



Environmental Protection Division  
P.O. Box 1663, MS J978  
Los Alamos, New Mexico 87545  
(505) 667-2211/FAX: (505) 665-8858

Date: March 21, 2008  
Refer to: ENV-DO:08-006

Ms. Debra McElroy  
Compliance & Enforcement Section  
New Mexico Environment Department  
Air Quality Bureau  
1301 Siler Rd. Bld. B  
Santa Fe, NM 87507

**IDEA ID NO. 856 – LOS ALAMOS NATIONAL LABORATORY (LANL)  
OPERATING PERMIT NO: P100M2  
SEMI-ANNUAL EMISSIONS REPORT – JULY 1, 2007 TO DECEMBER 31, 2007**

Dear Ms. McElroy:

Enclosed is Los Alamos National Laboratory's (LANL) semi-annual emissions report for the period July 1, 2007 through December 31, 2007. This report is required by permit condition 4.1 and is submitted within 90 days from the end of the reporting period as required by permit condition 4.3.

The semi-annual emissions report includes actual emissions from permitted sources included in section 2.0 of LANL's Operating Permit. Emissions are also reported from insignificant boiler and generator sources. These sources are included to demonstrate that LANL has not exceeded Prevention of Significant Deterioration (PSD) applicability thresholds. In this report, 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.

This submittal includes a signed certification statement (Attachment 1) and the semi-annual emissions report for the period July 1, 2007 through December 31, 2007 (Attachment 2).

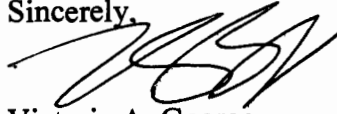
Ms. Debra McElroy  
ENV-DO:08-006  
LA-UR:08-1528

-2-

March 21, 2008

Should you have any questions or comments regarding the information provided in this report, please contact Steve Story at (505) 665-2169.

Sincerely,



Victoria A. George  
Division Leader  
Environmental Protection Division

VAG:alb

Cy:

V. Bynum, PADOPS, A102  
R. Watkins, ADESH&Q, K491  
S. Fong, DOE-LA-AO, A316  
P. Wardwell, LC-ESH, A187  
D. Wilburn, ENV-EAQ, J978  
D. Janecky, ENV-EAQ, J978  
S. Story, ENV-EAQ, J978  
M. Stockton, ENV-EAQ, J978  
W. Whetham, ENV-EAQ, J978  
J. Stanton, SSS-AF-V02, A199  
IRM-RM550, A150  
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*Title:* Semi-Annual Emissions Report - Operating Permit Number  
P100M2 July - December 2007

*Author(s):* Walt Whetham

*Intended for:* New Mexico Environmental Department



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**Attachment 1**  
**Certification Statement**

# Title V Operating Permit Semi-Annual Emission Report

July 1, 2007 – December 31, 2007

## Identifying Information

Source Name: Los Alamos National Laboratory County: Los Alamos

Source Address:

City: Los Alamos State: NM Zip Code: 87545

Responsible Official: Victoria A. George Ph No. (505) 667-2211 Fax No. (505) 665-8858

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: 9711

Permit No. P100M2 {IDEA/Tempo ID No. 856} Permit Issued Date: July 16, 2007

## Certification of Truth, Accuracy, and Completeness

I, Victoria A. George 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:

3/17/08

Title: Division Leader, Environmental Protection Division

**Attachment 2**  
**Semi-Annual Emissions Report**  
**July 1, 2007 to December 31, 2007**

## Los Alamos National Laboratory 2007 Semi-Annual Emissions Report (July through December)

This report is being provided to meet the requirement set forth in permit condition 4.1 of the Los Alamos National Laboratory (LANL) Operating Permit Number P100M2. The emissions were calculated using operating data recorded during the second six months of 2007. The emissions from the first six months of 2007 were submitted in the previous Semi-Annual Emissions Report, but are included here to calculate annual emissions.

### Facility Emissions

The following table displays the actual facility-wide emissions compared with the Facility Wide Emission Limits specified in permit condition 2.10.1 of the Operating Permit. These emissions include insignificant sources, which are included to demonstrate that facility-wide emissions are below all PSD applicability threshold limits. Hazardous Air Pollutant (HAP) and Volatile Organic Compound (VOC) emissions from chemical use include point source and fugitive emissions (see permit condition 4.1).

Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	2007 Annual Emissions (tons)	Facility Wide Emission Limits (Permit Condition 2.10.1) (tons per year)
Nitrogen Oxides (NO <sub>x</sub> )	26.6	25.4	52.0	245
Sulfur Dioxide (SO <sub>2</sub> )	0.6	0.4	1.0	150
Particulate Matter (PM)	2.7	2.2	4.9	120
Carbon Monoxide (CO)	18.7	14.6	33.3	225
Volatile Organic Compounds (VOCs)	7.3	8.1	15.4	200
Hazardous Air Pollutants (HAPs)	3.6	3.2	6.8	24 combined
Highest Individual HAP (Hydrochloric Acid)	0.51	0.54	1.05	8 individual

# Los Alamos National Laboratory 2007 Semi-Annual Emissions Report (July through December)

## Source Emissions

The following are the actual emissions from permitted sources listed in permit condition 2.0 of the operating permit for the six month reporting period. Included with these emissions are the source specific emission limits if applicable.

### Permit Condition/Source

#### 2.1 Asphalt Production

Asphalt Plant TA-60-BDM	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition 2.1.2) (tons per year)
<b>NO<sub>x</sub></b>	0.008	0.013	0.021	1.0
<b>SO<sub>2</sub></b>	0.002	0.002	0.004	1.0
<b>PM</b>	0.003	0.005	0.008	*35.4 lb/hr
<b>CO</b>	0.135	0.211	0.346	2.6
<b>VOC</b>	0.003	0.004	0.007	1.0
<b>HAPs</b>	0.003	0.004	0.007	No Source Permit Limit

**Note:** \* The Asphalt Plant does not have an annual limit for PM. The hourly emissions were demonstrated during the initial source compliance test conducted on August 25th & 26th, 2005 and submitted to NMED.



**Los Alamos National Laboratory  
2007 Semi-Annual Emissions Report  
(July through December)**

**2.2 Beryllium Activities**

Source	Pollutant	January - June Emissions	July - December Emissions	Annual Emissions	Permit Limits (Condition 2.2.2)
Beryllium Test Facility TA-3-141 <sup>(1)</sup>	Beryllium (grams)	< 0.0033	< 0.0033	< 0.007	3.5 gm/yr
Target Fabrication Facility TA-35-213 <sup>(2)</sup>	Beryllium (grams)	< 0.00944	< 0.009	< 0.018	0.36 gm/yr
Plutonium Facility TA-55-PF4 <sup>(3)</sup> Machining Operation	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>(4)</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:** <sup>(1)</sup> Emission values shown for the Beryllium Technology Facility are from actual stack emission measurements which are submitted to NMED quarterly. <sup>(2)</sup> 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. <sup>(3)</sup> 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. <sup>(4)</sup> The Plutonium Facility foundry operations did not operate during 2007. <sup>(5)</sup> Other Beryllium activities listed in section 2.2 of the permit do not require reporting in the Semi-Annual Emissions Report.

**Los Alamos National Laboratory  
2007 Semi-Annual Emissions Report  
(July through December)**

**2.3 Boilers and Heaters**

Boilers and Heaters	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition 2.3.2) (tons per year)
NO <sub>x</sub>	15.10	10.53	25.63	80
SO <sub>2</sub>	0.09	0.06	0.15	50
PM	1.20	0.84	2.04	50
PM-10	1.20	0.84	2.04	50
CO	12.25	8.53	20.78	80
VOCs	0.84	0.59	1.43	50
HAPs	0.29	0.20	0.49	No Source Limit

**Note:** The emissions shown in this table include significant and insignificant sources. This section does not include the TA-3-22 Power Plant boilers which can be found under Section 2.9 of this report. The TA-21 steam plant boilers are included in this table.

**2.4 Carpenter Shops**

Shop	Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition 2.4.2) (tons per year)
TA-3-38	PM <sub>10</sub>	0.014	0.008	0.022	3.07
TA-15-563	PM <sub>10</sub>	0.029	0.015	0.044	2.81

**Los Alamos National Laboratory  
2007 Semi-Annual Emissions Report  
(July through December)**

**2.5 Chemical Usage**

Chemical Usage LANL-FW-CHEM	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition 2.5.3.1)
VOCs	5.63	6.62	12.25	Source limits refer to facility-wide limits. (See Facility Emissions Table on Page 1)
HAPs	2.97	2.83	5.80	
Highest Individual HAP for the first six months (Hydrochloric Acid)	0.51	0.54	1.05	

**2.6 Degreasers**

Degreaser TA-55-DG-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition 2.6.2.1) (tons per year)
VOCs	0.005	0.007	0.012	Source limits refer to facility-wide limits. (See Facility Emissions Table on Page 1)
HAPs	0.005	0.007	0.012	

**Note:** Degreasers TA-55-DG-2 and TA-55-DG-3 were not used from January 1 to December 31, 2007. These degreasers are not expected to be used in the near future and are in storage.

**Los Alamos National Laboratory  
2007 Semi-Annual Emissions Report  
(July through December)**

**2.7 Internal Combustion Sources**

Generator TA-33-G-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Condition 2.7.2) (tons per year)
NO <sub>x</sub>	0.00	0.00	0.0	18.1
SO <sub>x</sub>	0.00	0.00	0.0	2.5
TSP	0.00	0.00	0.0	0.6
PM <sub>10</sub>	0.00	0.00	0.0	0.6
CO	0.00	0.00	0.0	15.2
VOC	0.00	0.00	0.0	0.3
HAPs	0.00	0.00	0.0	No Source Limit

**Note:** This generator did not run in 2007.

Stationary Standby Generators	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
NO <sub>x</sub>	3.52	9.23	12.75	No Source Specific Emission Limits for Standby Generators
SO <sub>x</sub>	0.10	0.26	0.36	
TSP	0.14	0.37	0.51	
PM <sub>10</sub>	0.14	0.37	0.51	
CO	0.83	2.04	2.87	
VOC	0.14	0.37	0.51	
HAPs	1.40E-03	2.24E-03	3.64E-03	

**Note:** Standby Generators are insignificant sources.

**Los Alamos National Laboratory  
2007 Semi-Annual Emissions Report  
(July through December)**

**2.8 Data Disintegrator**

<b>Data Disintegrator TA-52-11</b>	<b>January - June Emissions (tons)</b>	<b>July - December Emissions (tons)</b>	<b>Annual Emissions (tons)</b>	<b>Permit Limits (Condition 2.8.2) (tons per year)</b>
<b>TSP</b>	0.28	0.20	0.48	9.9
<b>PM10</b>	0.26	0.18	0.44	9.9

**Los Alamos National Laboratory  
2007 Semi-Annual Emissions Report  
(July through December)**

**2.9 Power Plant at Technical Area 3 (TA-3-22)**

<b>Boilers TA_3-22-1, TA-3-22-2 TA-3-22-3</b>	<b>January - June Emissions (tons)</b>	<b>July - December Emissions (tons)</b>	<b>Annual Emissions (tons)</b>	<b>Permit Limit (Condition 2.9.2) (tons per year)</b>
<b>NO<sub>x</sub></b>	7.97	5.49	13.46	60.2
<b>SO<sub>2</sub></b>	0.38	0.07	0.45	7.9
<b>TSP</b>	1.13	0.72	1.85	8.4
<b>PM<sub>10</sub></b>	1.09	0.72	1.81	8.2
<b>CO</b>	5.46	3.78	9.24	41.3
<b>VOC</b>	0.73	0.52	1.25	5.6
<b>HAPs</b>	0.25	0.18	0.43	No Source Limit

<b>Combustion Turbine TA-3-22 CT-1</b>	<b>January - June Emissions (tons)</b>	<b>July - December Emissions (tons)</b>	<b>Annual Emissions (tons)</b>	<b>Permit Limit (Condition 2.9.2) (tons per year)</b>
<b>NO<sub>x</sub></b>	0.00	0.16	0.16	33.2
<b>SO<sub>2</sub></b>	0.00	0.01	0.01	1.9
<b>TSP</b>	0.00	0.02	0.02	2.3
<b>PM<sub>10</sub></b>	0.00	0.02	0.02	2.3
<b>CO</b>	0.00	0.03	0.03	19.8
<b>VOC</b>	0.00	0.01	0.01	No TPY Limit
<b>HAPs</b>	0.00	3.34E-03	3.34E-03	No Source Limit

**Note:** The combustion turbine began operation on September 23, 2007.