Not Required
PM <sub>10</sub>	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 2018.

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	0.0234	0.0996	0.123	2.33
SO <sub>2</sub>	0.0016	0.0069	0.008	0.16
TSP	0.0016	0.0069	0.008	Not Required
PM <sub>10</sub>	0.0016	0.0069	0.008	Not Required
CO	0.0141	0.0601	0.074	1.4
VOC	0.0019	0.0079	0.010	0.2
HAPs	7.60E-06	3.23E-05	3.99E-05	No Source Limit

Generator RLUOB-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0	0.0017	0.0017	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0	4.38E-05	4.38E-05	
TSP	0	0.0001	0.0001	
PM <sub>10</sub>	0	0.0001	0.0001	
CO	0	0.0021	0.0021	
VOC	0	0.0002	0.0002	
HAPs	0	4.82E-07	4.82E-07	

Note: The RLUOB-GEN-1 generator did not operate during the first 6 months of 2018.

Generator RLUOB-GEN-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.722	0.160	0.88	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.019	0.004	0.02	
TSP	0.042	0.009	0.05	
PM <sub>10</sub>	0.035	0.008	0.04	
CO	0.895	0.198	1.09	
VOC	0.102	0.023	0.12	
HAPs	2.07E-04	4.58E-05	2.53E-04	

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**A1100 Internal Combustion- continued**

Generator RLUOB-GEN-3	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.227	0.218	0.45	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.006	0.006	0.01	
TSP	0.013	0.013	0.03	
PM <sub>10</sub>	0.011	0.011	0.02	
CO	0.281	0.271	0.55	
VOC	0.032	0.031	0.06	
HAPs	6.51E-05	6.26E-05	1.28E-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 <sub>2</sub>	0	0	0	
TSP	0	0	0	
PM <sub>10</sub>	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 2018.

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 <sub>2</sub>	0	0	0	
TSP	0	0	0	
PM <sub>10</sub>	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 2018.

Generator TA-55-GEN-2	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 <sub>2</sub>	0	0	0	
TSP	0	0	0	
PM <sub>10</sub>	0	0	0	
CO	0	0	0	
VOC	0	0	0	
HAPs	0	0	0	

Note: The TA-55-GEN-2 generator did not operate during 2018.

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	0.147	0.090	0.24	No Source Specific Emission Limits for the TA-55 Generators
SO <sub>2</sub>	0.002	0.002	0.004	
TSP	0.005	0.003	0.01	
PM <sub>10</sub>	0.005	0.003	0.01	
CO	0.032	0.020	0.05	
VOC	0.005	0.003	0.01	
HAPs	2.68E-05	1.63E-05	4.31E-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 NO<sub>x</sub>, CO, SO<sub>2</sub>, 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 (tone)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A1202 A) (tons per year)
TSP	0.22	0.17	0.39	9.9
PM10	0.20	0.15	0.35	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 <sub>10</sub> 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 <sub>10</sub> 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, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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	5.396	4.734	10.13	31.5
SO <sub>2</sub>	0.057	0.049	0.11	4.9
TSP	0.707	0.620	1.33	4.7
PM <sub>10</sub>	0.707	0.620	1.33	4.4
PM <sub>2.5</sub>	0.707	0.620	1.33	4.2
CO	3.721	3.265	6.99	21.5
VOC	0.512	0.449	0.96	2.8
HAPs	0.176	0.154	0.33	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	3.254	1.088	4.34	59.4
SOx	0.226	0.075	0.30	4.2
TSP	0.438	0.147	0.58	4.8
PM <sub>10</sub>	0.438	0.147	0.58	4.8
PM <sub>2.5</sub>	0.438	0.147	0.58	4.8
CO	0.677	0.226	0.90	72.3
VOC	0.142	0.047	0.19	1.5
HAPs	0.089	0.030	0.12	No Source Limit

## A1400 Open Burning

### A1402 Emission Limits - Open Burning

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

<sup>1</sup> 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<sub>x</sub>, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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 2018.

## A1500 Evaporative Sprayers

### A1502 Emission Limits - Evaporative Sprayers

Unit No.	HAPs tpy
TA-60-EVAP-1	.. <sup>1</sup>
TA-60-EVAP-2	.. <sup>1</sup>
TA-60-EVAP-3	.. <sup>1</sup>
TA-60-EVAP-4	.. <sup>1</sup>
TA-60-EVAP-5	.. <sup>1</sup>

<sup>1</sup> 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<sub>x</sub>, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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	1.02E-09	9.35E-10	1.96E-09	Source limits refer to facility-wide limits.
Chloroform	4.71E-06	5.69E-06	1.04E-05	
Chloromethane	3.22E-06	1.04E-05	1.37E-05	
Bromoform	4.16E-06	1.19E-06	5.35E-06	
Cyanide Compounds	9.57E-06	5.12E-05	6.08E-05	
Manganese Compounds	3.46E-05	2.23E-05	5.69E-05	
Antimony Compounds	1.64E-05	1.49E-05	3.13E-05	
<b>TOTAL HAPs</b>	<b>2.55E-04</b>	<b>2.72E-04</b>	<b>5.27E-04</b>	

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	6.20E-10	5.73E-10	1.19E-09	Source limits refer to facility-wide limits.
Chloroform	2.85E-06	3.49E-06	6.33E-06	
Chloromethane	1.95E-06	6.39E-06	8.34E-06	
Bromoform	2.52E-06	7.27E-07	3.24E-06	
Cyanide Compounds	5.79E-06	3.14E-05	3.72E-05	
Manganese Compounds	2.09E-05	1.37E-05	3.46E-05	
Antimony Compounds	9.89E-06	9.14E-06	1.90E-05	
<b>TOTAL HAPs</b>	<b>1.54E-04</b>	<b>1.67E-04</b>	<b>3.21E-04</b>	

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 in 2018.

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	0	7.58E-11	7.58E-11	Source limits refer to facility-wide limits.
Chloroform	0	4.62E-07	4.62E-07	
Chloromethane	0	8.47E-07	8.47E-07	
Bromoform	0	9.62E-08	9.62E-08	
Cyanide Compounds	0	4.16E-06	4.16E-06	
Manganese Compounds	0	1.81E-06	1.81E-06	
Antimony Compounds	0	1.21E-06	1.21E-06	
TOTAL HAPs	0	2.21E-05	2.21E-05	

Note: The TA-60-EVAP-4 evaporative sprayer did not operate during the first six months of 2018.

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	4.72E-13	4.72E-13	Source limits refer to facility-wide limits.
Chloroform	0	2.87E-09	2.87E-09	
Chloromethane	0	5.27E-09	5.27E-09	
Bromoform	0	5.99E-10	5.99E-10	
Cyanide Compounds	0	2.59E-08	2.59E-08	
Manganese Compounds	0	1.13E-08	1.13E-08	
Antimony Compounds	0	7.53E-09	7.53E-09	
TOTAL HAPs	0	1.38E-07	1.38E-07	

Note: The TA-60-EVAP-5 did not operate during the first six months of 2018.



## A102 Facility Wide Emission Limits

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

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NOx)	245.0
Carbon Monoxide (CO)	225.0
Volatile Organic Carbons (VOC)	200.0
Sulfur Dioxide (SO <sub>2</sub> )	150.0
Total Particulate Matter (TSP)	120.0
Particulate Mater less than 10 microns (PM <sub>10</sub> )	120.0
Particulate Mater less than 2.5 microns (PM <sub>2.5</sub> )	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 NOx, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> 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)	2018 Annual Emissions (tons)	Facility Wide Permit Limits (Condition A102) (tons per year)
Nitrogen Oxides	20.77	15.90	36.7	245
Carbon Monoxide	14.57	11.60	26.2	225
Volatile Organic Carbons	7.06	6.73	13.8	200
Sulfur Dioxide	0.38	0.20	0.6	150
Total Particulate Matter	2.31	1.72	4.0	120
Particulate Matter less than 10 microns	2.28	1.70	4.0	120
Particulate Matter less than 2.5 microns	1.15	0.77	1.9	120
Hazardous Air Pollutants	3.55	3.18	6.7	24