



***Environmental Safety & Health***  
***Los Alamos National Laboratory***  
 PO Box 1663, K491  
 Los Alamos, New Mexico 87545  
 (505) 667-4218

***Environmental Management***  
***Los Alamos Field Office, A316***  
 3747 West Jemez Road  
 Los Alamos, New Mexico, 87544  
 (505) 667-5105/ Fax (505) 667-5948

*Symbol:* ADESH-17: 028

*Date:* **MAR 22 2017**

*LA-UR:* 17-21996

*Locates Action No.:* N/A

Mr. Ralph Grubel  
 Compliance & Enforcement Section Chief  
 New Mexico Environment Department  
 Air Quality Bureau  
 525 Camino de los Marquez, Suite 1  
 Santa Fe, New Mexico 87505-1816

**Subject: Title V Semi-Annual Emissions Report for Permit P100-R2, July 1, 2016 – December 31, 2016 AI No. 856 – Los Alamos National Laboratory (LANL)**

Dear Mr. Grubel:

Please find Los Alamos National Laboratory's (LANL) Semi-Annual Emissions report for Permit P100-R2 for the period July 1, 2016 through December 31, 2016. 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, the actual emissions are listed along with the emission limits for ease in comparing and verifying compliance. No annual emission limits were exceeded during this reporting period.

Please contact Steven L. Story at (505) 665-2169 or [story@lanl.gov](mailto:story@lanl.gov) of the Environmental Compliance Programs group (EPC-CP) if you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Brandt".

Michael T. Brandt, DrPH, CIH  
 Associate Director  
 MTB/SLS/WW:tav



COPY



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**RECEIVED**  
**MAR 24 2017**  
**Air Quality Bureau**

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Please contact Steven L. Story at (505) 665-2169 or [story@lanl.gov](mailto:story@lanl.gov) of the Environmental Compliance Programs group (EPC-CP) if you have questions.

Sincerely,

Michael T. Brandt, DrPH, CIH  
Associate Director  
MTB/SLS/WW:tav





**New Mexico Environment Department  
Air Quality Bureau  
Compliance and Enforcement Section  
1301 Siler Road Building B  
Santa Fe, NM 87507  
Phone (505) 476-4300 Fax (505) 476-4375**



Version 07.03.08

<b>NMED USE ONLY</b>	
DTS	
TEMPO	

## REPORTING SUBMITTAL FORM

<b>NMED USE ONLY</b>	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

### SECTION I - GENERAL COMPANY AND FACILITY INFORMATION

A. ® Company Name: U.S. Department of Energy			D. ® Facility Name: Los Alamos National Laboratory		
B.1 ® Company Address: P.O. Box 1663 MS J978			E.1 ® Facility Address: Same as Company		
B.2 ® City: Los Alamos	B.3 ® State: NM	B.4 ® Zip: 8 7 5 4 5	E.2 ® City:	E.3 ® State:	E.4 ® Zip:
C.1 ® Company Environmental Contact: Tony Grieggs	C.2 ® Title: CP Group Leader	F.1 ® Facility Contact: Steve Story	F.2 ® Title: Air Compliance Team Leader		
C.3 ® Phone Number: 505-665-0451	C.4 ® Fax Number: 505-665-8858	F.3 ® Phone Number: 505-665-2169	F.4 ® Fax Number: 505-665-8858		
C.5 ® Email Address: grieggst@lanl.gov			F.5 ® Email Address: story@lanl.gov		
G. Responsible Official: (Title V only): Michael T. Brandt		H. Title: Associate Director ES&H	I. Phone Number: 505-667-4218	J. Fax Number: 505-665-3811	
K. ® AI Number: 856	L. Title V Permit Number: P100-R2	M. Title V Permit Issue Date: 2/27/2015	N. NSR Permit Number: 2195	O. NSR Permit Issue Date: Various	
P. Reporting Period: From: 7/1/2016 To: 12/31/2016		OR	Q. Proposed Test Date:	OR	R. Actual Test Date:

### SECTION II - TYPE OF SUBMITTAL (check one that applies)

A. <input type="checkbox"/>	Title V Annual Compliance Certification	Permit Condition(s):	Description:		
B. <input type="checkbox"/>	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:		
C. <input type="checkbox"/>	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:	
D. <input type="checkbox"/>	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:	
E. <input type="checkbox"/>	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:	
F. <input checked="" type="checkbox"/>	Permit or Notice of Intent (NOI) Requirement	Permit No. <input checked="" type="checkbox"/> or NOI No. <input type="checkbox"/> P100-R2	Condition(s): A109 B	Description: Title V Semi-Annual Emissions Report 7/1/2016-12/31/2016 ADESH17028 LAUR1721996	
G. <input type="checkbox"/>	Requirement of an Enforcement Action	NOV No. <input type="checkbox"/> or SFO No. <input type="checkbox"/> or CD No. <input type="checkbox"/> or Other <input type="checkbox"/>	Section(s):	Description:	

### SECTION III - PERIODIC EMISSIONS TEST NOTIFICATIONS, TEST PROTOCOLS AND TEST REPORTS (if applicable)

T. <input type="checkbox"/>	A. Test Report <input type="checkbox"/> CMT: _____	B. Test Protocol <input type="checkbox"/>	C. Notification <input type="checkbox"/> CMT: _____	Description: (Emission Units to be Tested)
	D. Test (EPA Methods) <input type="checkbox"/>	E. Test (EPA Methods) <input type="checkbox"/>	F. RATA Test <input type="checkbox"/>	

### SECTION IV - CERTIFICATION

After reasonable inquiry, I Michael T. Brandt certify that the information in this submittal is true, accurate and complete.  
(name of reporting official)

® Signature of Reporting Official: 	® Title: Associate Director ES&H	® Date: 3/24/17	® Responsible Official for Title V? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	-------------------------------------	--------------------	--

Reviewed By:

Date Reviewed:

**Title V Semi-Annual Emission Report  
for Permit P100-R2  
July 1, 2016 – December 31, 2016**

**Identifying Information**

Source Name: Los Alamos National Laboratory County: Los Alamos

Source Address:

City: Los Alamos State: NM Zip Code: 87545

Responsible Official: Michael T. Brandt Ph No. (505) 667-4218 Fax No. (505) 665-3811

Technical Contact: Steven L. Story Ph No. (505) 665-2169 Fax No. (505) 665-8858

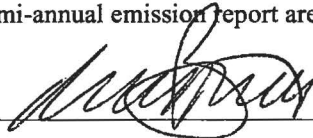
Principal Company Product or Business: National Security and Nuclear Weapons Research Primary SIC Code: 8733

Permit No. P100-R2, July 1, 2016 – Dec. 31, 2016 {IDEA/Tempo ID No. 856} Permit Issued Date: Feb. 27, 2015

**Certification of Truth, Accuracy, and Completeness**

I, Michael T. Brandt certify that, based on information and belief formed after reasonable inquiry, the statements and information in the attached semi-annual emission report are true, accurate, and complete.

Signature



Date:

3/22/17

Title: Associate Director Environmental, Safety, and Health



# ENCLOSURE 1

Title V Semi-Annual Emissions Report  
for Permit P100-R2  
July 1, 2016 – December 31, 2016

ADESH-17: 028

LA-UR-17-21996

Date: MAR 22 2017

**Title V Semi-Annual Emissions Report**  
**Permit P100-R2, July 1, 2016 - December 31, 2016**

**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	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 A802 A) (tons per year)
NOx	0.0021	0.0022	0.004	50.0
SO <sub>2</sub>	0.0008	0.0008	0.002	50.0
PM	0.0013	0.0013	0.003	50.0
CO	0.0740	0.0777	0.152	30.0
VOC	0.0014	0.0015	0.003	50.0
HAPs	0.0013	0.0014	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: Continued on the next page

## 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)	0.00E+00	0.00E+00	0.00E+00	10 gm/24 hr
Beryllium Technology Facility TA-3-141 <sup>(2)</sup>	Beryllium (grams)	< 0.0032	0.0487	0.0519	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 x 10 <sup>-4</sup> gm/yr
	Aluminum (grams)	0	0	0.00	8.73 x 10 <sup>-4</sup> gm/yr
<b>Beryllium Total<sup>(5)</sup> (tons) =</b>		<b>&lt; 1.66E-06</b>	<b>&lt; 1.57E-06</b>	<b>&lt; 3.23E-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 2016.

## 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	11.47	7.31	18.8	80
SO <sub>2</sub>	0.07	0.04	0.1	50
TSP	0.92	0.59	1.5	50
PM-10	0.92	0.59	1.5	50
CO	9.22	5.78	15.0	80
VOCs	0.66	0.42	1.1	50
HAPs	0.22	0.14	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	0.0070	0.0064	0.013	2.9
SO <sub>2</sub>	0.0001	0.0001	0.0003	0.3
TSP	0.0012	0.0011	0.002	0.4
PM-10	0.0012	0.0011	0.002	0.4
PM-2.5	0.0012	0.0011	0.002	0.4
CO	0.0090	0.0082	0.017	4.8
VOCs	0.0061	0.0055	0.012	No Source Limit
HAPs	4.46E-04	4.04E-04	8.50E-04	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	0.0070	0.0064	0.013	2.9
SO <sub>2</sub>	0.0001	0.0001	0.0003	0.3
TSP	0.0012	0.0011	0.002	0.4
PM-10	0.0012	0.0011	0.002	0.4
PM-2.5	0.0012	0.0011	0.002	0.4
CO	0.0090	0.0082	0.017	4.8
VOCs	0.0061	0.0055	0.012	No Source Limit
HAPs	4.46E-04	4.04E-04	8.50E-04	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	0.0070	0.0064	0.013	2.9
SO <sub>2</sub>	0.0001	0.0001	0.0003	0.3
TSP	0.0012	0.0011	0.002	0.4
PM-10	0.0012	0.0011	0.002	0.4
PM-2.5	0.0012	0.0011	0.002	0.4
CO	0.0090	0.0082	0.017	4.8
VOCs	0.0061	0.0055	0.012	No Source Limit
HAPs	4.46E-04	4.04E-04	8.50E-04	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	0.000	0.000	0.000	2.9
SO <sub>2</sub>	0.000	0.000	0.000	0.3
TSP	0.000	0.000	0.000	0.4
PM-10	0.000	0.000	0.000	0.4
PM-2.5	0.000	0.000	0.000	0.4
CO	0.000	0.000	0.000	4.8
VOCs	0.000	0.000	0.000	No Source Limit
HAPs	0.000	0.000	0.000	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	0.000	0.000	0.000	2.9
SO <sub>2</sub>	0.000	0.000	0.000	10.4
TSP	0.000	0.000	0.000	0.5
PM-10	0.000	0.000	0.000	0.3
PM-2.5	0.000	0.000	0.000	0.3
CO	0.000	0.000	0.000	0.9
VOCs	0.000	0.000	0.000	No Source Limit
HAPs	0.000	0.000	0.000	No Source Limit

Note: The RLUOB boilers did not operate on fuel oil during 2016.

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	0.0211	0.0192	0.040	14.5
SO <sub>2</sub>	0.0004	0.0004	0.001	11.6
TSP	0.0035	0.0032	0.007	2.1
PM-10	0.0035	0.0032	0.007	1.9
PM-2.5	0.0035	0.0032	0.007	1.9
CO	0.0270	0.0245	0.051	20.1
VOCs	0.0182	0.0165	0.035	No Source Limit
HAPs	1.34E-03	1.21E-03	2.55E-03	No Source Limit



## A900 Chemical Usage

### A902 Emission Limits - Chemical Usage

Unit No.	VOC/HAPs tpy
LANL-FW-CHEM	-- <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		5.73	6.94	12.67	Source limits refer to facility-wide limits.
HAPs		3.94	2.50	6.44	
Individual HAPs greater than 0.5 tons	Hydrochloric Acid	0.71	0.50	1.21	
	Glycol Ethers	0.76	0.36	1.12	
	Ethylene Glycol	0.92	0.17	1.09	
	Methanol	0.55	0.16	0.71	

Chemical Usage CMRR-CHEM		January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A902 B)
HAPs		0.0026	0.0000	0.0026	3.75
VOCs		0.0000	0.0000	0.0000	3.75
TAPs		0.0034	0.0000	0.0034	No Source Limit



## A1000 Degreasers

### A1002 Emission Limits - Degreasers

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

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<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:

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	0.005	0.005	0.01	Source limits refer to facility-wide limits.
HAPs	0.005	0.005	0.01	

## 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	0.1177	0.0463	0.164	18.1
SO <sub>2</sub>	0.0031	0.0012	0.004	2.5
TSP	0.0036	0.0014	0.005	0.6
PM <sub>10</sub>	0.0036	0.0014	0.005	0.6
CO	0.0118	0.0046	0.016	15.2
VOC	0.0086	0.0034	0.012	0.3
HAPs	3.40E-05	1.34E-05	4.74E-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	0.0000	0.0006	0.001	0.21
SO <sub>2</sub>	0.0000	0.0000	0.000	Not Required
TSP	0.0000	0.0000	0.000	Not Required
PM <sub>10</sub>	0.0000	0.0000	0.000	Not Required
CO	0.0000	0.0002	0.0002	0.1
VOC	0.0000	0.0000	0.000	Not Required
HAPs	0.00E+00	1.89E-07	1.89E-07	No Source Limit

Note: The TA-33-G-2 generator only operated for 1.4 hours during 2016.

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**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	0.0001	0.0005	0.001	0.21
SO <sub>2</sub>	0.0000	0.0000	0.000	Not Required
TSP	0.0000	0.0000	0.000	Not Required
PM <sub>10</sub>	0.0000	0.0000	0.000	Not Required
CO	0.0000	0.0002	0.0002	0.1
VOC	0.0000	0.0000	0.000	Not Required
HAPs	2.70E-08	1.76E-07	2.03E-07	No Source Limit

Note: The TA-33-G-3 generator only operated for a 1.5 hours during 2016.

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	0.0047	0.0188	0.023	2.33
SO <sub>2</sub>	0.0003	0.0013	0.002	0.16
TSP	0.0003	0.0013	0.002	Not Required
PM <sub>10</sub>	0.0003	0.0013	0.002	Not Required
CO	0.0028	0.0113	0.014	1.4
VOC	0.0004	0.0015	0.002	0.2
HAPs	1.52E-06	6.08E-06	7.60E-06	No Source Limit

Generator RLUOB-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.170	0.200	0.37	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.004	0.005	0.01	
TSP	0.010	0.012	0.02	
PM <sub>10</sub>	0.008	0.010	0.02	
CO	0.210	0.248	0.46	
VOC	0.024	0.028	0.05	
HAPs	4.41E-05	5.19E-05	9.60E-05	

Generator RLUOB-GEN-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.203	0.250	0.45	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.005	0.007	0.01	
TSP	0.012	0.015	0.03	
PM <sub>10</sub>	0.010	0.012	0.02	
CO	0.252	0.310	0.56	
VOC	0.029	0.035	0.06	
HAPs	5.28E-05	6.50E-05	1.18E-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	0.185	0.207	0.39	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.005	0.005	0.01	
TSP	0.011	0.012	0.02	
PM <sub>10</sub>	0.009	0.010	0.02	
CO	0.229	0.256	0.48	
VOC	0.026	0.029	0.06	
HAPs	4.80E-05	5.37E-05	1.02E-04	

Generator TA-48-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.000	0.000	0.000	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.000	0.000	0.000	
TSP	0.000	0.000	0.000	
PM <sub>10</sub>	0.000	0.000	0.000	
CO	0.000	0.000	0.000	
VOC	0.000	0.000	0.000	
HAPs	0.00E+00	0.00E+00	0.00E+00	

Note: The TA-48-GEN-1 generator did not operate during 2016.

Generator TA-55-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.0006	0.0000	0.0006	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.0000	0.0000	0.000	
TSP	0.0000	0.0000	0.000	
PM <sub>10</sub>	0.0000	0.0000	0.000	
CO	0.0001	0.0000	0.0001	
VOC	0.0001	0.0000	0.0001	
HAPs	2.03E-07	0.00E+00	2.03E-07	

Note: The TA-55-GEN-1 generator only operated for 1.0 hours during 2016.

Generator TA-55-GEN-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.0008	0.0000	0.0008	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.0001	0.0000	0.0001	
TSP	0.0001	0.0000	0.0001	
PM <sub>10</sub>	0.0001	0.0000	0.0001	
CO	0.0002	0.0000	0.0002	
VOC	0.0001	0.0000	0.0001	
HAPs	2.64E-07	0.00E+00	2.64E-07	

Note: The TA-55-GEN-1 generator only operated for 1.3 hours during 2016.

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**A1100 Internal Combustion- continued**

Generator TA-55-GEN-3	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.1037	0.1153	0.219	No Source Specific Emission Limits for the CMRR Generators
SO <sub>2</sub>	0.0017	0.0019	0.004	
TSP	0.0032	0.0036	0.007	
PM <sub>10</sub>	0.0032	0.0036	0.007	
CO	0.0227	0.0252	0.048	
VOC	0.0048	0.0036	0.008	
HAPs	1.89E-05	1.41E-05	3.30E-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	0.11	0.21	0.32	9.9
PM10	0.10	0.19	0.29	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	PM <sub>2.5</sub> 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	PM <sub>2.5</sub> 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	5.83	4.54	10.4	31.5
SO <sub>2</sub>	0.06	0.05	0.1	4.9
TSP	0.76	0.59	1.4	4.7
PM <sub>10</sub>	0.76	0.59	1.4	4.4
PM <sub>2.5</sub>	0.76	0.59	1.4	4.2
CO	4.02	3.13	7.2	21.5
VOC	0.55	0.43	1.0	2.8
HAPs	0.19	0.15	0.3	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	1.438	0.177	1.62	59.4
SOx	0.100	0.012	0.11	4.2
TSP	0.194	0.024	0.22	4.8
PM <sub>10</sub>	0.194	0.024	0.22	4.8
PM <sub>2.5</sub>	0.194	0.024	0.22	4.8
CO	0.299	0.037	0.34	72.3
VOC	0.063	0.008	0.07	1.5
HAPs	0.039	0.005	0.04	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 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:

No open burning activities took place during 2016.

## A102 Facility Wide Emission Limits

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

Pollutant	Emissions (tons per year)
Nitrogen Oxides (NO <sub>x</sub> )	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 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 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)	2016 Annual Emissions (tons)	Facility Wide Permit Limits (Condition A102) (tons per year)
Nitrogen Oxides	19.53	12.87	32.4	245
Carbon Monoxide	14.34	9.88	24.2	225
Volatile Organic Carbons	7.10	7.91	15.0	200
Sulfur Dioxide	0.25	0.13	0.4	150
Total Particulate Matter	2.03	1.47	3.5	120
Particulate Matter less than 10 microns	2.01	1.44	3.5	120
Particulate Matter less than 2.5 microns	0.96	0.62	1.6	120
Hazardous Air Pollutants	4.39	2.80	7.2	24