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*Date:* September 15, 2006  
*Refer To:* ENV-DO:06-010

Mr. Edward L. Horst  
Environmental Compliance Specialist  
Compliance & Enforcement Section  
New Mexico Environment Department  
Air Quality Bureau  
2048 Galisteo Street  
Santa Fe, NM 87505

**IDEA ID NO. 856 – LOS ALAMOS NATIONAL LABORATORY (LANL)  
SEMI-ANNUAL EMISSIONS REPORT – OPERATING PERMIT NO: P100M1**

Dear Mr. Horst:

Attached is the semi-annual emissions report for January through June of 2006. This report includes actual emissions from permitted sources included in section 2.0 of the Los Alamos National Laboratory (LANL) Operating Permit. This submission satisfies permit condition 4.1., which requires submission of a semi-annual emissions report on a 6-month basis. Furthermore, this report is submitted within 90 days from the end of the reporting period as stipulated in permit condition 4.3.

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. 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.

Operating Permit NO: P100M1 was issued to LANL on June 15, 2006. This permit reduced allowable emissions for the TA-3 power plant boilers. The permit also added the data disintegrator as a source and removed the paper shedder and the rock crusher. This semi-annual emissions report reflects these changes.

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

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IRM-RM550, A150  
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(LANL) SEMI-ANNUAL EMISSIONS REPORT -  
OPERATING PERMIT NO: P-100M1

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*Intended for:* NEW MEXICO ENVIRONMENT DEPARTMENT  
AIR QUALITY BUREAU



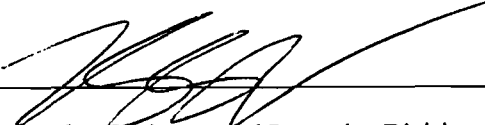
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**Identifying Information**

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Principal Company Product or Business: National Security and Nuclear Weapons Research Primary SIC Code: 9711  
Permit No. P100M1 {IDEA/Tempo ID No. 856} Permit Issued Date: June 15, 2006

**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: 9/20/06  
Title: Division Leader, Environmental Protection Division

# Los Alamos National Laboratory 2006 Semi-Annual Emissions Report (January through June)

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 NO: P100M1. The emissions included in this report were calculated using operating data recorded during the first six months of 2006.

## 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. Also, due to the method used for calculating Hazardous Air Pollutant (HAP) and Volatile Organic Compound (VOC) emissions from chemical use, fugitive emissions are included (see permit condition 4.1).

Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	2006 Annual Emissions (tons)	Facility Wide Emission Limits (Permit Condition 2.10.1) (tons per year)
Nitrogen Oxides (NO <sub>x</sub> )	31.0			245
Carbon Monoxide (CO)	19.4			225
Volatile Organic Compounds (VOCs)	6.4			200
Sulfur Dioxide (SO <sub>2</sub> )	1.5			150
Particulate Matter (PM)	3.1			120
Hazardous Air Pollutants (HAPs)	2.2			24 combined
Jan-June Highest Individual HAP (Methanol)	0.4			8 individual

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**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 located at TA-60**

Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Permit Condition 2.1.2) (tons per year)
NOx	0.015			1.0
SO <sub>2</sub>	0.003			1.0
PM	0.006			*35.4 lbs/hr
CO	0.245			2.6
VOC	0.005			1.0
HAPs	0.005			No Source Permit Limit

**Note:** \* The Asphalt Plant does not have a ton per year limit for PM. The lb/hr emissions were demonstrated during the initial source compliance test conducted on August 25th & 26th, 2005 and submitted to NMED.

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### 2.2 Beryllium Activities

Source	Pollutant	January - June Emissions (grams)	July - December Emissions (grams)	Annual Emissions (grams)	Permit Limits (Permit Condition 2.2.2)
Beryllium Test Facility TA-3-141 <sup>(1)</sup>	Beryllium	< 0.0033			3.5 gm/yr
Target Fabrication Facility TA-35-213 <sup>(2)</sup>	Beryllium	< 0.00944			0.36 gm/yr
Plutonium Facility TA-55-PF4 <sup>(3)</sup>  Machining Operation  Foundry Operation <sup>(4)</sup>					
	Beryllium	< 1.495			2.99 gm/yr
	Aluminum	< 1.495			2.99 gm/yr
	Beryllium	0			8.73 x 10 <sup>-4</sup> gm/yr
	Aluminum	0			8.73 x 10 <sup>-4</sup> gm/yr
<b>Jan-June Beryllium Total (tons) =</b>		<b>&lt; 1.66E-06</b>	<b>Jan-June Aluminum Total (tons) =</b>		<b>&lt; 1.65E-06</b>

**Notes:** <sup>(1)</sup> Emission values shown for the Beryllium Test Facility are from actual stack emission measurements which are submitted to NMED quarterly. <sup>(2)</sup> Emissions for the Target 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 the first six months of 2006. Other sources listed in section 2.2 of the permit do not require reporting in the Semi-Annual Emissions Report.

### 2.3 Boilers and Heaters

Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Permit Condition 2.3.2) (tons per year)
<b>NOx</b>	13.8			80
<b>SO<sub>2</sub></b>	0.1			50
<b>PM</b>	1.1			50
<b>PM-10</b>	1.1			50
<b>CO</b>	11.3			80
<b>VOC</b>	0.8			50
<b>HAPs</b>	0.26			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. These can be found under Section 2.9 of this report. The TA-21 steam plant boilers are included in this table.

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**2.4 Carpenter Shops**

Shop	Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limit (Permit Condition 2.4.2) (tons per year)
TA-3-38	PM <sub>10</sub>	0.035			3.07
TA-15-563	PM <sub>10</sub>	0.026			2.81

**2.5 Chemical Usage**

Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Permit Condition 2.5.3.1)
VOCs	4.3			Source limits refer to facility wide limits. (See Facility Emissions Table on Page 1)
HAPs	1.6			
Highest Individual HAP (Methanol)	0.4			

**2.6 Degreasers**

Degreaser TA-55-DG-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Permit Condition 2.6.2.1) (tons per year)
VOCs	0.006			Source limits refer to facility wide limits. (See Facility Emissions Table on Page 1)
HAPs	0.006			

**Note:** Degreasers TA-55-DG-2 and TA-55-DG-3 were not used in the first six months of 2006. These degreasers are not expected to be used in the near future and are in storage.



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### 2.7 Internal Combustion Sources

Generator TA-33-G-1	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Permit Condition 2.7.2) (tons per year)
TSP	0.003			0.6
PM <sub>10</sub>	0.003			0.6
NO <sub>x</sub>	0.086			18.1
CO	0.070			15.2
VOC	0.002			0.3
SO <sub>x</sub>	0.013			2.5
HAPs	1.86E-05			No Source Limit

**Note:** The TA-33-G-1 generator had initial start-up on May 18, 2006.

Standby Generators	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits
TSP	0.5			No Source Specific Emission Limits for Standby Generators
PM <sub>10</sub>	0.5			
NO <sub>x</sub>	8.4			
CO	1.9			
VOC	0.5			
SO <sub>x</sub>	1.3			
HAPs	2.7E-03			

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

### 2.8 Data Disintegrator

Emission Unit TA-52-11	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limits (Permit Condition 2.8.2) (tons per year)
TSP	0.27			9.9
PM <sub>10</sub>	0.24			9.9

**Note:** The data disintegrator was started on August 18, 2004, and replaced the existing paper shredder. Operating Permit No: P100M1 removed the paper shredder and added the data disintegrator.

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

Pollutant	January - June Emissions (tons)	July - December Emissions (tons)	Annual Emissions (tons)	Permit Limit (Permit Condition 2.9.2) (tons per year)
NO <sub>x</sub>	8.7			60.2
SO <sub>2</sub>	0.1			7.9
TSP	1.1			8.4
PM <sub>10</sub>	1.1			8.2
CO	6.0			41.3
VOC	0.8			5.6
HAPs	0.3			No Source Limit

**Note:** On June 15, 2006, LANL received a revised Title V permit, Operating Permit NO: P100M1. This permit lowered the power plant boilers emission limits to be consistent with Construction Permit 2195B-M1 (issued July 30, 2004). The limits shown here reflect the permit limits in the current Title V permit.