



Environment Safety & Health

P.O. Box 1663, K491

Los Alamos, New Mexico 87545

(505) 667-4218

Date: **SEP 18 2017**

Symbol: ADESH-17-066

LA-UR: 17-27818

Locates Action No.: N/A

Mr. Ralph Gruebel
 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-R2M1, January 1, 2017 – June 30, 2017 AI No. 856 – Los Alamos National Laboratory (LANL)

Dear Mr. Gruebel:

Attached please find Los Alamos National Laboratory's (LANL) Semi-Annual Emissions report for Permit P100-R2M1 for the period January 1, 2017 through June 30, 2017. 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 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:sj

Enclosure 1: Title V Semi-Annual Emissions Report for Permit P100-R2M1, Jan 1, 2017 – June 30, 2017

Copy: Adrienne L. Nash, LASO-NS-LP, (E-FILE)
Hai Shen, EM-SG, (E-FILE)
Annette E. Russell, EM-LA, (E-FILE)
Kirsten M. Laskey, EM-LA (E-FILE)
Richard M. Kacich, DIR, (E-FILE)
Craig S. Leasure, PADOPS, (E-FILE)
William R. Mairson, PADOPS, (E-FILE)
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EPC-CP Title V Emissions Report File, J978



**New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
1301 Siler Road Building B
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Version 07.03.08

NMED USE ONLY	
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TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
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-R2M1		M. Title V Permit Issue Date: 2/3/2017		N. NSR Permit Number: 2195		O. NSR Permit Issue Date: Various		
P. Reporting Period: From: 1/1/2017 To: 6/30/2017				OR		Q. Proposed Test Date:		OR		R. Actual Test Date:

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
<input type="checkbox"/>	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
<input type="checkbox"/>	Title V Semi-annual Monitoring Report	Permit Condition(s):	Description:	
<input type="checkbox"/>	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
<input type="checkbox"/>	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
<input type="checkbox"/>	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
<input checked="" type="checkbox"/>	Permit or Notice of Intent (NOI) Requirement	Permit No. <input checked="" type="checkbox"/> or NOI No. <input type="checkbox"/> P100-R2M1	Condition(s): A109 B	Description: Title V Semi-Annual Emissions Report 1/1/2017-6/30/2017
<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)									
<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"/>	G. Opacity Test <input type="checkbox"/>	H. Portable Analyzer (Periodic Test) <input type="checkbox"/>				

SECTION IV - CERTIFICATION			
After reasonable inquiry, I <u>Michael T. Brandt</u> certify that the information in this submittal is true, accurate and complete. <small>(name of reporting official)</small>			
® Signature of Reporting Official: 		® Title: Associate Director ES&H	® Date: 9/18/17
		® Responsible Official for Title V? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Reviewed By: _____

Date Reviewed: _____

Title V Semi-Annual Emissions Report for Permit P100-R2M1

January 1, 2017 – June 30, 2017

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

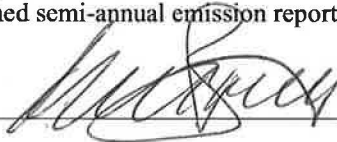
Principal Company Product or Business: National Security and Nuclear Weapons Research Primary SIC Code: 8733

Permit No. P100-R2M1, January 1, 2017 – June 30, 2017 {IDEA/Tempo ID No. 856} Permit Issued Date: Feb. 3, 2017

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:

9/18/17

Title: Associate Director Environmental, Safety, and Health

ENCLOSURE 1

**Title V Semi-Annual Emissions Report
for Permit P100-R2M1
January 1, 2017 – June 30, 2017**

ADESH-17-066

LA-UR-17-27818

Date: SEP 18 2017

Title V Semi-Annual Emissions Report
Permit P100-R2M1, January 1, 2017 - June 30, 2017

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	SO ₂ 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 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:

Asphalt Plant TA-60-BDM	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A602 A) (tons per year)
NO _x	0.0019			50.0
SO ₂	0.0007			50.0
PM	0.0011			50.0
CO	0.0662			30.0
VOC	0.0013			50.0
HAPs	0.0012			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: 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 ⁽¹⁾	Beryllium (grams)	0.012			10 gm/24 hr
Beryllium Technology Facility TA-3-141 ⁽²⁾	Beryllium (grams)	< 0.00407			3.5 gm/yr
Target Fabrication Facility TA-35-213 ⁽³⁾	Beryllium (grams)	< 0.00944			0.36 gm/yr
Plutonium Facility TA-55-PF4 Machining Operation ⁽⁴⁾	Beryllium (grams)	< 1.495			2.99 gm/yr
	Aluminum (grams)	< 1.495			2.99 gm/yr
Plutonium Facility TA-55-PF4 Foundry Operation ⁽⁵⁾	Beryllium (grams)	0			8.73×10^{-4} gm/yr
	Aluminum (grams)	0			8.73×10^{-4} gm/yr
Beryllium Total⁽⁵⁾ (tons) =		< 1.66E-06			
Aluminum Total (tons) =		< 1.65E-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 the first 6 months of 2017.

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	11.18			80
SO ₂	0.07			50
TSP	0.90			50
PM-10	0.90			50
CO	8.97			80
VOCs	0.64			50
HAPs	0.21			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	0.0062			2.9
SO ₂	0.0001			0.3
TSP	0.0010			0.4
PM-10	0.0010			0.4
PM-2.5	0.0010			0.4
CO	0.0079			4.8
VOCs	0.0053			No Source Limit
HAPs	3.92E-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	0.0062			2.9
SO ₂	0.0001			0.3
TSP	0.0010			0.4
PM-10	0.0010			0.4
PM-2.5	0.0010			0.4
CO	0.0079			4.8
VOCs	0.0053			No Source Limit
HAPs	3.92E-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	0.0062			2.9
SO ₂	0.0001			0.3
TSP	0.0010			0.4
PM-10	0.0010			0.4
PM-2.5	0.0010			0.4
CO	0.0079			4.8
VOCs	0.0053			No Source Limit
HAPs	3.92E-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			2.9
SO ₂	0.000			0.3
TSP	0.000			0.4
PM-10	0.000			0.4
PM-2.5	0.000			0.4
CO	0.000			4.8
VOCs	0.000			No Source Limit
HAPs	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			2.9
SO ₂	0.000			10.4
TSP	0.000			0.5
PM-10	0.000			0.3
PM-2.5	0.000			0.3
CO	0.000			0.9
VOCs	0.000			No Source Limit
HAPs	0.000			No Source Limit

Note: The RLUOB boilers did not operate on fuel oil during the first 6 months of 2017.

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	0.0186			14.5
SO ₂	0.0004			11.6
TSP	0.0031			2.1
PM-10	0.0031			1.9
PM-2.5	0.0031			1.9
CO	0.0237			20.1
VOCs	0.0160			No Source Limit
HAPs	1.18E-03			No Source Limit

A900 Chemical Usage

A902 Emission Limits - Chemical Usage

Unit No.	VOC/HAPs tpy
LANL-FW-CHEM	-- 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		3.94			Source limits refer to facility-wide limits.
HAPs		2.52			
Individual HAPs greater than 0.5 tons	Hydrochloric Acid	0.76			
	Cyanide Compounds	0.51			
	Methanol	0.50			

Chemical Usage CMRR-CHEM		January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition A902 B)
HAPs		0.0029			3.75
VOCs		0.0000			3.75
TAPs		0.0128			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	0.0016			Source limits refer to facility-wide limits.
HAPs	0.0016			

A1100 Internal Combustion

A1102 Emission Limits - Internal Combustion

Unit No.	NOx 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 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:

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	0.0040			18.1
SO ₂	0.0001			2.5
TSP	0.0001			0.6
PM ₁₀	0.0001			0.6
CO	0.0004			15.2
VOC	0.0003			0.3
HAPs	1.16E-06			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	0.0084			0.21
SO ₂	0.0006			Not Required
TSP	0.0006			Not Required
PM ₁₀	0.0006			Not Required
CO	0.0024			0.1
VOC	0.0007			Not Required
HAPs	2.72E-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	0.0004			0.21
SO ₂	0.0000			Not Required
TSP	0.0000			Not Required
PM ₁₀	0.0000			Not Required
CO	0.0001			0.1
VOC	0.0000			Not Required
HAPs	1.35E-07			No Source Limit

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	0.0000			2.33
SO ₂	0.0000			0.16
TSP	0.0000			Not Required
PM ₁₀	0.0000			Not Required
CO	0.0000			1.4
VOC	0.0000			0.2
HAPs	0.00E+00			No Source Limit

Note: The TA-33-G-4 generator did not operate during the first 6 months of 2017.

Generator RLUOB-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.035			No Source Specific Emission Limits for the CMRR Generators
SO ₂	0.001			
TSP	0.002			
PM ₁₀	0.002			
CO	0.044			
VOC	0.005			
HAPs	9.17E-06			

Generator RLUOB-GEN-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.045			No Source Specific Emission Limits for the CMRR Generators
SO ₂	0.001			
TSP	0.003			
PM ₁₀	0.002			
CO	0.056			
VOC	0.006			
HAPs	1.18E-05			

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	0.034			No Source Specific Emission Limits for the CMRR Generators
SO ₂	0.001			
TSP	0.002			
PM ₁₀	0.002			
CO	0.042			
VOC	0.005			
HAPs	8.73E-06			

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

Note: The TA-48-GEN-1 generator did not operate during the first six months of 2017.

Generator TA-55-GEN-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.0000			No Source Specific Emission Limits for the TA-55 Generators
SO ₂	0.0000			
TSP	0.0000			
PM ₁₀	0.0000			
CO	0.0000			
VOC	0.0000			
HAPs	0.00E+00			

Note: The TA-55-GEN-1 generator did not operate during the first six months of 2017.

Generator TA-55-GEN-2	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NOx	0.0000			No Source Specific Emission Limits for the TA-55 Generators
SO ₂	0.0000			
TSP	0.0000			
PM ₁₀	0.0000			
CO	0.0000			
VOC	0.0000			
HAPs	0.00E+00			

Note: The TA-55-GEN-2 generator did not operate during the first six months of 2017.

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
NO _x	0.1022			No Source Specific Emission Limits for the TA-55 Generators
SO ₂	0.0017			
TSP	0.0032			
PM ₁₀	0.0032			
CO	0.0224			
VOC	0.0047			
HAPs	1.86E-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	0.22			9.9
PM10	0.20			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	PM _{2.5} 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	PM _{2.5} 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	5.62			31.5
SO ₂	0.06			4.9
TSP	0.74			4.7
PM ₁₀	0.74			4.4
PM _{2.5}	0.74			4.2
CO	3.88			21.5
VOC	0.53			2.8
HAPs	0.18			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	0.864			59.4
SOx	0.060			4.2
TSP	0.116			4.8
PM ₁₀	0.116			4.8
PM _{2.5}	0.116			4.8
CO	0.180			72.3
VOC	0.038			1.5
HAPs	0.024			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 the first six months of 2017.

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 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 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	7.14E-10			Source limits refer to facility-wide limits.
Chloroform	3.28E-06			
Chloromethane	2.25E-06			
Bromoform	2.90E-06			
Cyanide Compounds	6.67E-06			
Manganese Compounds	2.41E-05			
Antimony Compounds	1.14E-05			
TOTAL HAPs	5.06E-05			

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	3.26E-10			Source limits refer to facility-wide limits.
Chloroform	1.50E-06			
Chloromethane	1.03E-06			
Bromoform	1.32E-06			
Cyanide Compounds	3.04E-06			
Manganese Compounds	1.10E-05			
Antimony Compounds	5.20E-06			
TOTAL HAPs	2.31E-05			

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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	6.61E-10			Source limits refer to facility-wide limits.
Chloroform	3.04E-06			
Chloromethane	2.08E-06			
Bromoform	2.69E-06			
Cyanide Compounds	6.18E-06			
Manganese Compounds	2.23E-05			
Antimony Compounds	1.06E-05			
TOTAL HAPs	4.69E-05			

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	0.000			Source limits refer to facility-wide limits.
Chloroform	0.000			
Chloromethane	0.000			
Bromoform	0.000			
Cyanide Compounds	0.000			
Manganese Compounds	0.000			
Antimony Compounds	0.000			
TOTAL HAPs	0.000			

Note: The TA-60-EVAP-4 evaporative sprayer has not been installed.

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	0.000			Source limits refer to facility-wide limits.
Chloroform	0.000			
Chloromethane	0.000			
Bromoform	0.000			
Cyanide Compounds	0.000			
Manganese Compounds	0.000			
Antimony Compounds	0.000			
TOTAL HAPs	0.000			

Note: The TA-60-EVAP-5 evaporative sprayer has not been installed.

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 ₂)	150.0
Total Particulate Matter (TSP)	120.0
Particulate Mater less than 10 microns (PM ₁₀)	120.0
Particulate Mater 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 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 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)	2017 Annual Emissions (tons)	Facility Wide Permit Limits (Condition A102) (tons per year)
Nitrogen Oxides	17.89			245
Carbon Monoxide	13.26			225
Volatile Organic Carbons	5.17			200
Sulfur Dioxide	0.19			150
Total Particulate Matter	1.98			120
Particulate Matter less than 10 microns	1.96			120
Particulate Matter less than 2.5 microns	0.86			120
Hazardous Air Pollutants	2.94			24