

**Environment Safety & Health**

PO Box 1663, MS K491
Los Alamos, New Mexico 87545
(505)667-4218/Fax (505) 665-3811

Date: SEP 21 2016
Symbol: ADESH-16-119
LA-UR: 16-26522
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

Dear Mr. Grubel:

Subject: Title V Semi-Annual Emissions Report for Permit P100-R2, January 1, 2016 – June 30, 2016 AI No. 856 – Los Alamos National Laboratory (LANL)

Enclosed is Los Alamos National Laboratory's (LANL) Semi-Annual Emissions report for Permit P100-R2 for the period January 1, 2016 through June 30, 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 of the Environmental Compliance Programs (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
Environment, Safety & Health

MTB:SLS:WW/lm

Enclosure: 1. Title V Semi-Annual Emissions Report for Permit P100-R2, Jan 1, 2016 – Jun 30, 2016

Cy: Hai Shen, EM-SG, (E-File)
Richard Kacich, DIR, (E-File)
Karen E. Armijo, NA-LA, (E-File)
Adrienne Nash, NA-LA, (E-File)
Kirsten Laskey, EM-LA, (E-File)
Annette E. Russell, EM-LA, (E-file)
Craig S. Leasure, PADOPS, (E-File)
William R. Mairson, PADOPS, (E-File)
Michael T. Brandt, ADESH, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
Steve L. Story, EPC-CP, (E-File)
Walter Whetham, EPC-CP, (E-File)
Timothy A. Dolan, LC-ESH, (E-File)
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adesh@lanl.gov, (E-File)
Epc-correspondence@lanl.gov, (E-File)
EPC-CP Title V Emissions Report File, J978

Title V Semi-Annual Emission Report
for Permit P100-R2
January 1, 2016 – June 30, 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

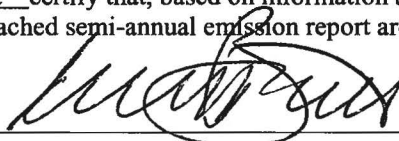
Principal Company Product or Business: National Security and Nuclear Weapons Research Primary SIC Code: 8733

Permit No. P100-R2, Jan 1, 2016 – June 30, 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:

9/21/16

Title: Associate Director Environmental, Safety, and Health



**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

| NMED USE ONLY | |
|---------------|--|
| DTS | |
| TEMPO | |

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| Staff | |
| Admin | |

REPORTING SUBMITTAL FORM

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 | |
| C.3 ® Phone Number: 505-665-0451 | | C.4 ® Fax Number: 505-665-8858 | | F.2 ® Title: Air Compliance Team Leader | |
| C.5 ® Email Address: grieggst@lanl.gov | | | F.3 ® Phone Number: 505-665-2169 | | |
| G. Responsible Official: (Title V only): Michael T. Brandt | | | H. Title: Associate Director ES&H | | F.4 ® Fax Number: 505-665-8858 |
| 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: 1/1/2016 To: 6/30/2016 | | OR | Q. Proposed Test Date: | | OR |
| | | | | R. Actual Test Date: | |

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

| | | | | | |
|---|---|--|--------------------------------|--|--|
| <input type="checkbox"/> A. | Title V Annual Compliance Certification | Permit Condition(s): | Description: | | |
| <input type="checkbox"/> B. | Title V Semi-annual Monitoring Report | Permit Condition(s): | Description: | | |
| <input type="checkbox"/> C. | NSPS Requirement (40CFR60) | Regulation: | Section(s): | Description: | |
| <input type="checkbox"/> D. | MACT Requirement (40CFR63) | Regulation: | Section(s): | Description: | |
| <input type="checkbox"/> E. | NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61) | Regulation: | Section(s): | Description: | |
| <input checked="" type="checkbox"/> F. | 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 1/1/2016-2-6/30/2016 | |
| <input type="checkbox"/> G. | 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"/> | G. Opacity Test <input type="checkbox"/> | H. Portable Analyzer (Periodic 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: 9/21/10 | ® Responsible Official for Title V? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|---|--|---------------------------|---|

Reviewed By: _____

Date Reviewed: _____

ENCLOSURE 1

**Title V Semi-Annual Emissions Report
for Permit P100-R2
January 1, 2016 – June 30, 2016**

ADESH-16-119

LA-UR-16-26522

Date: SEP 21 2016

Title V Semi-Annual Emissions Report
Permit P100-R2, January 1, 2016 - June 30, 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 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 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 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:

| 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 | 0.002 | | | 50.0 |
| SO ₂ | 0.001 | | | 50.0 |
| PM | 0.001 | | | 50.0 |
| CO | 0.074 | | | 30.0 |
| VOC | 0.001 | | | 50.0 |
| HAPs | 0.001 | | | 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 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: April 18, 2016
July 21, 2016

Tracking Number: SBR20160006
SBR20160007



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 | | | 10 gm/24 hr |
| Beryllium Test Facility TA-3-141 ⁽²⁾ | Beryllium (grams) | < 0.0033 | | | 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. The Sigma Facility did not operate during the first six months of 2016. (2) Emission values shown for the Beryllium Test 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 six months of 2016.

A800 External Combustion

A802 Emission Limits - External Combustion

| Unit No. | NO _x 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. | NO _x 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 NO_x, CO, SO₂, VOC, TSP, PM₁₀, and PM_{2.5} shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.

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

Yes

Date report submitted:

Tracking Number:

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

Comments:

| Boilers | January - June Emissions (tons) | July - December Emissions (tons) | Annual Emissions (tons) | Permit Limits (Condition A802 A) (tons per year) |
|-----------------|---------------------------------|----------------------------------|-------------------------|--|
| NO _x | 11.47 | | | 80 |
| SO ₂ | 0.07 | | | 50 |
| TSP | 0.92 | | | 50 |
| PM-10 | 0.92 | | | 50 |
| CO | 9.22 | | | 80 |
| VOCs | 0.66 | | | 50 |
| HAPs | 0.22 | | | 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 | 0.007 | | | 2.9 |
| SO ₂ | 0.000 | | | 0.3 |
| TSP | 0.001 | | | 0.4 |
| PM-10 | 0.001 | | | 0.4 |
| PM-2.5 | 0.001 | | | 0.4 |
| CO | 0.009 | | | 4.8 |
| VOCs | 0.006 | | | No Source Limit |
| HAPs | 4.46E-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 | 0.007 | | | 2.9 |
| SO ₂ | 0.000 | | | 0.3 |
| TSP | 0.001 | | | 0.4 |
| PM-10 | 0.001 | | | 0.4 |
| PM-2.5 | 0.001 | | | 0.4 |
| CO | 0.009 | | | 4.8 |
| VOCs | 0.006 | | | No Source Limit |
| HAPs | 4.46E-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 | 0.007 | | | 2.9 |
| SO ₂ | 0.000 | | | 0.3 |
| TSP | 0.001 | | | 0.4 |
| PM-10 | 0.001 | | | 0.4 |
| PM-2.5 | 0.001 | | | 0.4 |
| CO | 0.009 | | | 4.8 |
| VOCs | 0.006 | | | No Source Limit |
| HAPs | 4.46E-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 2016.

| RLUOB Boilers Totals (Gas and Oil) | January - June Emissions (tons) | | | Permit Limits (Condition A802 B) (tons per year) |
|------------------------------------|---------------------------------|--|--|--|
| NOx | 0.021 | | | 14.5 |
| SO ₂ | 0.000 | | | 11.6 |
| TSP | 0.004 | | | 2.1 |
| PM-10 | 0.004 | | | 1.9 |
| PM-2.5 | 0.004 | | | 1.9 |
| CO | 0.027 | | | 20.1 |
| VOCs | 0.018 | | | No Source Limit |
| HAPs | 1.34E-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 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 | | | Source limits refer to facility-wide limits. |
| HAPs | | 3.22 | | | |
| Individual HAPs greater than 0.5 tons | Ethylene Glycol | 0.92 | | | |
| | Glycol Ethers | 0.76 | | | |
| | Hydrochloric Acid | 0.71 | | | |
| | Methanol | 0.55 | | | |

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

A1000 Degreasers

A1002 Emission Limits - Degreasers

| Unit No. | VOC/HAPs tpy |
|------------|-----------------|
| TA-55-DG-1 | -- 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 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 | | | Source limits refer to facility-wide limits. |
| HAPs | 0.005 | | | |

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 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 | 0.118 | | | 18.1 |
| SO ₂ | 0.003 | | | 2.5 |
| TSP | 0.004 | | | 0.6 |
| PM ₁₀ | 0.004 | | | 0.6 |
| CO | 0.012 | | | 15.2 |
| VOC | 0.009 | | | 0.3 |
| HAPs | 3.40E-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 | 0.000 | | | 0.21 |
| SO ₂ | 0.000 | | | Not Required |
| TSP | 0.000 | | | Not Required |
| PM ₁₀ | 0.000 | | | Not Required |
| CO | 0.000 | | | 0.1 |
| VOC | 0.000 | | | Not Required |
| HAPs | 0.00E+00 | | | No Source Limit |

Note: The TA-33-G-2 generator did not operate during the first six months of 2016.

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 | 0.000 | | | 0.21 |
| SO ₂ | 0.000 | | | Not Required |
| TSP | 0.000 | | | Not Required |
| PM ₁₀ | 0.000 | | | Not Required |
| CO | 0.000 | | | 0.1 |
| VOC | 0.000 | | | Not Required |
| HAPs | 2.70E-08 | | | No Source Limit |

Note: The TA-33-G-3 generator only operated for 0.2 hours during the first six months of 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 | 0.005 | | | 2.33 |
| SO ₂ | 0.000 | | | 0.16 |
| TSP | 0.000 | | | Not Required |
| PM ₁₀ | 0.000 | | | Not Required |
| CO | 0.003 | | | 1.4 |
| VOC | 0.000 | | | 0.2 |
| HAPs | 1.52E-06 | | | No Source Limit |

Note: The TA-33-G-4 generator only operated for 1.0 hours during the first six months of 2016.

| Generator RLUOB-GEN-1 | January - June Emissions (tons) | July - December Emissions (tons) | Annual Emissions (tons) | Permit Limits |
|--------------------------|---------------------------------------|--|-------------------------------|---|
| NOx | 0.170 | | | No Source Specific Emission Limits for the CMRR Generators |
| SO ₂ | 0.004 | | | |
| TSP | 0.010 | | | |
| PM ₁₀ | 0.008 | | | |
| CO | 0.210 | | | |
| VOC | 0.024 | | | |
| HAPs | 4.41E-05 | | | |

| Generator RLUOB-GEN-2 | January - June Emissions (tons) | July - December Emissions (tons) | Annual Emissions (tons) | Permit Limits |
|--------------------------|---------------------------------------|--|-------------------------------|---|
| NOx | 0.203 | | | No Source Specific Emission Limits for the CMRR Generators |
| SO ₂ | 0.005 | | | |
| TSP | 0.012 | | | |
| PM ₁₀ | 0.010 | | | |
| CO | 0.252 | | | |
| VOC | 0.029 | | | |
| HAPs | 5.28E-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 | 0.185 | | | No Source Specific Emission Limits for the CMRR Generators |
| SO ₂ | 0.005 | | | |
| TSP | 0.011 | | | |
| PM ₁₀ | 0.009 | | | |
| CO | 0.229 | | | |
| VOC | 0.026 | | | |
| HAPs | 4.80E-05 | | | |

| 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 CMRR Generators |
| SO ₂ | 0.000 | | | |
| TSP | 0.000 | | | |
| PM ₁₀ | 0.000 | | | |
| CO | 0.000 | | | |
| VOC | 0.000 | | | |
| HAPs | 0.000 | | | |

Note: The TA-48-GEN-1 generator did not operate during the first six months of 2016.

| Generator TA-55-GEN-1 | January - June Emissions (tons) | July - December Emissions (tons) | Annual Emissions (tons) | Permit Limits |
|--------------------------|---------------------------------------|--|-------------------------------|---|
| NOx | 0.001 | | | No Source Specific Emission Limits for the CMRR Generators |
| SO ₂ | 0.000 | | | |
| TSP | 0.000 | | | |
| PM ₁₀ | 0.000 | | | |
| CO | 0.000 | | | |
| VOC | 0.000 | | | |
| HAPs | 2.03E-07 | | | |

Note: The TA-55-GEN-1 generator only operated for 1.0 hours during the first six months of 2016.

| Generator TA-55-GEN-2 | January - June Emissions (tons) | July - December Emissions (tons) | Annual Emissions (tons) | Permit Limits |
|--------------------------|---------------------------------------|--|-------------------------------|---|
| NOx | 0.001 | | | No Source Specific Emission Limits for the CMRR Generators |
| SO ₂ | 0.000 | | | |
| TSP | 0.000 | | | |
| PM ₁₀ | 0.000 | | | |
| CO | 0.000 | | | |
| VOC | 0.000 | | | |
| HAPs | 2.64E-07 | | | |

Note: The TA-55-GEN-2 generator only operated for 1.3 hours during the first six months of 2016.

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 | 0.104 | | | No Source Specific Emission Limits for the CMRR Generators |
| SO ₂ | 0.002 | | | |
| TSP | 0.003 | | | |
| PM ₁₀ | 0.003 | | | |
| CO | 0.023 | | | |
| VOC | 0.005 | | | |
| HAPs | 1.89E-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 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 | | | 9.9 |
| PM10 | 0.10 | | | 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 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 | | | 31.5 |
| SO ₂ | 0.06 | | | 4.9 |
| TSP | 0.76 | | | 4.7 |
| PM ₁₀ | 0.76 | | | 4.4 |
| PM _{2.5} | 0.76 | | | 4.2 |
| CO | 4.02 | | | 21.5 |
| VOC | 0.55 | | | 2.8 |
| HAPs | 0.19 | | | 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 | 1.44 | | | 59.4 |
| SOx | 0.10 | | | 4.2 |
| TSP | 0.19 | | | 4.8 |
| PM ₁₀ | 0.19 | | | 4.8 |
| PM _{2.5} | 0.19 | | | 4.8 |
| CO | 0.30 | | | 72.3 |
| VOC | 0.06 | | | 1.5 |
| HAPs | 3.92E-02 | | | 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 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 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 2016.

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) | 2015 Annual Emissions (tons) | Facility Wide Permit Limits (Condition A102) (tons per year) |
|--|---------------------------------|----------------------------------|------------------------------|--|
| Nitrogen Oxides | 19.5 | | | 245 |
| Carbon Monoxide | 14.3 | | | 225 |
| Volatile Organic Carbons | 7.1 | | | 200 |
| Sulfur Dioxide | 0.3 | | | 150 |
| Total Particulate Matter | 2.0 | | | 120 |
| Particulate Matter less than 10 microns | 2.0 | | | 120 |
| Particulate Matter less than 2.5 microns | 1.0 | | | 120 |
| Hazardous Air Pollutants | 3.7 | | | 24 |



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SEP 21 2016

Air Quality Bureau

Environment Safety & Health
PO Box 1663, MS K491
Los Alamos, New Mexico 87545
(505)667-4218/Fax (505) 665-3811

Date: **SEP 21 2016**
Symbol: ADESH-16-119
LA-UR: 16-26522
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

Dear Mr. Grubel:

Subject: Title V Semi-Annual Emissions Report for Permit P100-R2, January 1, 2016 – June 30, 2016 AI No. 856 – Los Alamos National Laboratory (LANL)

Enclosed is Los Alamos National Laboratory's (LANL) Semi-Annual Emissions report for Permit P100-R2 for the period January 1, 2016 through June 30, 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 of the Environmental Compliance Programs (EPC-CP) if you have questions.

Sincerely,

Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety & Health