Los Alamos
NATIONAL LABORATORY
EST.1943

Environmental Protection Division
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Date: October 6, 2010
Refer to: ENV-ES: 10-186

Ted Schooley
New Mexico Environment Department
Air Quality Bureau
1301 Siler Road, Building B
Santa Fe, New Mexico 87507

IDEA ID NO. 856 - LOS ALAMOS NATIONAL LABORATORY
TITLE V PERMIT MODIFICATION
CMRR RLUOB PROJECT

Dear Mr. Schooley:

Enclosed please find a permit application to amend Los Alamos National Laboratory's (LANL) Title V operating permit P100R1. The purpose of this modification is to incorporate within LANL's operating permit a new source which has previously been reviewed under 20.2.72 NMAC – Construction Permits and issued New Source Review (NSR) Permit 2195-N in September 2005. This new facility is part of LANL's Chemistry and Metallurgy Research Replacement Project (CMRR) which is intended to replace an existing older facility. This modification, as well as NSR Permit 2195-N, includes the first phase of the project which is designated the Radiological Laboratory Utility Office Building or RLUOB.

The RLUOB itself is a significant new facility with a multi-year design and build schedule. At this time, the facility is still under construction and not yet occupied. This application is being submitted well in advance of normal operation of the facility as explained further in the application itself.

As required, the application utilizes NMED's new uniform permit application forms intended for either NSR or Title V permit applications. Therefore, some of the information requested is not relevant to Title V permits and is noted as such. As with past applications, we have included a narrative section apart from the forms to aid in understanding the application, the new facility, and proposed permit conditions more fully.

Thank you in advance for the review of the application. Please contact Bill Blankenship at 505-665-0823 with questions regarding the application contents.

Sincerely,

Patricia E. Gallagher
Group Leader
ENV-ES

PG/mcm

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Title V Operating Permit Modification

Radiological Laboratory/Utility/Office Building

For

Los Alamos National Laboratory

Operated by:

Los Alamos National Security, LLC

Los Alamos National Laboratory

Los Alamos, New Mexico 87544

Owned by:

U.S. Department of Energy

National Nuclear Security Administration

Office of Los Alamos Site Operations

Los Alamos, New Mexico 87544

October 2010

LA-UR-10-06445

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1.0 INTRODUCTION

Los Alamos National Laboratory (LANL or the Laboratory) is a major source for the Clean Air Act Title V operating permit program and is required to have a Title V permit. This is due primarily to natural gas combustion at industrial-type sources which provide infrastructure support to the research and development activities at LANL. LANL was issued an initial Title V permit in April 2004. Recently, the first comprehensive five-year renewal of the Title V permit was issued by the New Mexico Environment Department (NMED) in August 2009. This application is for a modification to the Title V permit to incorporate permit conditions from New Source Review (NSR) Permit No. 2195-N issued in September 2005 and administrative permit revision No. 2195-NR1 issued in December 2007 for the construction of the first phase of the Chemistry and Metallurgy Research Replacement (CMRR) facility.

1.1 Facility Description

The Laboratory is located in Los Alamos County, in north central New Mexico, approximately 60 miles north of Albuquerque and 25 miles northwest of Santa Fe. The Laboratory is located on 43 square miles of land and is divided into Technical Areas (TAs), which are used for building sites, experimental areas, and related infrastructure support needs. These uses account for only a small fraction of total land area, because much of the land provides buffer areas for safety and security reasons. The community of Los Alamos borders the Laboratory to the north and the community of White Rock borders the Laboratory to the southeast. The surrounding land is largely undeveloped, with large tracts of land being held by the Santa Fe National Forest, Bureau of Land Management, Bandelier National Monument, and San Ildefonso Pueblo.

The Laboratory is a research and development (R&D) institution owned by the Department of Energy (DOE)/National Nuclear Security Administration (NNSA) and operated by Los Alamos National Security, LLC (LANS). The primary mission of the Laboratory is to ensure the safety, security and reliability of the nation's nuclear deterrent. Laboratory scientists and engineers accomplish this mission through acquisition of annual funding from various federal departments to support R&D activities and small-scale production activities. Additional activities include, but are not limited to, the following:

- Non-nuclear materials R&D activities, including neutral particle beam, free-electron laser, sensors, communication technologies, high-velocity projectiles, advanced lasers, acquisition and tracking of targets, optics, beam propagation, and high-power microwaves;

- Environmental R&D, including storing and managing radioactive waste, handling hazardous waste, investigating new technologies to address problems associated with waste characterization and cleanup, environmental control technologies, global climate change, ozone depletion, atmospheric science, and basic environmental science;

- Non-nuclear energy R&D activities, including renewable energy, and fossil energy, and energy conservation; and

- Basic research in defense- and energy-related disciplines, including atomic and molecular physics, bioscience, chemistry, computational science and applied mathematics, geosciences, space science, astrophysics, material science, nuclear and particle physics, plasma physics, fluids, particle beams, and applied science and engineering.

In order to support these activities, the Laboratory operates an infrastructure of industrial-type operations that provide electricity, building and process heating and cooling, general construction and maintenance, and road repair. These activities include, but are not limited to, the following:

- External combustion sources including steam generation for general building heat, process heat, or for electricity generation for local consumption;

- Internal combustion engines such as standby generators to provide emergency power to buildings and operations; and

- Asphalt production for road repair.

Industrial-type activities are responsible for the majority of the Laboratory's emissions of regulated air pollutants. These activities, not R&D or small-scale production activities trigger the Laboratory's status as a major source for the Title V program.

This modification is intended to incorporate into the Title V permit a new facility under construction which is the Radiological Laboratory Utility Office Building (RLUOB) located within Technical Area 55 on Pajarito Road. The RLUOB facility is the first phase of the planned CMRR facility. The facility is still under construction with a current projection of office space occupancy in 2011 and the start of laboratory utilization in 2013.

The intent of this new construction is to replace the existing Chemistry and Metallurgy Research (CMR) facility built in the 1950's which is located in Technical Area 3. The main function of this facility is to house research and development capabilities involving analytical chemistry, materials characterization, and metallurgic studies on actinides and other metals. In addition to the RLUOB, a second building will be constructed as part of the new CMRR. This building is the Security Category I Nuclear Facility (NF) for which construction has not yet commenced. Prior to the start of construction of the NF, an NSR permit application will be submitted to NMED. The NF was previously part of the February 2005 NSR permit application together with the RLUOB. Per the terms of a settlement agreement between NMED, DOE, and interested parties, the NF was removed from that application and NSR Permit 2195-N for the RLUOB only was issued.

The RLUOB consists of a radiological laboratory, office space, and a utility building situated together on the same basemat. The permitted equipment consists of five (5) natural gas-fired boilers with the capability to use fuel oil as a backup or standby fuel. Only three of the five permitted boilers have been installed. Current plans may require installation of a fourth boiler, but a fifth boiler will not be required. Each boiler is equipped with a low- NOx burner to reduce emissions of the primary air pollutant from natural gas combustion which is nitrogen oxides. Small laboratory-scale quantities of chemicals will be used within the radiological laboratory. For this reason, the RLUOB NSR permit also regulates and has permit conditions for potential volatile organic compound (VOC) air emissions from chemical usage. Three diesel-fired emergency generators are also present to provide electric power to the RLUOB should power to the site be disrupted.

1.2 Purpose of Application

This modification is intended to incorporate into the Laboratory's Title V permit all permit conditions from the issued NSR permit for the RLUOB. The New Mexico air permit program requires two permits for significant facilities. Prior to construction, an NSR permit is obtained. Following the start of operation, the new activity or emission source is incorporated within the Title V permit. For new operations which have gone through the NSR permit process, a rigorous review process with public input has already determined the enforceable permit conditions, including emission limits, which are applicable. These existing conditions are then simply incorporated within the facility-wide Title V permit. The primary purpose of the Title V permit is to have in a single permit all Clean Air Act

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requirements which apply to a facility as well as enhancing compliance through the annual compliance certification process.

Although the three RLUOB hot water boilers are installed pursuant to the NSR permit, these units are not yet in normal operation. The RLUOB facility is not yet occupied, and there is no current need to place the boilers into routine operation producing hot water for the building. The boilers were briefly operated during commissioning on October 30, 2009. NMED indicated boiler commissioning constituted the start of operation with respect to the requirement at 20.2.70.C.3.b NMAC to file a Title V permit modification within 12 months of commencing operation. Thus, this application is being filed well in advance of actual building occupancy or normal and routine use of permitted equipment.

Note this application does not seek to modify any current condition in the Laboratory's Title V permit. The scope of the application is solely limited to incorporation of RLUOB permit conditions. Per 20.2.70.300.C. 1 NMAC – Operating Permits, applications for permit modifications are required to include information only if it is related to the proposed permit revisions. Therefore, this application, including the permit application forms, only addresses the RLUOB facility as required by the operating permit regulation. Title V permits are comprehensively reviewed for all operations and reissued on a five-year basis. LANL filed a five-year renewal application for the Laboratory's Title V permit in April 2008. The renewal permit was issued in August 2009.

1.3 Application Contents

Chapter 2 of this application provides a summary of key information regarding the permit modification which is contained in more detail within the permit application forms. Appendix B of the application contains the completed application forms. In February 2010, NMED issued a comprehensive revision to the permit application forms used for NSR and Title V permits. The new uniform application forms are used for both NSR and Title V permits, with some sections not being applicable depending on whether the application is for an NSR or Title V permit. All information necessary to process a permit application is now contained in the permit forms. Forms which are specific to NSR applications are not included. With this change, the following information can be found in the referenced sections of the application forms:

- Section 1: General Information

- Section 2: Tables
- Section 3: Application Summary
- Section 4: Process Flow Sheet
- Section 5: Plot Plan Drawn to Scale
- Section 6: All Calculations
- Section 7: Information Used to Determine Emissions
- Section 8: Map(s)
- Section 10: Written Description of the Routine Operations of the Facility
- Section 11: Source Determination
- Section 13: Discussion Demonstrating Compliance with Applicable Regulation
- Section 14: Operational Plan to Mitigate Emissions
- Section 15: Alternative Operating Scenarios
- Section 16: Air Dispersion Modeling
- Section 17: Compliance Test History
- Section 19: Requirements for the Title V (20.2.70 NMAC) Program
- Section 20: Other Relevant Information
- Section 22: Certification Page

Appendix A contains a copy of NSR Permit 2195-N issued in September 2005 for construction of the RLUOB and a copy of administrative revision 2195-NR1 issued in December 2007. The conditions within the NSR permit form the basis of the recommended permit conditions for this modification in the Laboratory's Title V permit.

2.0 Permit Modification Description

2.1 General Description of RLUOB

The RLUOB consists of a radiological laboratory, office space, and a utility building. The facility is located within Technical Area TA-55 along Pajarito Road. Figure 1 shows the general location of the

facility. A plot plan in Figure 2 shows the dimensions of the facility and the locations of the utility building and radiological laboratory exhaust stacks.

Figure 1

General Location of the RLUOB

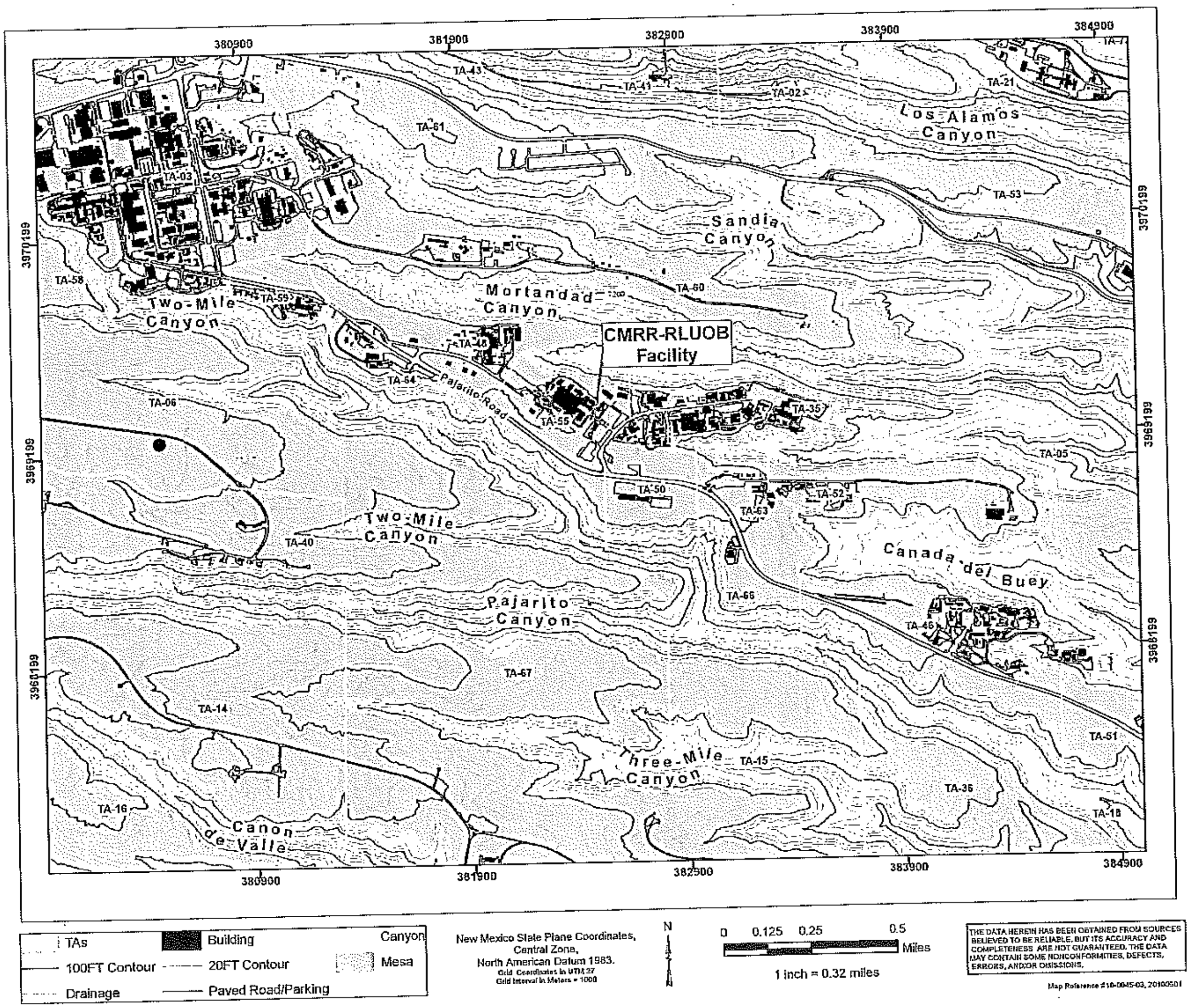
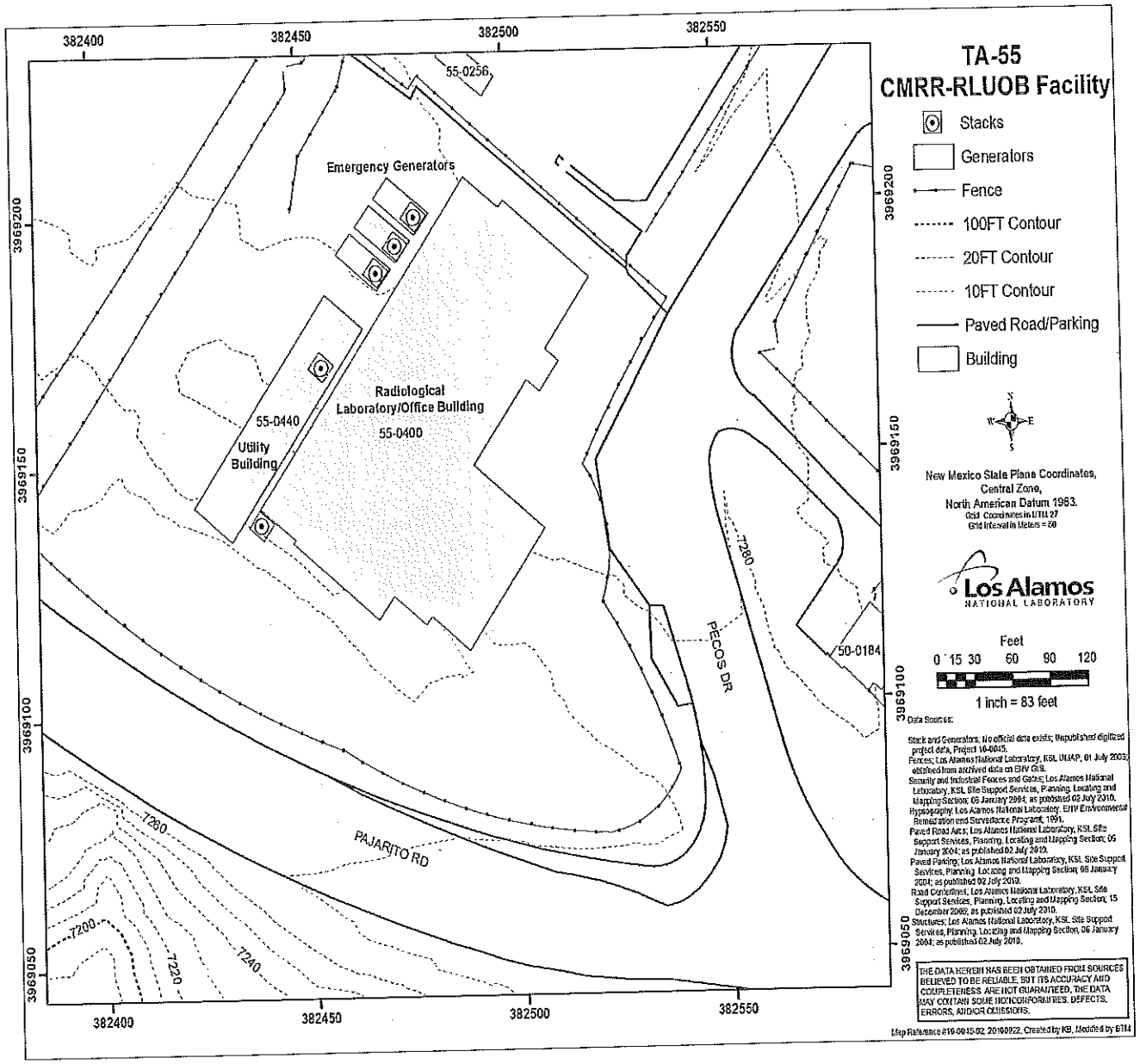


Figure 2

RLUOB Plot Plan



RLUOB permitted equipment consists of five natural gas-fired hot water boilers with each having a maximum rated heat input from fuel combustion of 11 MMBtu/hr. Each unit has the capability to use fuel oil as a backup or standby fuel should the natural gas supply be disrupted. The boilers will provide hot water and heat to the facility. Only three boilers are currently installed in the utility building. Current plans may require installation of a fourth boiler but not a fifth unit. Therefore, this application is only for the operation of four boilers. Each boiler is equipped with a low- NOx burner to reduce emissions of the primary air pollutant from natural gas combustion which is nitrogen oxides. Control of nitrogen oxide emissions was proposed by LANL in the NSR permit application for the RLUOB. Although there is no EPA or NMED regulation which required this control design, new gas-fired equipment at LANL is typically controlled by low-NOx burners to minimize facility-wide emissions. All boilers exhaust through a common stack located on the northern portion of the utility building.

Adjacent to the utility building are three installed diesel-fired emergency generators. The generators serve to provide electric power to the RLUOB should power to the site be disrupted. Emergency generators are exempt from NSR permitting but require an exemption notice or administrative permit revision. NMED approved an administrative permit revision for the generators in December 2007. These generators, or specifically the diesel engines within them, are not considered exempt (an insignificant activity) from Title V permitting due to applicability of the recent EPA New Source Performance Standard for stationary diesel engines at 40 CFR 60 – Subpart IIII : Standards of Performance for Stationary Compression Ignition Combustion Engines. Therefore, the generators are included in this application.

Small laboratory quantities of chemicals will be used within the modular radiological laboratory. The majority of chemical usage is for analytical chemistry work. The majority of chemicals used are liquids in quantities ranging from a few milliliters to less than one liter. Any evaporative emission from chemical usage is exhausted through the laboratory exhaust stack located on the southern edge of the laboratory building. Note radiological air emissions are limited and controlled by the U.S. EPA Region 6 under the provisions of 40 CFR 61- Subpart H: National Emission Standards for Hazardous Air Pollutants (NESHAP) for Radionuclides other than Radon from DOE Facilities and are not part of this application.

2.2 Proposed Title V Permit Conditions

The proposed permit conditions for the RLUOB come directly from NSR Permit 2195-NR1. Additional applicable requirements are from the EPA New Source Performance Standards (NSPS) at 40 CFR Part 60 – Subpart Dc: NSPS for Small Industrial-Commercial-Institutional Steam Generating Units and 40 CFR Part 60 – Subpart IIII: Standards of Performance for Stationary Compression Ignition Combustion Engines. The diesel engines in the RLUOB emergency generators are also subject to 40 CFR Part 63 – Subpart ZZZZ: NESHAP for Stationary Reciprocating Internal Combustion Engines. However, this NESHAP only requires for a new engine (constructed after June 12, 2006), such as those in the RLUOB emergency generators, that the same Subpart IIII NSPS requirements for engines be achieved.

The requested annual ton per year emission limits in this application for the boilers as a group are lower than corresponding limits in NSR Permit 2195-NR1 because the total number of boilers is being reduced from five to four in this application. In addition, a total annual fuel oil limit is no longer being requested. NSR Permit 2195-NR1 contains an annual fuel oil limit which was intended to represent the total fuel oil which possibly could be consumed should an emergency occur and natural gas be curtailed to the facility. Rather than attempt to predict this quantity, requested annual emission limits for boiler fuel oil are based on 48 hours per year per boiler of non-emergency use for maintenance and readiness testing. This value comes from the proposed boiler NESHAP of June 4, 2010 at 40 CFR Part 63 – Subpart JJJJJJ: NESHAP for Industrial, Commercial, and Institutional Boilers at Area Sources. As proposed, gas-fired boilers which only use fuel oil as a standby fuel are exempt from the NESHAP if non-emergency use is limited to 48 hours or less. Should the final rule change in this regard, this application may be revised accordingly. These revisions do not alter the allowable pound per hour emission limits for either gas or oil combustion in the RLUOB NSR permit.

Applicable requirements for the RLUOB and proposed permit conditions are shown in Table 2-1.

Table 2-1

Applicable Requirements and Proposed Permit Conditions for the RLUOB

Proposed Permit Conditions

CMRR Radiological Laboratory/Utility/Office Building (RLUOB)

All of the process equipment authorized for this source type is listed in the table shown below (emission units that were identified as insignificant or trivial and equipment not regulated pursuant to the Act are not included):

Emission Unit	Location/Building	Equipment Type	Manufacturer/Model	Serial No.	Nameplate Capacity	Fuel Type
CMRR-BHW-1	TA-55 RLUOB	Hot Water Boiler	Unilux/ZF 1100W	A1874	11 MMBtu/hr	Natural gas/oil
CMRR-BHW-2	TA-55 RLUOB	Hot Water Boiler	Unilux/ZF 1100W	A1875	11 MMBtu/hr	Natural gas/oil
CMRR-BHW-3	TA-55 RLUOB	Hot Water Boiler	Unilux/ZF 1100W	A1876	11 MMBtu/hr	Natural gas/oil
CMRR-BHW-4	TA-55 RLUOB	Hot Water Boiler	TBD	TBD	11 MMBtu/hr	Natural gas/oil
CMRR-GEN-1	TA-55 RLUOB	Diesel-Fired Generator	Generator: Cummins/DFLE-5754172	I060970810	1500 kW	Diesel
			Engine: Cummins/KTA50-G9	25314401	2220 hp	Diesel

Basis

NSR Permit 2195-NR1

Proposed Permit Conditions							Basis
CMRR-GEN-2	TA-55 RLUOB	Diesel-Fired Generator	Cummins/DFLE-5754172	I060970811	1500 kW	Diesel	
			Engine: Cummins/KTA50-G9	25314399	2220 hp	Diesel	
CMRR-GEN-3	TA-55 RLUOB	Diesel-Fired Generator	Cummins/DFLE-5754172	I060970812	1500 kW	Diesel	
			Engine: Cummins/KTA50-G9	33165566	2220 hp	Diesel	
CMRR-CHEM	TA-55 RLUOB	Laboratory Chemical Use	N/A	N/A	N/A	N/A	

Applicable Requirements

The following requirements apply to these emission units: All conditions of NSR Permit 2195-NR1, 40 CFR Part 60, Subpart Dc (Units CMRR-BHW-1, CMRR-BHW-2, CMRR-BHW-3), and 40 CFR Part 60, Subpart IIII (Units CMRR-GEN-1, CMRR-GEN-2, and CMRR-GEN-3).

Emission Limits

Emission Unit	Allowable Emission Limits													
	NO_x		CO		SO_2		TSP		PM_{10}		$PM_{2.5}$		VOC	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CMRR-BHW-1														

NSR Permit 2195-NR1, Table 2.1.

Total boiler emissions are less than NSR permit due to reduction from five boilers to four. Fuel oil tpy estimates now provided for non-emergency use for each boiler rather than a

Proposed Permit Conditions															Basis
Gas	0.7	2.9	1.1	4.8	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	N/A	N/A	prediction of emergency fuel oil use.
Oil	1.6	0.04	0.5	0.01	5.8	0.1	0.3	0.01	0.2	0.005	0.2	0.005	N/A	N/A	
CMRR-BHW-2 Gas	0.7	2.9	1.1	4.8	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	N/A	N/A	
Oil	1.6	0.04	0.5	0.01	5.8	0.1	0.3	0.01	0.2	0.005	0.2	0.005	N/A	N/A	
CMRR-BHW-3 Gas	0.7	2.9	1.1	4.8	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	N/A	N/A	
Oil	1.6	0.04	0.5	0.01	5.8	0.1	0.3	0.01	0.2	0.005	0.2	0.005	N/A	N/A	
CMRR-BHW-4 Gas	0.7	2.9	1.1	4.8	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	N/A	N/A	
Oil	1.6	0.04	0.5	0.01	5.8	0.1	0.3	0.01	0.2	0.005	0.2	0.005	N/A	N/A	
Total All	9.2	11.8	6.4	19.2	23.6	1.8	1.6	1.6	1.2	1.6	1.2	1.6	N/A	N/A	
CMRR-CHEM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.75	

Each boiler is limited to 30 ppm NOx when natural gas is combusted.

Proposed Permit Conditions	Basis
Emission units CMRR-GEN-1, CMRR-GEN-2, and CMRR-GEN-3 each have the following allowable emission limits: NOx = 9.2 g/kW-hr CO = 11.4 g/kW-hr PM = 0.54 g/kW-hr HC = 1.3 g/kW-hr	40 CFR Part 60, Subpart IIII, Table 1 and 40 CFR Part 63, Subpart ZZZZ.
Visible emissions from combustion equipment shall not equal or exceed opacity of 20%.	20.2.61 NMAC.
Operational Requirements Each boiler, Units CMRR-BHW-1, CMRR-BHW-2, CMRR-BHW-3 and CMRR-BHW-4, may be fired using either pipeline quality natural gas or No. 2 fuel oil.	NSR Permit 2195-NR1, Condition 1.c.
Boilers shall be equipped with Low-NO_x burners designed not to exceed 30 ppm when fired using natural gas.	NSR Permit 2195-NR1, Condition 1.d.
Each boiler is subject to the New Source Performance Standards (NSPS) at 40 CFR Part 60, Subpart A – General Provisions and Subpart Dc – NSPS for Small Industrial-Commercial-Institutional Steam Generating Units and shall comply with both the notification requirements in Subpart A and the specific requirements of Subpart Dc.	NSR Permit 2195-NR1, Condition 1.g.
Boiler fuel oil shall contain no more than 0.5 percent sulfur by weight.	NSR Permit 2195-NR1, Condition 1.h and 40 CFR 60.42c.d.
Diesel fuel used in the emergency generators, Unit CMRR-GEN-1, Unit CMRR-GEN-2, and Unit CMRR-GEN-3, shall contain no more than 15 ppm sulfur by weight.	40 CFR Part 60.4207.b

Proposed Permit Conditions	Basis
Operate and maintain each emergency generator engine according to manufacturer's written instructions or procedures developed by the permittee that are approved by the manufacturer.	40 CFR Part 60.4211.a
Each emergency generator engine shall be certified to the nonroad emission standards at 40 CFR Part 89 as applicable for the same model year and maximum engine power.	40 CFR Part 60.4211.b.1
Each emergency generator engine shall be installed and configured according to manufacturer's specifications.	40 CFR Part 60.4211.b.1
Each emergency generator engine shall be operated no more than 100 hours per year for maintenance checks and readiness testing. There is no time limit on the use of the generators in emergency situations.	40 CFR Part 60.4211.e
Each emergency generator engine must be equipped with a non-resettable hour meter.	40 CFR Part 60.4209.a
The permittee shall obtain a permit modification for the use of any chemical which has potential emissions of any toxic air pollutant (TAP) which exceeds the emission level in pounds per hour specified in 20.2.72.502 NMAC.	NSR Permit 2195-NR1, Condition 1.g and 20.2.72.402 NMAC.
Emissions Monitoring Requirements The amount of natural gas combusted in each boiler shall be monitored monthly.	NSR Permit 2195-NR1, Condition 3.a and 40 CFR 60.48c.g.2. Note LANL is no longer requesting an annual fuel oil restriction.
Fuel oil received for boiler use shall include a fuel supplier certification stating the name of the supplier, a statement the oil is defined as distillate oil, and the maximum sulfur content or maximum sulfur content of the oil.	NSR Permit 2195-NR1, Condition 3.b and 40 CFR 60.48c.e.11.
Evaluate visible emissions using EPA Method 9 for at least 10 minutes each day fuel oil is combusted in any boiler.	NSR Permit 2195-NR1, Condition 3.c.

Proposed Permit Conditions	Basis
Initial compliance tests are required on each boiler using natural gas and fuel oil for NO_x, CO, and TSP (oil fired only) and PM_{10} (oil fired only). Tests shall be conducted within sixty days after each unit achieves maximum normal production. If the maximum normal production rate does not occur within one hundred twenty days of source startup, then the tests shall be conducted no later than one hundred eighty days after initial startup of the source.	NSR Permit 2195-NR1, Condition 6.b.
Recordkeeping For each boiler, maintain records of the monthly quantity of natural gas combusted and the fuel oil supplier certifications.	NSR Permit 2195-NR1, Condition 4.a and 40 CFR 60.48c.e.11 and 60.48c.g.2.
Maintain records of each required visible emission reading on boiler emissions.	NSR Permit 2195-NR1, Condition 4.b.
For each emergency generator, keep records of the operation of the engine in emergency and non-emergency service that is recorded through the non-resettable hour meter. Record the time of operation and the reason the engine was in operation during that time.	40 CFR 60.4214.b.
Maintain records of the type and quantity of chemicals used including VOC and TAP emission estimates on a rolling twelve-month total basis.	NSR Permit 2195-NR1, Condition 4.c.
Reporting Reports shall be submitted in accordance with Conditions 4.1 and 4.2.	Operating Permit P100R1, Conditions 4.1 and 4.2.
Boiler fuel supplier certifications and monthly quantities of natural gas combusted shall be included in the semiannual monitoring report required by Condition 4.2.	NSR Permit 2195-NR1, Condition 5.a and 40 CFR 60.48c.d and 60.48c.e.

Proposed Permit Conditions	Basis
Required records of VOC and TAP emission estimates shall be included in the semiannual emissions report required by Condition 4.1.	NSR Permit 2195-NR1, Condition 5.c.

Appendix A

NSR Permit No. 2195-N and 2195-NR1

State of New Mexico
ENVIRONMENT DEPARTMENT
Air Quality Bureau
2048 Galisteo St.
Santa Fe, NM 87505
Phone (505) 827-1494
Fax (505) 827-1523
www.nmenv.state.nm.us

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL NO. 7003 0500 0005 1472 3540
RETURN RECEIPT REQUESTED

Permittees:

Owner: U.S. Department of Energy
Operator: Board of Regents of the University of California
Los Alamos National Laboratory
P.O. Box 1663, MS J978
Los Alamos, New Mexico 87545

NSR Air Quality Permit No. 2195-N
CMRR Facility
TEMPO No. 856 – PRN 20050001

Company Official:

David Fuehne
Acting Group Leader

M. A. Uhl

Mary Uhl
Acting Bureau Chief
Air Quality Bureau

SEP 16 2005

Date of Issuance

Air Quality Permit No. **2195-N** is issued by the Air Quality Bureau of the New Mexico Environment Department (Department) to Los Alamos National Laboratory pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.

This permit authorizes the construction and operation of phases A and B of the Chemistry and Metallurgy Research Building Replacement ("CMRR") facility. This facility consists of the Radiological Laboratory/Office Building ("RLOB") and the Utility Building ("UB"). Together, the two buildings are identified as the RLUOB. The function of the UB is to provide utility infrastructure and support to the CMRR facility. This facility is located in Township 19 N, Range 6E, Section 22, approximately three miles south of Los Alamos, New Mexico in Los Alamos County.

The Department has reviewed the permit application for the proposed construction and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210. D NMAC states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

Pursuant to 20.2.75.11 NMAC, the Department will assess an annual fee for this facility. This regulation set the fee amount at $1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC.

All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

The facilities authorized to be constructed by this permit are considered to be "New Source(s)" as defined by 20.2.72.401 NMAC as the authority to construct them is after December 31, 1988 and they are not integrally related with and integrally connected to the process of an existing source. As described by the application, "the new CMRR facility will replace a significant existing building at LANL – the Chemistry and Metallurgy Research Building located at Technical Area (TA)-3.

It is not presently intended for this facility to use perchloric acid in any of its operations in Phase A and B of the CMRR Building project. Perchloric acid is not regulated under the Act.

The permittee is advised that the decommissioning, decontamination, demolition, and disposal of the old Chemistry and Metallurgy Research (CMR) building must be done in accordance with the requirements for asbestos in 40 CFR 61, Subpart M.

40 CFR Part 61 Subpart H applies to radioactive emissions. Subpart H is administered by the federal EPA. LANL included language specifying a HEPA filter in the exhaust of the Radiological Laboratory/Office Building (Phase A) in its application to EPA for preconstruction approval of this building, and EPA approved the language with the specification for a HEPA filter included.

TOTAL EMISSIONS

The total potential emissions from this facility, excluding exempted activities, are shown in the following table. Emission limitations for individual units are shown in Specific Condition 2.

Total Potential Criteria Pollutant Emissions from Entire Facility (for information only, not an enforceable condition):

Pollutant	**Emissions** (tons per year)
Nitrogen Oxides (NOx)	18
Carbon Monoxide (CO)	25
Volatile Organic Compounds (VOC)	4
Sulfur Oxides (SOx)	12
Particulate Matter	3

SPECIFIC CONDITIONS

Pursuant to 20.2.72 NMAC, and the specific regulatory citations in parenthesis, the facility is subject to the following conditions.

1. Construction and Operation
(20.2.72.210 NMAC; NSPS 40 CFR 60, Subpart Dc)

a) The equipment regulated by this permit consists of

Table 1.1: Regulated Equipment List

Unit No.	**Unit Description**	**Make Model**	**Serial No.**	**Capacity**	**Manufacture Date**	**Other**
B-1	Boiler	TBD	TBD	11 MMBtu/hr	TBD	Dual Fuel
B-2	Boiler	TBD	TBD	11 MMBtu/hr	TBD	Dual Fuel
B-3	Boiler	TBD	TBD	11 MMBtu/hr	TBD	Dual Fuel
B-4	Boiler	TBD	TBD	11 MMBtu/hr	TBD	Dual Fuel
B-5	Boiler	TBD	TBD	11 MMBtu/hr	TBD	Dual Fuel
CU-1	Chemical Usage	NA	NA	NA	NA	NA

b) This facility is authorized to operate on a continuous basis.

c) Each boiler may be fired either using pipeline quality natural gas or No. 2 fuel oil. However, combined annual fuel oil boiler consumption shall not exceed 289,100

gallons. Compliance with the fuel oil consumption limit shall be determined using a rolling 365-day total.

d) Units B-1 – B-5 shall each be equipped with Low NOx burners designed not to exceed 30 ppm when fired using natural gas.

e) This facility is subject to all applicable requirements including, but not limited to, the following regulations:

Table 1.2: applicable requirements

Citation	Title
40 CFR Part 60, Subpart A	General Provisions
40 CFR Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
40 CFR 61, Subpart H	US EPA is the Administrator of this rule in New Mexico.
20.2.3 NMAC	Ambient Air Quality Standards
20.2.7 NMAC	Excess Emissions During Malfunction
20.2.61 NMAC	Smoke and Visible Emissions
20.2.70 NMAC	Operating Permits
20.2.71 NMAC	Operating Permit Fees
20.2.72 NMAC	Construction Permits
20.2.73 NMAC	NOI & Emissions Inventory Requirements
20.2.75 NMAC	Construction Permit Fees
20.2.77 NMAC	New Source Performance Standards

f) Units B1-B5 are subject to federal New Source Performance Standards (NSPS) found in 40 CFR 60, Subpart A - General Provisions, and Subpart Dc- Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units and shall comply with both the notification requirements in Subpart A and with the specific requirements of Subpart Dc.

g) LANL shall obtain a prior permit modification from NMED for the use of any lubricant or chemical that contains any toxic air pollutant ("TAP") listed in 20.2.72.502 NMAC if that TAP is emitted in quantities greater than the emissions in pounds per hour value stated in 20.2.72.502 NMAC, Table A or B. LANL may apply the appropriate Stack Height Release Correction Factor as provided for by 20.2.72.502 NMAC, Table C.

h) Boiler fuel oil shall not contain more than 0.5 percent sulfur by weight.

2. Emission Limits (20.2.72.210 NMAC, paragraphs A and B.1.b; NSPS 40 CFR 60, Subparts A and Dc)

Table 2.1: Allowable Emissions

Unit No	TSP		PM10		NOx[1]		CO		SOx[2]		NOx
	pph	tpy	pph	tpy	pph	tpy	pph	tpy	pph	tpy	ppm
B1-GAS	0.1	0.4	0.1	0.4	0.7	2.9	1.1	4.8	0.1	0.3	30
B1-OIL	0.3	NA	0.2	NA	1.6	NA	0.5	NA	5.8	NA	NA
B2-GAS	0.1	0.4	0.1	0.4	0.7	2.9	1.1	4.8	0.1	0.3	30
B2-OIL	0.3	NA	0.2	NA	1.6	NA	0.5	NA	5.8	NA	NA
B3-GAS	0.1	0.4	0.1	0.4	0.7	2.9	1.1	4.8	0.1	0.3	30
B3-OIL	0.3	NA	0.2	NA	1.6	NA	0.5	NA	5.8	NA	NA
B4-GAS	0.1	0.4	0.1	0.4	0.7	2.9	1.1	4.8	0.1	0.3	30
B4-OIL	0.3	NA	0.2	NA	1.6	NA	0.5	NA	5.8	NA	NA
B5-GAS	0.1	0.4	0.1	0.4	0.7	2.9	1.1	4.8	0.1	0.3	30
B5-OIL	0.3	NA	0.2	NA	1.6	NA	0.5	NA	5.8	NA	NA
All boilers - OIL[3]	NA	0.5	NA	0.3	NA	2.9	NA	0.9	NA	10.4	NA
Total	1.5	2.5	1.0	2.3	8.0	17.4	5.5	24.9	29.0	11.9	NA

[1] Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO_2

[2] Sulfur dioxide emissions include all oxides of sulfur expressed as SO_2

[3] TPY emission cap for any combination of oil fired boilers

a) Volatile Organic Compound Emissions

Volatile Organic Compound Emissions from CU-1 shall not exceed 3.75 tons per year. VOC boiler emissions are considered to be negligible (e.g. 0.1 lbs/hr) and are not enforceable limits.

3. Monitoring
(20.2.72.210.C NMAC; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall:

a) Monitor natural gas consumption on a monthly basis and fuel oil consumption on a daily basis when fuel oil is used for each boiler.

b) Assure fuel oil received by the facility is compliant with the sulfur requirement stated by permit condition 1(h).

c) Evaluate visible emissions in accordance with EPA Reference Method 9 for at least ten (10) minutes each day fuel oil is used to fire a boiler(s) to demonstrate

compliance with the visible emissions requirement specified by 20.2.61 – Smoke and Visible Emissions.

4. Recordkeeping
(20.2.72.210.E NMAC; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall generate and maintain records:

a) Required by 40 CFR 60, Subparts A and Dc including those specified by 60.48c(f)(1), (g) and (i).

b) Of the visible emission readings required by condition 3(c).

c) Of the type and quantity of chemicals and lubricants used, as allowed by this permit, including calculated VOC and TAP emissions from such use, on a rolling twelve-month total.

5. Reporting
(20.2.72 NMAC, Sections 210.E, and 212; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall:

a) Submit reports as required by 40 CFR 60, Subparts A and Dc, including those specified by 60.48c(a)1-3 and 60.48c (d), (e)(11), (f)(1), and (j). LANL may submit the fuel supplier certification information on an annual basis in lieu of the semi-annual requirement specified by Subpart Dc because fuel oil usage is expected to be minimal based on permit condition 1(c).

b) Submit manufacturer's data verifying that each boiler is equipped with Low NOx burners thirty (30) days prior to start-up of the boilers.

c) Submit a summary of the VOC and TAP information required in condition 4.c by April 1 of each year.

6. Compliance Test
(20.2.72 NMAC Sections 210.C and 213; NSPS 40 CFR 60, Subparts A and Dc)

a) Initial compliance tests for NOx, CO and TSP (oil fired only) and PM_{10} (oil fired only) are required for the first three boilers listed in Table 1.1 that are installed, if all five are of the same make and model. If they are not of the same make and model, each boiler shall be subject to initial compliance tests. Each boiler shall be tested using natural gas and fuel oil.

Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

b) Boiler tests shall be conducted within sixty (60) days after each unit achieves maximum normal production. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests shall be conducted no later than one hundred eighty (180) days after initial startup of the source.

Boiler tests shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 7E for NOx, Method 10 for CO as contained in 40 CFR 60, Appendix A, and with the requirements of Subpart A, General Provisions, 60.8(f). For combined TSP and PM10, testing shall be in accordance with 40 CFR 51, Appendix M, Method 201. Alternative test method(s) may be used if the Department approves the change. The results of the NOx tests shall be expressed as nitrogen dioxide (NO_2) using a molecular weight of 46 lb/lb-mole in all calculations (each ppm of NO/NO_2 is equivalent to 1.194×10^{-7} lb/SCF).

Enclosure: Industry/Consultant Feedback Questionnaire with envelope

GENERAL CONDITIONS

1. Reporting
(20.2.72 NMAC Sections 210.E, and 212)

a) The Permittee shall notify the Department in writing of or provide the Department with:

i) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date;

ii) the equipment serial number and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date;

iii) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date;

iv) any change of operators within fifteen (15) days of such change;

v) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.

2. Revisions and Modifications
(20.2.72 NMAC, Sections 200.A.2 and E, and 210.B.4)

Any future physical changes or changes in the method of operation may constitute a modification as defined by 20.2.72 NMAC, Construction Permits. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit.

Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, or will increase the discharge of emissions. Any such proposed changes shall be submitted as a revision or modification.

Modifications or revisions to this permit shall be processed in accordance with 20.2.72 NMAC.

3. Notification to Subsequent Owners
(20.2.72 NMAC, Sections 7.P.1and 212.C)

The permit and conditions apply in the event of any change in control or ownership of the facility. No permit modification is required in such case. However, in the event of any such

change in control or ownership, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the Department of the change in ownership within fifteen (15) days of that change.

Any new owner or operator shall notify the Department, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address.

4. Right to Access Property and Review Records
(NMSA 1978, Section 74-2-13)

The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. The company, upon either a verbal or written request from an authorized representative of the Department, shall produce any records or information necessary to establish that the terms and conditions of this permit are being met.

5. Posting/Retention of the Permit

A copy of this permit shall be posted at the plant site or retained at the plant site at all times and shall be made available to Department personnel for inspection upon request.

6. Permit Cancellations
(20.2.72.211 NMAC)

a) The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit.

b) The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year.

7. Pursuant to 20.2.72.210.A NMAC, the contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the applicant shall construct or modify and operate the facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the applicant shall submit additional modeling for review by the Department. Results of that review may require a permit modification.

8. Prior to any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61, Subpart M, National Emission Standard for Asbestos applies.

9. For engines or turbines equipped with catalytic converters and/or air fuel ratio controllers, or similar device which performs the same function of maintaining appropriate air and fuel ratios, records shall be made and maintained by the owner or operator for a period of at least two (2) years from the date of generation and a summary of quarterly reports shall be submitted to the Department annually, which:

   a) For each air fuel ratio (AFR) controlling type device, demonstrate that the manufacturer's or supplier's recommended maintenance is performed, including replacement of oxygen sensor as necessary for oxygen-based controllers. Verification of proper operation of the controller shall be demonstrated at least quarterly by measuring and recording exhaust oxygen or NO_x concentrations with a properly calibrated portable analyzer as specified in the most current version of the SOP for "Use of Portable Analyzers in Performance Tests".

   b) For any engine equipped with a catalytic converter, demonstrate the maintenance of the NO_x and CO reduction efficiency across the catalyst bed. This test shall be performed within ninety (90) days following initial startup and on a quarterly basis thereafter, unless an alternative testing schedule is specified by the department. Properly calibrated portable analyzers are acceptable for this demonstration. The test shall be conducted at ninety percent (90%) or greater of full load and shall include the exhaust volume flow rate (dscf) and the NOx and CO emission rate (lb/hr).

10. For engines equipped with catalytic converters, the engine shall not be operated without the catalytic converter, specifically including catalyst maintenance periods. During periods of catalyst maintenance, the permittee shall either (1) shut down the engine(s); or (2) replace the catalyst with a functionally equivalent spare to allow the engine to remain in operation.

11. Flares used to comply with the NSPS (e.g. 40 CFR 60, Subpart GGG, KKK and VV) requirements for VOC leaks shall be tested in accordance with the requirements contained in 40 CFR 60, Subpart A, General Provisions, paragraph 60.8 (performance tests) and 60.18 (general control device requirements).

12. Except as provided in the Specific Conditions, records shall be maintained on-site for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request.

13. If this permit requires any compliance testing, the owner or operator shall notify the Department at least thirty (30) days prior to the test date and allow a representative of the Department to be present at the test. The permittee shall submit a testing protocol to the

Department at least thirty (30) days prior to the test date and shall observe the following testing procedures:

a. The test protocol and compliance test report shall conform to the standard format specified by the Department. The most current version of the format may be obtained from the Enforcement and Compliance Section of the Air Quality Bureau.

b. Pursuant to 20.2.72.210.C NMAC, for combustion sources with stacks, the permittee shall also provide a one-quarter (1/4) inch stainless steel sampling line adjacent to the sampling ports and extending down to within four (4) feet above ground level to provide access for future audits. The line shall extend into the stack a distance of 1/4 the stack diameter, but not less than one inch from the stack wall. The sampling line shall be maintained clear of blockage at all times. This line shall be in place at the time of any required compliance tests. For any source for which compliance tests are not required or for previously existing sources this line shall be installed no later than one hundred and eighty (180) days from the date of this permit.

c. As an alternative, the owner or operator may provide a portable sampling line that is readily available which allows the Department to safely obtain representative stack gas samples at the time of compliance audits or site inspections.

d. A physical configuration of the facility that conforms to the emissions testing requirements of 20.2.72.210.C NMAC and of 40 CFR 60.8(e), which is imposed under the authority of 20.2.72.210.C.4 NMAC.

ADDITIONAL REQUIREMENTS

Applications for permit revisions and modifications shall be submitted to:

Program Manager, Permits Section
New Mexico Environment Department
Air Quality Bureau
2048 Galisteo
Santa Fe, New Mexico 87505

Compliance test protocols, regularly scheduled reports, a copy of the test results, and excess emission reports, shall be submitted to:

Program Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
2048 Galisteo
Santa Fe, New Mexico 87505

REVOCATION

The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in accordance with the Department's Rules Governing Appeals From Compliance Orders.

APPEAL PROCEDURES

20.2.72.207.F NMAC provides that any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to:

Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg.
P.O. Box 26110
Santa Fe, New Mexico 87502

Blankenship

New Mexico
ENVIRONMENT DEPARTMENT
Air Quality Bureau
1301 Siler Road, Building B
Santa Fe, NM 87507-3113
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

December 20, 2007

Administrative Permit Revision
20.2.72.219.A.1 NMAC
NSR No. 2195NR1
IDEA ID No. 856 - PRN20070010
Los Alamos National Laboratory
AIRS No. 350280001

Dianne Wilburn
Administrator
U.S. Department of Energy National Nuclear Security Administration
PO Box 1663
MS J978
Los Alamos, NM 87545

Dear Ms. Wilburn:

This letter is to acknowledge your letter of 12/11/2007 to revise Air Quality Permit 2195NR1 for U.S. Department of Energy National Nuclear Security Administration, Los Alamos National Laboratory. This revision is pursuant to Title 20 of the New Mexico Administrative Code Chapter 2 Part 72 (20.2.72 NMAC) Construction Permits Section 219.A.1. This facility is located approximately ten miles west of Los Alamos in Los Alamos County, New Mexico. This administrative revision for Facility ID 856 consists of processing exempt sources: (3) three 1500 kW Cummins diesel powered generators to be located at Technical Area 55, Chemistry and Metallurgy Research Replacement Facility (CMRR). The request was received by the New Mexico Environment Department's Air Quality Bureau (Department) on December 11, 2007.

A review of the information you submitted confirms that the requirements specified in 20.2.72 NMAC, Construction Permits, Permit Processing and Requirements, Section 219.A are met.

20.2.72.219.A.3 NMAC specifies that administrative permit revisions become effective upon receipt of the notification by the Department.

This letter shall be attached to Air Quality Permit No. 2195N issued by the Department on 9/16/2005 to serve as acknowledgment by the Department that this administrative permit revision is authorized.

If you have any questions, please do not hesitate to contact me in Santa Fe at 505-476-4355.

Sincerely,

Teri Waldron

Teri Waldron
New Source Review Unit
Permitting Section

Appendix B

Permit Application Forms

Mail Application To:

New Mexico Environment Department
Air Quality Bureau
Permitting Section
1301 Siler Road, Building B
Santa Fe, NM 87507-3113

Phone: (505) 476-4300
Fax: (505) 476-4375
www.nmenv.state.nm.us/aqb

For Department use only:

AIRS No.:

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well.

This application is being submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required)
Construction Status: ☐ Not Constructed √Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
Minor Source: ☐ a NOI 20.2.73 NMAC ☐ 20.2.72 NMAC application/revision ☐ 20.2.72.300 NMAC Streamline application
Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. √TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements: √ I acknowledge that a pre-application meeting is available to me upon request ☐ NPR (no fee)
☐ $500 NSR Permit Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
☐ Check No.: Fee not required for Title V. ☐ This facility meets the applicable requirements to register as a Small Business

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.70.404.C.3 NMAC**
(i.e. an example of an application for a new minor source would be 20.2.72.200.A NMAC, one example of a low level cite for a Technical Revision could be: 20.2.72.219.B.1.b NMAC, or a Title V acid rain cite would be: 20.2.70.200.C NMAC)

Synthetic Minor Source Information: A source is synthetic minor if its uncontrolled emissions are above major source applicability thresholds, but the facility is minor because it has federally enforceable requirements (federal requirements or permit conditions) that limit controlled emissions below major source thresholds. Facilities can be synthetic minor for either Title V (20.2.70 NMAC) or PSD (20.2.74 NMAC) or both. The Department tracks synthetic minor sources that are within 20% of either TV or PSD major source thresholds, referring to these as Synthetic Minor 80 Sources (abbreviated SM80). Please check all that apply:
Prior to this permitting action this source is a √ TV major source, ☐ a TV synthetic minor source, ☐ a TV SM80 source.
Prior to this permitting action this source is a ☐ PSD major source, √ a PSD synthetic minor source, ☐ a PSD SM80 source.
This permitting action results in a ☐ TV synthetic minor source and/or ☐ PSD synthetic minor source.

Section 1 – Facility Information

Section 1-A: Company Information

		AI # (if known):	Updating permit #: **P100R1**
1	Facility Name: **U.S. Department of Energy(DOE)/Los Alamos National Laboratory**	Plant primary SIC Code (4 digits): **9711**	
2	Owner's name: **DOE, National Nuclear Security Administration**	Phone/Fax: **(505) 667-5105**	
a	Mailing Address: **Office of Los Alamos Site Operations, 528 35th Street, Los Alamos, NM 87544**		
b	Plant Street Address (If no facility street address, provide directions from a prominent landmark): **Laboratory is bounded by towns of Los Alamos and White Rock, NM**		
3	Billing Party: **N/A – Permit fee not required for Title V**	Phone/Fax: **N/A**	
a	Mailing Address: **N/A**	E-mail: **N/A**	
4	√ Preparer: ☐ Consultant: **Bill Blankenship**	Phone/Fax: **(505) 665-0823/(505) 665-8858**	
a	Mailing Address: **P.O. Box 1663, MS J978, Los Alamos, NM, 87545**	E-mail: **bblankenship@lanl.gov**	

5	Plant Operator: **Los Alamos National Security, LLC**		
a	Plant Operator Address: **P.O. Box 1663, Los Alamos, NM, 87545**		
b	Plant Operator Contact: **Pat Gallagher**	Phone/Fax: **(505) 667-2278/(505) 665-8858**	
c	Address: **P.O. Box 1663, MS J978, Los Alamos, NM, 87545**	E-mail: **patg@lanl.gov**	
7	Air Permit Contact: **Pat Gallagher**	Title: **Group Leader, ENV-ES**	
	E-mail: **patg@lanl.gov**	Phone/Fax: **(505) 667-2278/(505) 665-8858**	
a	Mailing Address: **P.O. Box 1663, MS J978, Los Alamos, NM, 87545**		

Section 1-B: Current Facility Status

1	Has this facility already been constructed? √ Yes ☐ No	If yes, is it currently operating in New Mexico? √ Yes ☐ No
2	Is the plant currently shut down? ☐ Yes √ No	If yes, give month and year of shut down (MM/YY):
3	Was this facility constructed before 8/31/1972 and continuously operated since 1972? √ Yes ☐ No	
4	If Yes, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? √Yes ☐No ☐N/A	
5	Does this facility have a Title V operating permit (20.2.70 NMAC)? √ Yes ☐ No	If yes, the permit No. is: **P-100R1**
6	Has this facility been issued a No Permit Required (NPR)? √ Yes ☐ No	If yes, the NPR No. is: **2195A, 2195Q, 2195S,2195U**
7	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes √ No	If yes, the NOI No. is: **N/A**
8	Does this facility have a construction permit (20.2.72 NMAC)? √ Yes ☐ No	If yes, the permit No. is: **632, 634, 1081, 2195, 2195B, 2195F, 2195H, 2195N, 2195P**
9	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? √ Yes ☐ No	If yes, the registration No. is: **GCP-3-2195G**

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**
b	Proposed	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**
b	Proposed	Hourly: **N/A**	Daily: **N/A**	Annually: **N/A**

Section 1-D: Facility Location Information

1	Section: **22**	Range: **6E**	Township: **19N**	County: **Los Alamos**	Elevation (ft): **7300**
2	UTM Zone: ☐ 12 or √ 13			Datum: ☐ NAD 27 √ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): **384.4**			UTM N (in meters, to nearest 10 meters): **3964.8**	
b	**AND** Latitude (deg., min., sec.): **35 49 17**			Longitude (deg., min., sec.): **106 16 44**	
3	Name and zip code of nearest New Mexico town: **Los Alamos 87545**				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): **Southern border of Los Alamos, NM**				
5	The facility is **0** (distance) miles **south** (direction) of **Los Alamos, NM** (nearest town).				

6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service √ Other (specify) **Federal Department of Energy**
	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: **Los Alamos County, Sandoval County, Santa Fe County, Rio Arriba County, City of Espanola, San Ildefonso Pueblo, Santa Clara Pueblo, Jemez Pueblo, Pojoaque Pueblo, Cochiti Pueblo**
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.nmenv.state.nm.us/aqb/modeling/class1areas.html)? ☐ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: **Bernalillo County (56), Bandelier Wilderness Area (0)**
9	Name nearest Class I area: **Bandelier Wilderness Area (the wilderness portion of Bandelier National Monument)**
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): **0**
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: **N/A**
12	Is this a stationary portable source as defined in 20.2.72.7.X NMAC? ☐ Yes √ No

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{hours}{day}$): **24**	($\frac{days}{week}$): **7**	($\frac{weeks}{year}$): **52**	($\frac{hours}{year}$): **8760**		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{hours}{day}$)? Start: **N/A**	AM PM	End: **N/A**	☐AM ☐PM		
3	Month and year of anticipated start of construction: **N/A**					
4	Month and year of anticipated construction completion: **N/A**					
5	Month and year of anticipated startup of new or modified facility: **N/A**					
6	Will this facility operate at this site for more than one year? √ Yes ☐ No					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes √ No If yes, specify:		
a	If yes, NOV date or description of issue: **N/A**		NOV Tracking No: **N/A**
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes √ No If Yes, provide the 1c & 1d info below:		
c	Document Title: **N/A**	Date: **N/A**	Requirement # (or page # and paragraph #): **N/A**
d	Provide the required text to be inserted in this permit: **N/A**		
2	Is air quality dispersion modeling being submitted with this application? ☐ Yes √ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes √ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? √ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** √ **Minor** (☐ <10 tpy of any single HAP **AND** √ <25 tpy of any combination of HAPS)		
b	If 4.a is Yes, indentify the subparts in 40 CFR 61 & 40 CFR 63 that apply to this facility (If no subparts apply, enter "N/A."): **Part 61: Subparts C, H, M, Q; Part 63: Subparts T, IIII, ZZZZ**		

Section 1-G: Streamline Application (This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications." √ N/A (This is not a Streamline application.)

Section 1-H: Title V Specific Information (Fill this section out only if this is a Title V application.)

1	Responsible Official (20.2.70.300.D.2 NMAC): **James C. Cantwell**	Phone: **(505) 667-4218**

a	R.O. Title: **Associate Director for Environment, Safety, Health & Quality**	R.O. e-mail: **cantwe@lanl.gov**
b	R. O. Address: **P.O. Box 1663, MS K491, Los Alamos, NM, 87545**	
2	Alternate Responsible Official **Cynthia L. Dutro** (20.2.70.300.D.2 NMAC):	Phone: **(505) 667 4218**
a	A. R.O. Title: **Deputy Associate Director for Environment, Safety, Health & Quality**	A. R.O. e-mail: **cdutro@lanl.gov**
b	A. R. O. Address: **P.O. Box 1663, MS K491, Los Alamos, NM, 87545**	
3	Company's State of Incorporation or Registration to do Business: **N/A Federal Government**	
4	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): **N/A**	
5	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): **N/A**	
a	Address of Parent Company: **N/A**	
6	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): **N/A**	
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: **Taos Pueblo (69), Picuris Pueblo (56), Jicarilla Apache (67), Ohkay Owingeh Pueblo (19), Santa Clara Pueblo (10), San Ildefonso Pueblo (5), Pojoaque Pueblo (13), Nambe Pueblo (24), Tesuque Pueblo (19), Cochiti Pueblo (13), Santa Domingo Pueblo (27), Zia Pueblo (30), San Felipe Pueblo (38), Santa Ana Pueblo (40), Jemez Pueblo (19), Sandia Pueblo (61), Laguna Pueblo (77), Bernalillo County (56).**	

Section 1-I – Submittal Requirements

A 20.2.73 NMAC (NOI), a 20.2.70 NMAC (Title V), a 20.2.72 NMAC (NSR), or 20.2.74 NMAC (NSR) application package shall consist of the following:

1) One hard copy **original signed and notarized application package** printed double sided 'head-to-toe' as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. If 'head-to-toe printing' is not possible, print single sided. Please use numbered tab separators in the hard copy submittal(s) as this facilitates the review process.
2) If the application is for a NSR or Title V permitting action, include one working hard **copy** for Department use. Technical revisions only need to fill out Section 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical revision. TV Minor Modifications need only fill out Section 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically on compact disk(s) (CD). Two CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below.
4) If air dispersion modeling is required, include one additional electronic copy of the air dispersion modeling including the input and output files. The dispersion modeling *summary report only* should be submitted as hard copy(ies) unless otherwise indicated by the Bureau. The complete dispersion modeling study, including all input/output files, should be submitted electronically as part of the electronic submittal.
5) If subject to PSD review under 20.2.74 NMAC (PSD) include,
   a. one additional hard copy and one additional CD copy for US EPA,
   b. one additional hard copy and one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional hard copy and one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

Electronic Submittal Format [in addition to the required hard copy(ies)]:

1) All required electronic documents shall be submitted in duplicate (2 separate CDs). The documents should be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format with the number of additional hard copies corresponding to the number of CD copies required.
2) It is preferred that this application form be submitted as 3 electronic files (2 MSWord docs: Universal Application section 1 and Universal Application section 3-19) and 1 Excel file of the tables (Universal Application section 2) on the CD(s). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.
3) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as a application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision # (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. The footer information should not be modified by the applicant.

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Table 2-A: Regulateu Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2]	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, ...)	Replacing Unit No.
							Date of Installation /Construction[2]	Emissions vented to Stack #				
CMRR-BHW-1	Hot Water Boiler	Unilux	ZF 1100W	A1874	11 MMBtu/hr	11 MMBtu/hr	2009	C-1		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	NSPS Subpart Dc 20.2.61 NMAC	N/A
							Oct-09	S-1				
CMRR-BHW-2	Hot Water Boiler	Unilux	ZF 1100W	A1875	11 MMBtu/hr	11 MMBtu/hr	2009	C-1		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	NSPS Subpart Dc 20.2.61 NMAC	N/A
							Oct-09	S-1				
CMRR-BHW-3	Hot Water Boiler	Unilux	ZF 1100W	A1876	11 MMBtu/hr	11 MMBtu/hr	2009	C-1		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	NSPS Subpart Dc 20.2.61 NMAC	N/A
							Oct-09	S-1				
CMRR-BHW-4	Hot Water Boiler	TBD	TBD	TBD	11 MMBtu/hr	11 MMBtu/hr	TBD	C-1		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	NSPS Subpart Dc 20.2.61 NMAC	N/A
							TBD	S-1				
CMRR-GEN-1	Diesel Generator	Cummins	DFLE-5754172	I06970810	2220 hp (engine)	2220 hp (engine)	Sep-06	N/A		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	NSPS Subpart IIII NESHAP ZZZZ 20.2.61 NMAC	N/A
							Sep-09	S-3				
CMRR-GEN-2	Diesel Generator	Cummins	DFLE-5754172	I06970811	2220 hp (engine)	2220 hp (engine)	Sep-06	N/A		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	NSPS Subpart IIII NESHAP ZZZZ 20.2.61 NMAC	N/A
							Sep-09	S-4				
CMRR-GEN-3	Diesel Generator	Cummins	DFLE-5754172	I06970812	2220 hp (engine)	2220 hp (engine)	Sep-06	N/A		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	NSPS Subpart IIII NESHAP ZZZZ 20.2.61 NMAC	N/A
							Sep-09	S-5				
CMRR-CHEM	Laboratory Chemical Use	N/A	N/A	N/A	N/A	N/A	N/A	N/A		x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	N/A	N/A
							N/A	S-2				
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		
										☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

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[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

[2] Specify dates required to determine regulatory applicability.

[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.nmenv.state.nm.us/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.300.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.nmenv.state.nm.us/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No. Serial No.	Max Capacity Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
CMRR-TANK-1	Fuel Oil Storage Tank	TBD	TBD TBD	TBD TBD	20.72.202.B.2 List Items 1.a and 5	TBD TBD	x Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
	Note: This fuel oil storage tank has not yet been designed or installed. Once more information is known, appropriate notice will be provided to NMED.						☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced

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[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated March 24, 2005. Emissions from these insignificant activities do not need to be reported, unless specifically requested. Activities in the NMED/AQB List of Trivial Activities, dated January 10, 1996 should be listed in this table, but not in other elements/sections of this application.

[2] Specify date(s) required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
CE-1	Low-NOx Burner	Sep-09	Nitrogen Oxides	CMRR-BHW-1, 2,3 and 4	67%	Vendor Data

[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

Table 2-D: Maximum Uncontrolled Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Uncontrolled Emissions are the uncontrolled emissions at maximum capacity, prior to (in the absence of) pollution control equipment. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this tablewith the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
CMRR-BHW-1 gas	1.0	4.2	0.41	1.8	0.28	1.2	0.061	0.27	0.053	0.23	0.053	0.23	0.053	0.23	-	-	-	-
CMRR-BHW-1 oil	1.4	6.1	0.41	1.8	0.42	1.8	0.58	2.5	0.16	0.69	0.16	0.69	0.16	0.69	-	-	-	-
CMRR-BHW-2 gas	1.0	4.2	0.41	1.8	0.28	1.2	0.061	0.27	0.053	0.23	0.053	0.23	0.053	0.23	-	-	-	-
CMRR-BHW-2 oil	1.4	6.1	0.41	1.8	0.42	1.8	0.58	2.5	0.16	0.69	0.16	0.69	0.16	0.69	-	-	-	-
CMRR-BHW-3 gas	1.0	4.2	0.41	1.8	0.28	1.2	0.061	0.27	0.053	0.23	0.053	0.23	0.053	0.23	-	-	-	-
CMRR-BHW-3 oil	1.4	6.1	0.41	1.8	0.42	1.8	0.58	2.5	0.16	0.69	0.16	0.69	0.16	0.69	-	-	-	-
CMRR-BHW-4 gas	1.0	4.2	0.41	1.8	0.28	1.2	0.061	0.27	0.053	0.23	0.053	0.23	0.053	0.23				
CMRR-BHW-4 oil	1.4	6.1	0.41	1.8	0.42	1.8	0.58	2.5	0.16	0.69	0.16	0.69	0.16	0.69	-	-	-	-
CMRR-CHEM	-	-	-	-	0.01	0.04	-	-	-	-	-	-	-	-	-	-	-	-
CMRR-GEN-1	33.6	1.7	41.6	2.1	4.7	0.24	0.89	0.045	2.0	0.10	1.7	0.083	1.7	0.083	-	-	-	-
CMRR-GEN-2	33.6	1.7	41.6	2.1	4.7	0.24	0.89	0.045	2.0	0.10	1.7	0.083	1.7	0.083	-	-	-	-
CMRR-GEN-3	33.6	1.7	41.6	2.1	4.7	0.24	0.89	0.045	2.0	0.10	1.7	0.083	1.7	0.083				
	Note: Totals below reflect higher value of gas vrs. oil for boilers. Boiler cannot burn both fuels at the same time.																	
Totals	106.3	29.3	126.5	13.4	15.9	8.1	5.0	10.3	6.5	3.1	5.6	3.0	5.6	3.0	-	-	-	-

[1] **Significant Figures Examples:** One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this tablewith the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point. Please do not change the column widths on this table.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
CMRR-BHW-1 gas	0.7	2.9	1.1	4.8	N/A	N/A	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	-	-	-	-
CMRR-BHW-1 oil	1.6	0.04	0.5	0.01	N/A	N/A	5.8	0.14	0.3	0.01	0.2	0.0048	0.2	0.0048	-	-	-	-
CMRR-BHW-2 gas	0.7	2.9	1.1	4.8	N/A	N/A	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	-	-	-	-
CMRR-BHW-2 oil	1.6	0.04	0.5	0.01	N/A	N/A	5.8	0.14	0.3	0.01	0.2	0.0048	0.2	0.0048	-	-	-	-
CMRR-BHW-3 gas	0.7	2.9	1.1	4.8	N/A	N/A	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	-	-	-	-
CMRR-BHW-3 oil	1.6	0.04	0.5	0.01	N/A	N/A	5.8	0.14	0.3	0.01	0.2	0.0048	0.2	0.0048	-	-	-	-
CMRR-BHW-4 gas	0.7	2.9	1.1	4.8	N/A	N/A	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4				
CMRR-BHW-4 oil	1.6	0.04	0.5	0.01	N/A	N/A	5.8	0.14	0.3	0.01	0.2	0.0048	0.2	0.0048	-	-	-	-
CMRR-GEN-1	9.2	N/A	11.4	N/A	1.3	N/A	N/A	N/A	0.54	N/A	N/A	N/A	N/A	N/A	-	-	-	-
	g/kW-hr		g/kW-hr		g/kW-hr				g/kW-hr									
CMRR-GEN-2	9.2	N/A	11.4	N/A	1.3	N/A	N/A	N/A	0.54	N/A	N/A	N/A	N/A	N/A	-	-	-	-
	g/kW-hr		g/kW-hr		g/kW-hr				g/kW-hr									
CMRR-GEN-3	9.2	N/A	11.4	N/A	1.3	N/A	N/A	N/A	0.54	N/A	N/A	N/A	N/A	N/A	-	-	-	-
	g/kW-hr		g/kW-hr		g/kW-hr				g/kW-hr									
CMRR-CHEM	-	-	-	-	-	3.8	-	-	-	-	-	-	-	-				
Totals	N/A	11.8	N/A	19.2	N/A	3.8	N/A	1.8	N/A	1.6	N/A	1.6	N/A	1.6				

[1] **Significant Figures Examples:** One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

X This table is intentionally left blank as all SSM emissions at this facility do not require an increase in Requested Allowables greater than those listed in Table 2-E. Provide explanation in Section 6.

All applications, including NOI applications, must fill out this table, reporting Maximum Emissions during Startup, Shutdown and Scheduled Maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). Only report SSM emissions greater than the cooresponding Table 2-E emissions[1]. Not providing emissions for a unit indicates that SSM emissions for this unit are less than the Requested Allowables for that unit in Table 2-E. In Section 6, provide emissions calculations for any emissions listed in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.72.203.A.3 NMAC and 20.2.70.300.D.5 NMAC). List all units and SSM fugitives in this table. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals																		

[1] For instance, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in the table below. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[2] Condensables: Include condensable particulate matter emissions in particulate matter calculations.

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. List tank-flashing emissions estimates as a separate line item. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

☐ I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		☐ H_2S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
S-1 (gas)	CMRR-BHW-1,2,3,4	2.8	11.6	4.4	19.2	N/A	N/A	0.4	1.2	0.4	1.6	0.4	1.6	0.4	1.6	-	-
S-1 (oil)	CMRR-BHW-1,2,3,4	6.4	0.15	2	0.05	N/A	N/A	23.2	0.56	1.2	0.03	0.8	0.019	0.8	0.019	-	-
Totals:		9.2	11.8	6.4	19.2	N/A	N/A	23.6	1.76	1.6	1.6	1.20	1.6	1.20	1.6	-	-

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package.

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H=Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate (acfs)	Flow Rate (dscfs)	Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter or L x W (ft)
S-1	CMRR-BHW-1,2,3,4	V	No	60	410	18040	-	-	28.5	3.7
S-2	CMRR-CHEM	V	No	85	70	2090	-	-	70	6.17
S-3	CMRR-GEN-1	V	Yes	13.2	960	178	-	-	20.3	1.2
S-4	CMRR-GEN-2	V	Yes	13.2	960	178	-	-	20.3	1.2
S-5	CMRR-GEN-3	V	Yes	13.2	960	178	-	-	20.3	1.2

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report each HAP that may be emitted in excess of its de minimis level listed in the US EPA document "De Minimus Rates specified in Proposed 40 CFR Part 63, Subpart B", EPA-453/R-93-035 or de minimis levels established under subsequent rule making for 112(g). Per 20.2.72.403.A.1 NMAC, report each TAP that may be emitted in excess of its pounds per hour screening level specified in Table A or B of 20.2.72.502 NMAC. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Both HAPs and TAPs should be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Include tank-flashing emissions estimates of HAPs and TAPs in this table. Note that 20.2.72.402.C NMAC lists sources that are exempt from the permitting requirements of 20.2.72.400—499. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected.

Stack No.	Unit No.(s)	Total HAPs		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP		Provide Pollutant Name Here ☐ HAP or ☐ TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
See sheets "BoilersGenerators" and "ChemUsage" in this section for this information.																			
HAP emission estimates are provided although all emissions are de minimis.																			
TAP emission estimates are provided for chemical usage although all emissions are below the specified lb/hr level in 20.2.72.502 NMAC.																			
TAP emission estimates are not provided for boiler or generator fuel combustion because emission factors are not available. TAP emission rates from this common equipment type are insignificant.																			
Totals:																			

Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (No. 2 Diesel, Natural Gas, Coal, ...)	Specify Units				
		Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
CMRR-BHW-1,2,3,4 (each)	Pipeline Quality Natural Gas	1030 Btu/scf	0.011 MMscf/hr max.	93.6 MMscf/yr max.	2 gr/100 scf	N/A
CMRR-BHW-1,2,3,4 (each)	No. 2 Fuel Oil	137,000 Btu/gal	0.080 Mgal/hr max.	3.85 Mgal/yr max.	0.05%	N/A
CMRR-GEN-1,2,3 (each)	No. 2 Fuel Oil	137,000 Btu/gal	103.6 gal/hr max.	10,360 gal/yr max.	0.05%	N/A

Table 2-K: Liquid Data for Tanks Listed in Table 2-L

For each tank, list the liquid(s) to be stored in each tank. If it is expected that a tank may store a variety of hydrocarbon liquids, enter "mixed hydrocarbons" in the Composition column for that tank and enter the corresponding data of the most volatile liquid to be stored in the tank. If tank is to be used for storage of different materials, list all the materials in the "All Calculations" attachment, run the newest version of TANKS on each, and use the material with the highest emission rate to determine maximum uncontrolled and requested allowable emissions rate. The permit will specify the most volatile category of liquids that may be stored in each tank. Include appropriate tank-flashing modeling input data. Use additional sheets if necessary. Unit and stack numbering must correspond throughout the application package.

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
N/A - The only tanks present contain No. 2 Fuel Oil and are listed as an insignificant activity in Table 2-B.									

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.
See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
N/A - The only tanks present contain No. 2 Fuel Oil and are listed as an insignificant activity in Table 2-B.													

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

Roof Type	Seal Type, Welded Tank Seal Type		Seal Type, Riveted Tank Seal Type	
	Mechanical Shoe Seal	Liquid-mounted resilient seal	Vapor-mounted resilient seal	Seal Type
FX: Fixed Roof	A: Primary only	A: Primary only	A: Primary only	A: Mechanical shoe, primary only
IF: Internal Floating Roof	B: Shoe-mounted secondary	B: Weather shield	B: Weather shield	B: Shoe-mounted secondary
EF: External Floating Roof	C: Rim-mounted secondary	C: Rim-mounted secondary	C: Rim-mounted secondary	C: Rim-mounted secondary
P: Pressure				

Roof, Shell Color	Paint Condition
WH: White	Good
AS: Aluminum (specular)	Poor
AD: Aluminum (diffuse)	
LG: Light Gray	
MG: Medium Gray	
BL: Black	
OT: Other (specify)	

Note: 1.00 bbl = 0.159 M^3 = 42.0 gal

Table 2-M: Materials Processed and Produced (Use additional sheets as necessary.)

Material Processed				Material Produced			
Description	Chemical Composition	Phase (Gas, Liquid, or Solid)	Quantity (specify units)	Description	Chemical Composition	Phase	Quantity (specify units)
N/A - The RLUOB is not a production facility which produces a product.							

Table 2-N: CEM Equipment

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy
N/A - There is no CEM equipment present.									

Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time

N/A - There is no parametric emissions measurement equipment present.

CMRR Utility Building Boiler Emission Estimates

Operational Data

Fuel	
Natural gas	
Heat Content	1030 Btu/scf
Sulfur Content	2 grains/100 scf
Distillate Fuel Oil	
Heat Content	137,000 Btu/gallon
Sulfur Content	0.05 %
Boilers (each)	
Maximum Heat Input (nameplate)	11 MMBtu/hr
Maximum Fuel Consumption - gas	0.0107 MMscf/hr
Maximum Fuel Consumption - oil	0.0803 Mgal/hr

Notes

1 Boiler maximum heat input is nameplate rated capacity and is not derated for altitude. Actual capacity at site elevation will be less than this value.
2 Sulfur content of pipeline natural gas is 2 gr/100 scf as specified by PNM.

Criteria Pollutants

Emission Factors

	NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
Boiler - natural gas (lb/MMBtu)	0.029	0.037	0.006	0.0048	0.0048	0.0048	0.025
Boiler - fuel oil (lb/MMBtu)	0.126	0.037	0.0525	0.0143	0.0143	0.0143	0.038

Notes

1 All emission factors from burner vendor. Exception in Note 2 below.
2 SO_2 factor for natural gas calculated as 2 grains S/100 scf x lb/7000 gr x scf/1030 Btu x 10^6 x 2 lb SO_2/lb S.

Maximum Uncontrolled Emissions - lb/hr

		NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
Boiler (each) - natural gas		0.3	0.4	0.1	0.1	0.1	0.1	0.3
Assume no NOx control[1]		1.0	N/A	N/A	N/A	N/A	N/A	N/A
Boiler (each) - fuel oil		1.4	0.4	0.6	0.2	0.2	0.2	0.4
Total	gas	2.9	1.2	0.2	0.2	0.2	0.2	0.8
	oil	4.2	1.2	1.7	0.5	0.5	0.5	1.3

Notes

1 Low-NOx burners are present on each boiler. This calculation is only to conform to permit application requirement to show uncontrolled emission rates. Assume 67% control from vendor datasheet comparing standard burner to Low-NOx. No reduction assumed for fuel oil.

Maximum Uncontrolled Emissions - ton/yr

	NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
Boilers (each) - natural gas	4.2	1.8	0.3	0.2	0.2	0.2	1.2
Boilers (all) - natural gas	16.9	7.1	1.1	0.9	0.9	0.9	4.8
Boilers (each) - fuel oil	6.1	1.8	2.5	0.7	0.7	0.7	1.8
Boilers (all) - fuel oil	24.3	7.1	10.1	2.8	2.8	2.8	7.3
Total	24.3	7.1	10.1	2.8	2.8	2.8	7.3

Notes

1 Total reflects highest value from (4) boilers using either gas or oil at 8,760 hours per year.

Requested Allowable Emissions - lb/hr

	NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
Boilers (each) - natural gas	0.7	1.1	0.1	0.1	0.1	0.1	N/A
Boilers (each) - fuel oil	1.6	0.5	5.8	0.3	0.2	0.2	N/A
Total (all)	9.2	6.4	23.6	1.6	1.2	1.2	N/A

Notes

1 The lb/hr allowable emission rates for each boiler are from NSR Permit No. 2195N.
2 Total lb/hr allowable emission rates are less than values in NSR Permit No. 2195N due to reduction in total boilers from (5) to (4).
3 VOC emissions were determined to be too low to require an emission limit by NMED in NSR Permit No. 2195N.

Requested Allowable Emissions - ton/year

	NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
Boilers (each) - natural gas	2.9	4.8	0.3	0.4	0.4	0.4	N/A
Boilers (each) - fuel oil	0.04	0.01	0.1	0.01	0.005	0.005	N/A
Total (all)	11.8	19.2	1.8	1.6	1.6	1.6	N/A

Notes

1 Requested ton/yr values for natural gas are from NSR Permit No. 2195N.
2 Requested ton/yr values for fuel oil are based on operation of 48 hours/yr for maintenance and readiness testing.
3 Total requested allowable emissions are less than the values in NSR Permit No. 2195N due to reduction in number of boilers from (5) to (4) and not estimating emegency fuel oil use.

Hazardous Air Pollutants

Boilers - natural gas

HAP	Emission Factor lb/MMscf	Emission Estimate lb/hr (each boiler)	tpy
Organics	8.82E-05	9.42E-07	4.13E-06
POM	2.10E-03	2.24E-05	9.82E-05
Benzene	1.20E-03	1.28E-05	5.61E-05
Dichlorobenzene	7.50E-02	8.01E-04	3.51E-03
Formaldehyde	1.80E+00	1.92E-02	8.42E-02
Hexane	6.10E-04	6.51E-06	2.85E-05
Naphthalene	3.40E-03	3.63E-05	1.59E-04
Toluene			
Metals	2.00E-04	2.14E-06	9.36E-06
Arsenic	1.20E-05	1.28E-07	5.61E-07
Beryllium	1.10E-03	1.17E-05	5.15E-05
Cadmium	1.40E-03	1.50E-05	6.55E-05
Chromium	8.40E-05	8.97E-07	3.93E-06
Cobalt	5.00E-04	5.34E-06	2.34E-05
Lead	3.80E-04	4.06E-06	1.78E-05
Manganese	2.60E-04	2.78E-06	1.22E-05
Mercury	2.10E-03	2.24E-05	9.82E-05
Nickel	2.40E-05	2.56E-07	1.12E-06
Selenium	Total	2.02E-02	8.83E-02

POM		
2-Methylnaphthalene	2.40E-05	
3-Methylchloranthrene	1.80E-06	
7,12-Dimethylbenz(a)anthracene	1.60E-05	
Acenaphthene	1.80E-06	
Acenaphthylene	1.80E-06	
Anthracene	2.40E-06	
Benz(a)anthracene	1.80E-06	POM estimates above
Benzo(a)pyrene	1.20E-06	under Organics.
Benzo(b)fluoranthene	1.80E-06	
Benzo(g,h,i)perylene	1.20E-06	
Benzo(k)fluoranthene	1.80E-06	
Chrysene	1.80E-06	
Dibenzo(a,h)anthracene	1.20E-06	
Fluoranthene	3.00E-06	
Fluorene	2.80E-06	
Indeno(1,2,3-cd)pyrene	1.80E-06	
Phenanathrene	1.70E-05	
Pyrene	5.00E-06	
total	8.82E-05	

Notes

1 All emission factors from AP-42, 7/98, Section 1.4 - Natural Gas Combustion, Tables 1.4-2, 1.4-3, and 1.4-4.
2 Hourly values based on maximum hourly fuel capacity of each boiler.
3 Annual ton/yr values based on operation of 8,760 hr/year

Boilers - distillate fuel oil

HAP	Emission Factor lb/1000 gal	Emission Estimate lb/hr (each boiler)	tpy
Organics			
Formaldehyde	4.80E-02	3.85E-03	1.69E-02
POM	3.30E-03	2.65E-04	1.16E-03
Metals			
Arsenic	5.48E-04	4.40E-05	1.93E-04
Beryllium	4.11E-04	3.30E-05	1.45E-04
Cadmium	4.11E-04	3.30E-05	1.45E-04
Chromium	4.11E-04	3.30E-05	1.45E-04
Lead	1.23E-03	9.88E-05	4.33E-04
Manganese	8.22E-04	6.60E-05	2.89E-04
Mercury	4.11E-04	3.30E-05	1.45E-04
Nickel	4.11E-04	3.30E-05	1.45E-04
Selenium	2.06E-03	1.65E-04	7.24E-04
	Total	4.66E-03	2.04E-02

Notes

1 All emission factors from AP-42, 9/98, Section 1.3, Fuel Oil Combustion, Tables 1.3-8 and 1.3-10, for distillate oil.
2 Hourly values based on maximum hourly fuel capacity of each boiler.
3 Annual ton/yr values based on operation of 8,760 hr/year.

Boilers - combined total

	lb/hr	ton/yr
Natural gas	0.1	0.4
Fuel Oil	0.02	0.1
Total	0.1	0.4

Notes

1 Ton/year values over estimate emissions. Boilers will only use fuel oil during emergency except for less than 48 hours per year maintance and readiness testing. Natural gas and fuel oil could not each be burned all hours of the year.

CMRR RLUOB Emergency Generator Emission Estimates

Criteria Pollutants

Operational Data

Generator Maximum Rating (each)	1500 kW electrical
Engine Maximum Rating (each)	2220 hp 1656.1 kW mechanical
Engine Maximum Fuel Consumption	103.6 gal/hr

Emission Factors

	NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
g/kW-hr	9.2	11.4	0.24	0.54	0.45	0.45	1.3

Notes

1 Factors for NOx, CO, PM, and VOC are the applicable Tier 1 emission standards.
2 Factors for SOx, PM10, and PM2.5 are from AP-42, Section 3.4
Large Stationary Diesel and All Stationary Dual-fuel Engines.

Maximum Uncontrolled Emissions, lb/hr

	NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
Each	33.6	41.6	0.89	2.0	1.7	1.7	4.7
All	100.8	124.9	2.7	5.9	5.0	5.0	14.2

Maximum Uncontrolled Emissions, ton/yr

	NOx	CO	SOx	TSP	PM_{10}	$PM_{2.5}$	VOC
Each	1.7	2.1	0.045	0.10	0.08	0.08	0.24
All	5.0	6.2	0.13	0.30	0.25	0.25	0.71

Notes

1 Assume 100 hours per year maximum operation due to the 100 hour non-emergency use restriction for emergency engines in 40 CFR Part 60, Subpart IIII.

Requested Allowable Emissions, g/kW-hr

	NOx	CO	PM	VOC
g/kW-hr	9.2	11.4	0.54	1.3

Notes

1 Values are the applicable Tier 1 emission standards from 40 CFR Part 60, Subpart IIII.
2 NSR Permit 2195-N does not have lb/hr or ton/year limits for these engines because emergency generators are exempt equipment under 20.2.72 NMAC - Construction Permits.

Hazardous Air Pollutants

Emission Factors

HAP	lb/MMBtu	lb/kW-hr
Benzene	7.76E-04	2.65E-06
Toluene	2.81E-04	9.59E-07
Xylene	1.93E-04	6.59E-07
Formaldehyde	7.89E-05	2.69E-07
Acetaldehyde	2.52E-05	8.60E-08
Acrolein	7.88E-06	2.69E-08
Naphthalene	1.30E-04	4.44E-07
PAH, total	2.12E-04	7.24E-07

Notes

1 All factors from AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-Fuel Engines.

Emission Estimates, each engine

HAP	lb/hr	ton/year
Benzene	4.39E-03	2.19E-04
Toluene	1.59E-03	7.94E-05
Xylene	1.09E-03	5.45E-05
Formaldehyde	4.46E-04	2.23E-05
Acetaldehyde	1.42E-04	7.12E-06
Acrolein	4.45E-05	2.23E-06
Naphthalene	7.35E-04	3.67E-05
PAH, total	1.20E-03	5.99E-05
Total	9.63E-03	4.82E-04

Emission Estimates, all engines

	lb/hr	ton/year
Totals	2.89E-02	1.44E-03

Notes

1 Ton/year values based on allowable 100 hours per year operation.

CMRR RLUOB Chemical Usage Emissions

Volatile Organic Compounds

Past Actual VOC Emission Estimates - Existing CMR Operations

Year	lb/year
2005	86.1
2006	46.7
2007	16.1
2008	0.5
2009	11.3
Average	32.1

Notes

1 Data from LANL chemical purchase system. Assumes all chemicals purchased emitted to ambient air.

Maximum Uncontrolled Emissions

	lb/hr	ton/yr
VOC	0.01	0.04

Notes

1 Calculation assumes emission rate equal to highest annual value.

Requested Allowable Emissions

	ton/yr
VOC	3.75

Notes

1 Requested limit is the current limit in NSR Permit 2195-N.
2 NSR Permit 2195-N does not contain a lb/hr limit and none is requested.

Hazardous Air Pollutants

Maximum Uncontrolled Emissions

HAP	lb/yr	lb/hr	ton/yr
Hydrochloric acid	111.2	1.27E-02	5.56E-02
Hydrogen fluoride	3.3	3.73E-04	1.63E-03
Glycol ethers	44.1	5.03E-03	2.20E-02
Mercury Compounds	1.4	1.57E-04	6.89E-04
Lead Compounds	1.1	1.26E-04	5.50E-04
Nickel Compounds	2.6	2.98E-04	1.30E-03
Chromium Compounds	1.9	2.17E-04	9.50E-04
Cobalt Compounds	0.2	2.64E-05	1.16E-04
Arsenic Compounds	0.2	2.64E-05	1.16E-04
Selenium Compounds	0.2	2.52E-05	1.10E-04
Manganese Compounds	0.2	2.52E-05	1.10E-04
Cadmium Compounds	0.2	2.52E-05	1.10E-04
Antimony Compounds	0.2	2.52E-05	1.10E-04
Cyanide Compounds	0.004	5.03E-07	2.20E-06
Carbon tetrachloride	3.5	4.01E-04	1.76E-03
Toluene	1.0	1.09E-04	4.78E-04
Methanol	1.7	1.99E-04	8.72E-04
Hexane	1.5	1.66E-04	7.28E-04
Phosphorus	1.0	1.18E-04	5.16E-04
Fine mineral fibers	4.0	4.57E-04	2.00E-03
Total	179.6	2.05E-02	8.98E-02

Notes

1 Lb/yr values from LANL chemical purchase system and are the highest value reported for years 2005-2009 for the existing CMR facility.

2 Emission estimates assume 100% of chemical purchased is emitted to the air.

3 Estimates are gross values and do not consider control systems, neutralization of acids/bases or non-exhaust of solid material.

Toxic Air Pollutants

Maximum Uncontrolled Emissions

TAP	lb/yr	lb/hr	ton/yr
Nitric acid	741.6	8.47E-02	3.71E-01
Hydrogen peroxide	496.8	5.67E-02	2.48E-01
Sulfuric acid	121.7	1.39E-02	6.08E-02
Phosphoric acid	40.4	4.62E-03	2.02E-02
Sodium hydroxide	35.2	4.02E-03	1.76E-02
Hydrogen bromide	39.7	4.53E-03	1.98E-02
Isopropyl alcohol	13.9	1.58E-03	6.93E-03
Rhodium, metal & compounds	13.7	1.56E-03	6.84E-03
Dipropylene glycol methyl ether	13.4	1.52E-03	6.68E-03
Ammonium chloride	9.9	1.13E-03	4.96E-03
Chromium	3.8	4.29E-04	1.88E-03
Silver	2.7	3.13E-04	1.37E-03
t-Butyl alcohol	1.7	1.98E-04	8.69E-04
Copper	1.3	1.51E-04	6.61E-04
Oxalic acid	6.4	7.30E-04	3.20E-03
Tantalum	1.0	1.14E-04	5.00E-04
Acetic acid	2.3	2.64E-04	1.16E-03
Aluminum (fume or dust)	2.0	2.28E-04	1.00E-03
Tin, metal, oxide & compounds	2.2	2.52E-04	1.10E-03
Diethylene triamine	1.1	1.21E-04	5.28E-04
Tributyl phosphate	0.5	6.12E-05	2.68E-04
Vanadium pentoxide	0.02	2.52E-06	1.10E-05
Aluminum oxide (fibrous forms)	9.9	1.13E-03	4.97E-03
Oxalic acid	6.4	7.30E-04	3.20E-03
Magnesium oxide fume	1.0	1.14E-04	5.00E-04
Paraffin wax fume	1.0	1.14E-04	5.00E-04
Zinc oxide fume	0.2	2.52E-05	1.10E-04
Platinum, metal & soluble salts	0.2	1.90E-05	8.31E-05
Methyl 2-cyanoacrylate	0.004	5.03E-07	2.20E-06
Barium	1.5	1.77E-04	7.74E-04
Hafnium	0.04	4.78E-06	2.09E-05
Total	1571.6	1.79E-01	7.86E-01

Notes

1 Lb/yr values from LANL chemical purchase system and are the highest value reported for years 2005-2009 for the existing CMR facility.

2 Emission estimates assume 100% of chemical purchased is emitted to the air.

3 Estimates are gross values and do not consider control systems, neutralization of acids/bases or non-exhaust of solid material.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will effect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM): Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

This application is for a modification to the LANL Title V operating permit. The current Title V permit was last issued in August 2009 as Permit No. P100R1. That permitting action was a comprehensive five-year renewal of the Laboratory's Title V permit. This modification is intended to incorporate into the Title V permit a new facility under construction which is the Radiological Laboratory Utility Office Building (RLUOB) located within Technical Area 55 on Pajarito Road. The RLUOB facility was issued New Source Review (NSR) Permit No. 2195-N in September 2005. The facility is still under construction with a current projection of office space occupancy in 2011 and the start of laboratory utilization in 2013. Although installed hot water boilers are not yet in normal operation, the units were briefly operated during commissioning in October 2009. NMED indicated boiler commissioning constituted the start of operation with respect to the requirement at 20.2.70.C.3.b NMAC to file a Title V permit modification within 12 months of commencing operation. Thus, this application is being filed well in advance of actual building occupancy or normal and routine use of permitted equipment.

The RLUOB is part of a larger project called the Chemistry and Metallurgy Research Replacement (CMRR) Project. The intent of this new construction is to replace the existing Chemistry and Metallurgy Research (CMR) facility built in the 1950's which is located in Technical Area 3. The main function of these facilities is to house research and development capabilities involving analytical chemistry, materials characterization, and metallurgic studies on actinides and other metals. In addition to the RLUOB, a second building will be constructed as part of the new CMRR. This second building is the Security Category I Nuclear Facility (NF) for which construction has not yet commenced. Prior to the start of construction of the NF, an NSR permit application will be submitted to NMED. The NF was previously part of the February 2005 NSR permit application together with the RLUOB. Per the terms of a settlement agreement between NMED, DOE, and interested parties, the NF was removed from that application and NSR Permit 2195-N for the RLUOB only was issued.

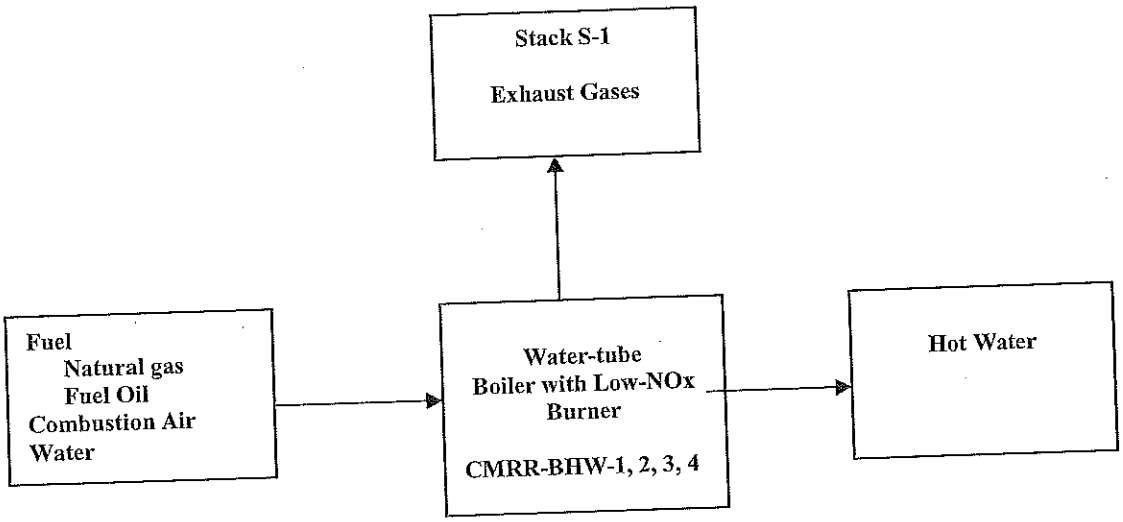
The RLUOB consists of a radiological laboratory, office space, and a utility building. The permitted equipment consists of five (5) gas-fired boilers with the capability to use fuel oil as a backup or standby fuel. Only three boilers are installed. Current plans are to install a fourth boiler but a fifth boiler will not be installed. Each boiler is equipped with a low- NOx burner to reduce emissions of the primary air pollutant from natural gas combustion which is nitrogen oxides. Small laboratory quantities of chemicals will be used within the modular radiological laboratory. For this reason, the RLUOB NSR permit also regulates and has permit conditions for potential volatile organic compound (VOC) air emissions from chemical usage. Three diesel-fired emergency generators which supply power in the event of loss of electric power to the site are also present.

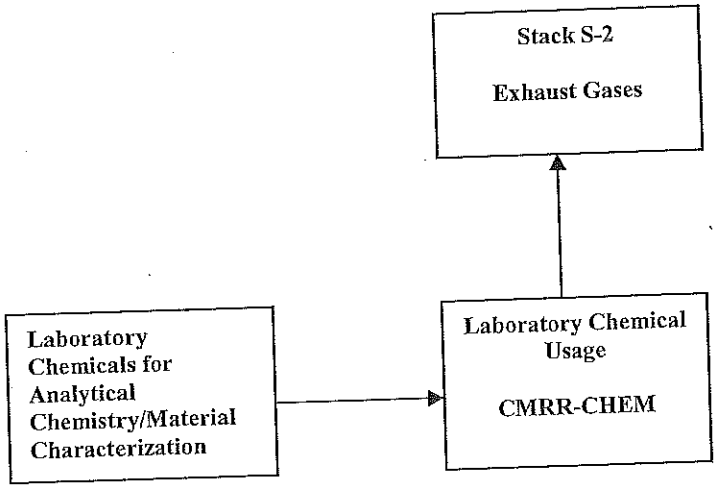
See Section 6 for discussion of SSM emissions.

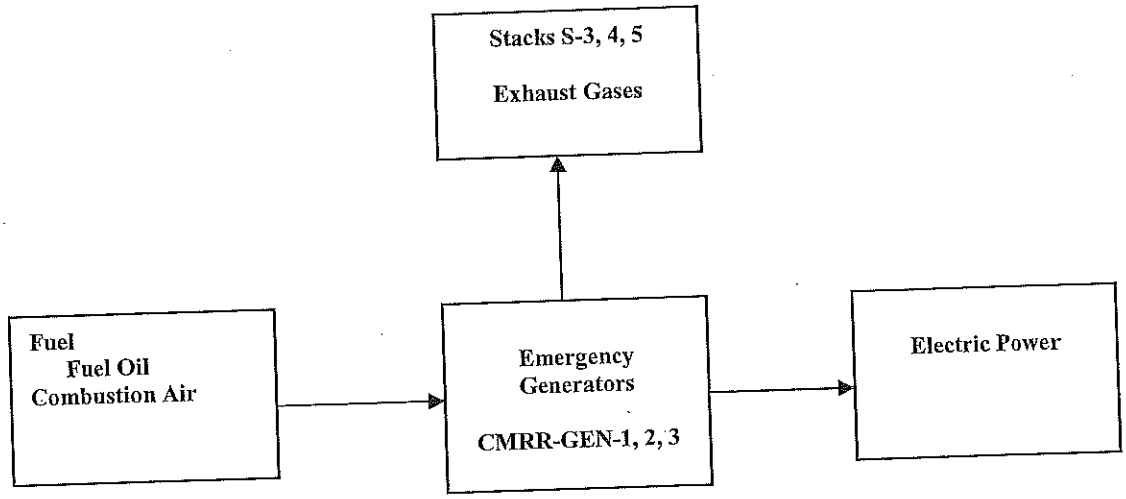
Section 4

Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.



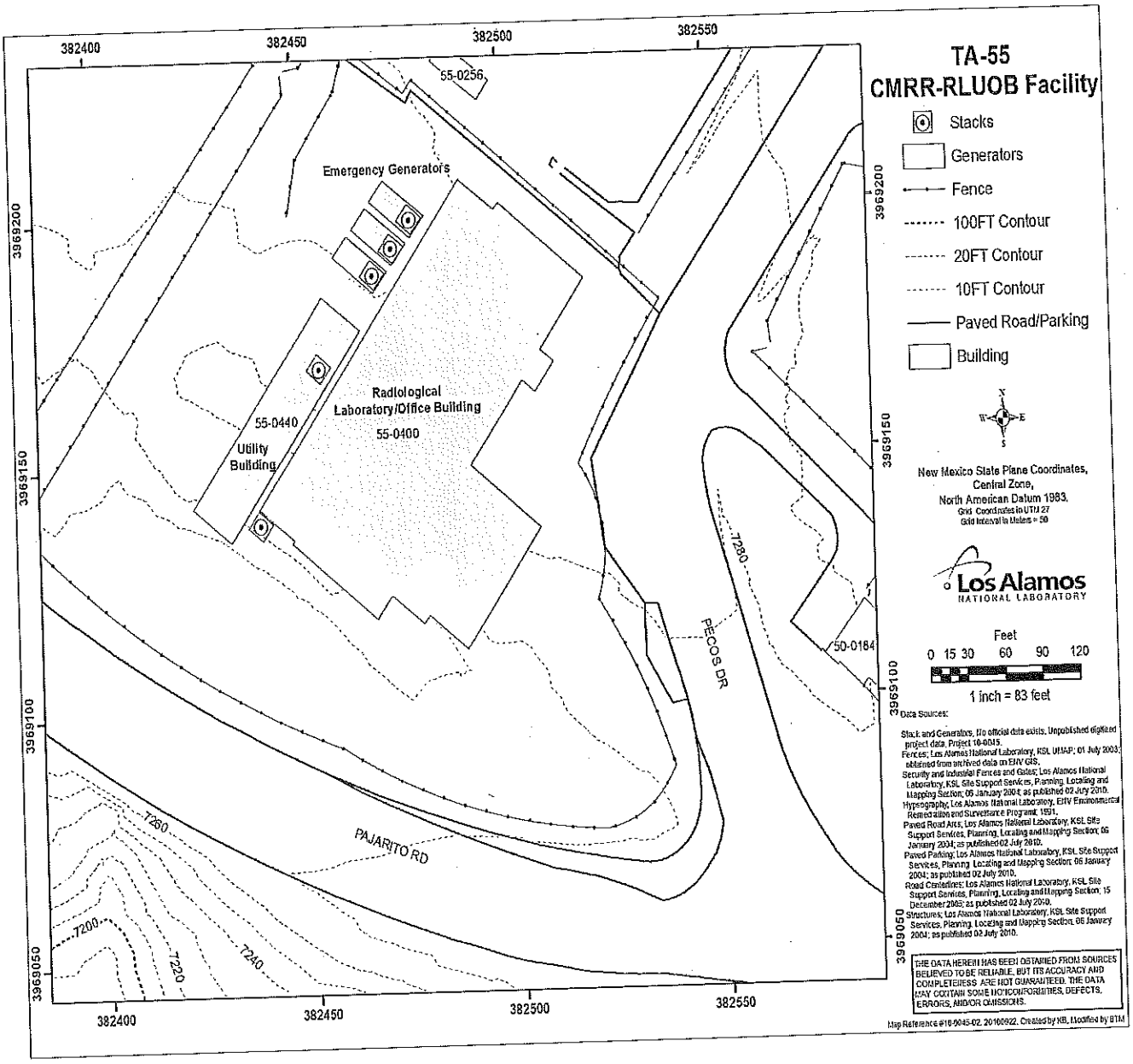



Stacks S-3, 4, 5
Exhaust Gases
Fuel
Fuel Oil
Combustion Air
Emergency
Generators
CMRR-GEN-1, 2, 3
Electric Power

Section 5

Plot Plan Drawn To Scale

A **plot plan drawn to scale** showing emissions points, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. The unit numbering system should be consistent throughout this application.



Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM Table and the rational for why the others are reported as zero (or left blank in the SSM Table). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

All calculations are provided in the NMED Form UA2 spreadsheet included with this application.

Emissions from utility building boilers during startup, shutdown, and maintenance (SSM) are not expected to exceed steady-state emission levels for any appreciable amount of time. During startup, with less fuel input than during steady-state operation, emissions should be lower than during normal operation. During shutdown, with diminished fuel NOx formation emissions should be less than during steady-state operation. Note that NOx and CO emission limits are based on a 20% increase above predicted emissions using EPA boiler emission factors. Further, emission limits for fuel oil combustion assume no control from the low-NOx burners present.

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

- √ If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
- ☐ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
- √ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- ☐ If an older version of AP-42 is used, include a complete copy of the section.
- ☐ If an EPA document or other material is referenced, include a complete copy.
- ☐ Fuel specifications sheet.
- ☐ If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

The following information is enclosed:

- Selected pages from AP-42 Sections 1.3 Fuel Oil Combustion, 1.4 Natural Gas Combustion, and 3.4 Large Stationary Diesel and All Stationary Dual-Fuel Engines
- Boiler burner vendor Power Flame emission factors
- Tier 1 emission standards for diesel engines specified by NSPS 40 CFR Part 60 – Subpart IIII

AP-42 Section 1.3

Table 1.3-8. EMISSION FACTORS FOR NITROUS OXIDE (N_2O), POLYCYCLIC ORGANIC MATTER (POM), AND FORMALDEHYDE (HCOH) FROM FUEL OIL COMBUSTION[a]

EMISSION FACTOR RATING: E

Firing Configuration (SCC)	Emission Factor (lb/10^3 gal)		
	N_2O[b]	POM[c]	HCOH[c]
Utility/industrial/commercial boilers			
No. 6 oil fired (1-01-004-01, 1-02-004-01, 1-03-004-01)	0.11	0.0011 - 0.0013[d]	0.024 - 0.061
Distillate oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	0.11	0.0033[e]	0.035 - 0.061
Residential furnaces (A2104004/A2104011)	0.05	ND	ND

[a] To convert from lb/10^3 gal to kg/10^3 L, multiply by 0.12. SCC = Source Classification Code. ND = no data.
[b] References 45-46. EMISSION FACTOR RATING = B.
[c] References 29-32.
[d] Particulate and gaseous POM.
[e] Particulate POM only.

Table 1.3-10. EMISSION FACTORS FOR TRACE ELEMENTS FROM DISTILLATE FUEL OIL COMBUSTION SOURCES[a]

EMISSION FACTOR RATING: E

Firing Configuration (SCC)	Emission Factor ($lb/10^{12}$ Btu)										
	As	Be	Cd	Cr	Cu	Pb	Hg	Mn	Ni	Se	Zn
Distillate oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	4	3	3	3	6	9	3	6	3	15	4

[a] Data are for distillate oil fired boilers, SCC codes 1-01-005-01, 1-02-005-01, and 1-03-005-01. References 29-32, 40-44 and 83. To convert from $lb/10^{12}$ Btu to pg/J, multiply by 0.43.

AP-42 SECTION 1.4

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 scf] = (3.67)(CON)(C)(D)$, where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, $4.2x10^4$ $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content is natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION[a]

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
91-57-6	2-Methylnaphthalene[b, c]	2.4E-05	D
56-49-5	3-Methylchloranthrene[b, c]	<1.8E-06	E
	7,12-Dimethylbenz(a)anthracene[b,c]	<1.6E-05	E
83-32-9	Acenaphthene[b,c]	<1.8E-06	E
203-96-8	Acenaphthylene[b,c]	<1.8E-06	E
120-12-7	Anthracene[b,c]	<2.4E-06	E
56-55-3	Benz(a)anthracene[b,c]	<1.8E-06	E
71-43-2	Benzene[b]	2.1E-03	B
50-32-8	Benzo(a)pyrene[b,c]	<1.2E-06	E
205-99-2	Benzo(b)fluoranthene[b,c]	<1.8E-06	E
191-24-2	Benzo(g,h,i)perylene[b,c]	<1.2E-06	E
205-82-3	Benzo(k)fluoranthene[b,c]	<1.8E-06	E
106-97-8	Butane	2.1E+00	E
218-01-9	Chrysene[b,c]	<1.8E-06	E
53-70-3	Dibenzo(a,h)anthracene[b,c]	<1.2E-06	E
25321-22-6	Dichlorobenzene[b]	1.2E-03	E
74-84-0	Ethane	3.1E+00	E
206-44-0	Fluoranthene[b,c]	3.0E-06	E
86-73-7	Fluorene[b,c]	2.8E-06	E
50-00-0	Formaldehyde[b]	7.5E-02	B
110-54-3	Hexane[b]	1.8E+00	E
193-39-5	Indeno(1,2,3-cd)pyrene[b,c]	<1.8E-06	E
91-20-3	Naphthalene[b]	6.1E-04	E
109-66-0	Pentane	2.6E+00	E
85-01-8	Phenanathrene[b,c]	1.7E-05	D

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION (Continued)

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
74-98-6	Propane	1.6E+00	E
129-00-0	Pyrene[b,c]	5.0E-06	E
108-88-3	Toluene[b]	3.4E-03	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $1b/10^6$ scf to lb/MMBtu, divide by 1,020. Emission Factors preceeded with a less-than symbol are based on method detection limits.

[b] Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

[c] HAP because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of the Clean Air Act.

[d] The sum of individual organic compounds may exceed the VOC and TOC emission factors due to differences in test methods and the availability of test data for each pollutant.

TABLE 1.4-4. EMISSION FACTORS FOR METALS FROM NATURAL GAS COMBUSTION[a]

CAS No.	Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
7440-38-2	Arsenic[b]	2.0E-04	E
7440-39-3	Barium	4.4E-03	D
7440-41-7	Beryllium[b]	<1.2E-05	E
7440-43-9	Cadmium[b]	1.1E-03	D
7440-47-3	Chromium[b]	1.4E-03	D
7440-48-4	Cobalt[b]	8.4E-05	D
7440-50-8	Copper	8.5E-04	C
7439-96-5	Manganese[b]	3.8E-04	D
7439-97-6	Mercury[b]	2.6E-04	D
7439-98-7	Molybdenum	1.1E-03	D
7440-02-0	Nickel[b]	2.1E-03	C
7782-49-2	Selenium[b]	<2.4E-05	E
7440-62-2	Vanadium	2.3E-03	D
7440-66-6	Zinc	2.9E-02	E

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. Emission factors preceeded by a less-than symbol are based on method detection limits. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to lb/MMBtu, divide by 1,020.

[b] Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

AR-42 Section 3.4

Table 3.4-1. GASEOUS EMISSION FACTORS FOR LARGE STATIONARY DIESEL AND ALL STATIONARY DUAL-FUEL ENGINES[a]

Pollutant	Diesel Fuel (SCC 2-02-004-01)			Dual Fuel[b] (SCC 2-02-004-02)		
	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	EMISSION FACTOR RATING	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	EMISSION FACTOR RATING
NO_x						
Uncontrolled	0.024	3.2	B	0.018	2.7	D
Controlled	0.013[c]	1.9[c]	B	ND	ND	NA
CO	5.5 E-03	0.85	C	7.5 E-03	1.16	D
SO_x[d]	8.09 E-03S_1	1.01S_1	B	4.06 E-04S_1 + 9.57 E-03S_2	0.05S_1 + 0.895S_2	B
CO_2[e]	1.16	165	B	0.772	110	B
PM	0.0007[c]	0.1[c]	B	ND	ND	NA
TOC (as CH_4)	7.05 E-04	0.09	C	5.29 E-03	0.8	D
Methane	f	f	E	3.97 E-03	0.6	E
Nonmethane	f	f	E	1.32 E-03	0.2[g]	E

[a] Based on uncontrolled levels for each fuel, from References 2,6-7. When necessary, the average heating value of diesel was assumed to be 19,300 Btu/lb with a density of 7.1 lb/gallon. The power output and fuel input values were averaged independently from each other, because of the use of actual brake-specific fuel consumption (BSFC) values for each data point and of the use of data possibly sufficient to calculate only 1 of the 2 emission factors (e. g., enough information to calculate lb/MMBtu, but not lb/hp-hr). Factors are based on averages across all manufacturers and duty cycles. The actual emissions from a particular engine or manufacturer could vary considerably from these levels. To convert from lb/hp-hr to kg/kw-hr, multiply by 0.608. To convert from lb/MMBtu to ng/J, multiply by 430. SCC = Source Classification Code.

[b] Dual fuel assumes 95% natural gas and 5% diesel fuel.

[c] References 8-26. Controlled NO_x is by ignition timing retard.

[d] Assumes that all sulfur in the fuel is converted to SO_2. S_1 = % sulfur in fuel oil; S_2 = % sulfur in natural gas. For example, if sulfer content is 1.5%, then S = 1.5.

[e] Assumes 100% conversion of carbon in fuel to CO_2 with 87 weight % carbon in diesel, 70 weight % carbon in natural gas, dual-fuel mixture of 5% diesel with 95% natural gas, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and natural gas heating value of 1050 Btu/scf.

[f] Based on data from 1 engine, TOC is by weight 9% methane and 91% nonmethane.

[g] Assumes that nonmethane organic compounds are 25% of TOC emissions from dual-fuel engines. Molecular weight of nonmethane gas stream is assumed to be that of methane.

Table 3.4-2. PARTICULATE AND PARTICLE-SIZING EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

Pollutant	Emission Factor (lb/MMBtu) (fuel input)
Filterable particulate[b]	
< 1 μm	0.0478
< 3 μm	0.0479
< 10 μm	0.0496
Total filterable particulate	0.0620
Condensable particulate	0.0077
Total PM-10[c]	0.0573
Total particulate[d]	0.0697

[a] Based on 1 uncontrolled diesel engine from Reference 6. Source Classification Code 2-02-004-01. The data for the particulate emissions were collected using Method 5, and the particle size distributions were collected using a Source Assessment Sampling System. To convert from lb/MMBtu to ng/J, multiply by 430. PM-10 = particulate matter ≤ 10 micrometers (μm) aerometric diameter.

[b] Particle size is expressed as aerodynamic diameter.

[c] Total PM-10 is the sum of filterable particulate less than 10 μm aerodynamic diameter and condensable particulate.

[d] Total particulate is the sum of the total filterable particulate and condensable particulate.

Table 3.4-3. SPECIATED ORGANIC COMPOUND EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

Pollutant	Emission Factor (lb/MMBtu) (fuel input)
Benzene[b]	7.76 E-04
Toluene[b]	2.81 E-04
Xylenes[b]	1.93 E-04
Propylene	2.79 E-03
Formaldehyde[b]	7.89 E-05
Acetaldehyde[b]	2.52 E-05
Acrolein[b]	7.88 E-06

[a]Based on 1 uncontrolled diesel engine from Reference 7. Source Classification Code 2-02-004-01. Not enough information to calculate the output-specific emission factors of lb/hp-hr. To convert from lb/MMBtu to ng/J, multiply by 430.
[b]Hazardous air pollutant listed in the *Clean Air Act*.

Table 3.4-4. PAH EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES[a]

EMISSION FACTOR RATING: E

PAH	Emission Factor (lb/MMBtu) (fuel input)
Naphthalene[b]	1.30 E-04
Acenaphthylene	9.23 E-06
Acenaphthene	4.68 E-06
Fluorene	1.28 E-05
Phenanthrene	4.08 E-05
Anthracene	1.23 E-06
Fluoranthene	4.03 E-06
Pyrene	3.71 E-06
Benz(a)anthracene	6.22 E-07
Chrysene	1.53 E-06
Benzo(b)fluoranthene	1.11 E-06
Benzo(k)fluoranthene	<2.18 E-07
Benzo(a)pyrene	<2.57 E-07
Indeno(1,2,3-cd)pyrene	<4.14 E-07
Dibenz(a,h)anthracene	<3.46 E-07
Benzo(g,h,I)perylene	<5.56 E-07
TOTAL PAH	<2.12 E-04

[a] Based on 1 uncontrolled diesel engine from Reference 7. Source Classification Code 2-02-004-01. Not enough information to calculate the output-specific emission factors of lb/hp-hr. To convert from lb/MMBtu to ng/J, multiply by 430.

[b] Hazardous air pollutant listed in the *Clean Air Act*.

Power Flame Incorporated

9/28/2006

Typical Flue Product Emissions Data for Power Flame Burners

	Natural Gas	# 2 Fuel Oil (1)
Carbon Monoxide - CO	.037 lb CO 10^6 BTU input (50 PPM)	.037 lb per 10^6 BTU INPUT (50 PPM)
Sulfur Dioxide - SO_2	(1.05) x (% Sulpher by weight in fuel) = lb SO_2 per 10^6 BTU Input	
Particulate Matter	.0048 lb PM per 10^6 BTU input	.0143 lb PM per 10^6 BTU input
Hydrocarbons	.025 lb HC's per 10^6 BTU input	.038 lb HC's per 10^6 BTU input
CO_2	9 % to 10%	10% to 13%
Nitrogen Oxides - NO_x		
Standard J, FDM & X4 Gas Burners	.088 lb NO_x per 10^6 BTU input (75 PPM)	N/A N/A
Standard C Burners	.088 lb NO_x per 10^6 BTU input (75 PPM)	.159 lb NO_x per 10^6 BTU Input (120) PPM
LNIAC Burners	.029 lb NO_x per 10^6 BTU input (25 PPM)	.12 lb NO_x per 10^6 BTU Input (90) PPM
CM Burners	.070 lb NO_x per 10^6 BTU input (60 PPM)	.146 lb NO_x per 10^6 BTU Input (110) PPM
IFGR LNIC NO_x Burners	.029 lb NO_x per 10^6 BTU input (25 PPM)	.126 lb NO_x per 10^6 BTU Input (110) PPM
LNICM Burners	.029 lb NO_x per 10^6 BTU input (25) PPM	.12 lb NO_x per 10^6 BTU Input (90) PPM
NPM Premix Burners	.029 lb NO_x per 10^6 BTU input (25) PPM	N/A N/A
Nova Plus Burners	.010 lb NO_x per 10^6 BTU input (9) PPM	N/A N/A

(1) NOx emissions at 3.0 % 02 will vary based on the percent of fuel bound nitrogen and boiler or heat. exchanger configurations

These emission rates are general estimates and do not consititue guarantees by Power Flame Inc.

In instances where guarantess are required, please consult the factory with the specific application information.

Electronic Code of Federal Regulations

e-CFR™

e-CFR Data is current as of August 18, 2010

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES
Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Browse Next

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8 ≤KW<19 (11 ≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19 ≤KW<37 (25 ≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37 ≤KW<56 (50 ≤HP<75)			9.2 (6.9)		
56 ≤KW<75 (75 ≤HP<100)			9.2 (6.9)		
75 ≤KW<130 (100 ≤HP<175)			9.2 (6.9)		
130 ≤KW<225 (175 ≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225 ≤KW<450 (300 ≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450 ≤KW ≤560 (600 ≤HP ≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

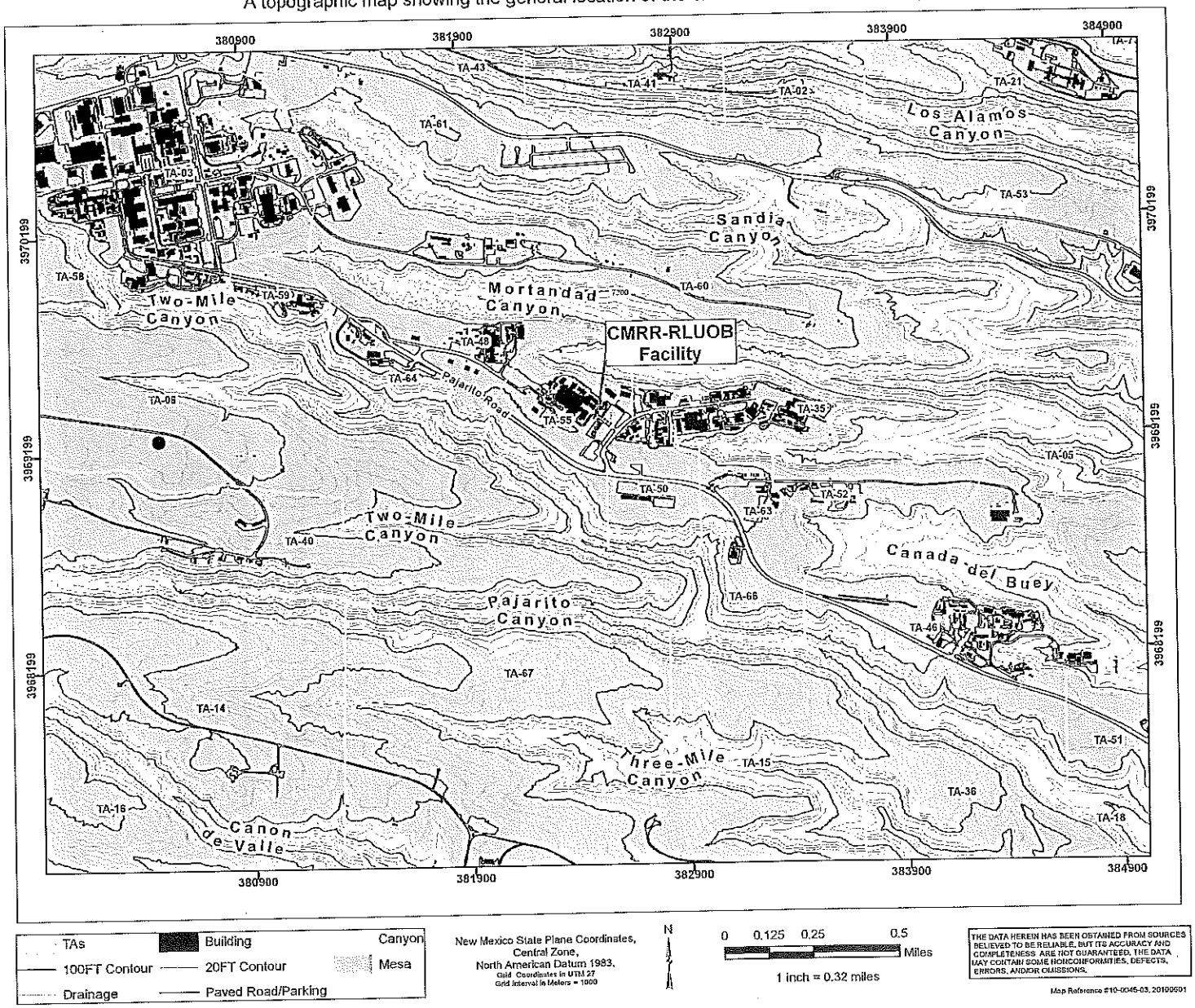
Section 8

Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	The area which will be restricted to public access
A graphical scale	

A topographic map showing the general location of the TA-55 CMRR-RLUOB facility



Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)
(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

N/A for Title V permit applications.

☐ **I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"**
This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant's Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and **Significant Permit Revision** public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. ☐ A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. ☐ A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
3. ☐ A copy of the property tax record (20.2.72.203.B NMAC).
4. ☐ A sample of the letters sent to the owners of record.
5. ☐ A sample of the letters sent to counties, municipalities, and Indian tribes.
6. ☐ A sample of the public notice posted and a verification of the local postings.
7. ☐ A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. ☐ A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. ☐ A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
10. ☐ A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
11. ☐ A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.

Section 10

Written Description of the Routine Operations of the Facility

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

The Chemistry and Metallurgy Research Replacement Project (CMRR), consisting of the Nuclear Facility (NF) and Radiological Laboratory Utility Office Building (RLUOB), will relocate and modernize most of the existing CMR facility's operations in a safe and secure manner. The primary activity currently conducted which will be relocated can be described as analytical chemistry (AC) and material characterization (MC) involving study, evaluation, and analysis of radioactive and nonradioactive substances. This activity supports LANL core programs such as nuclear materials handling, processing, and fabrication, stockpile management, nonproliferation programs, materials disposition, and waste management activities. Work involving radioactive material is performed inside gloveboxes. Chemical usage, generally in preparation of radioactive materials for processing or analysis, involves small quantities of various acids, bases, and organic compounds.

This Title V permit application pertains to the RLUOB only. The RLUOB contains approximately 19,500 square feet of radiological lab space, office space for 350 workers, a consolidated training facility, a centralized utility building for all CMRR facilities, and a facility incident command and operations center. Laboratory design is modular to provide flexibility over time. Each laboratory module will house particular process operations. The laboratory modules will have enclosures (gloveboxes, open-face gloveboxes, and open-front hoods), spectroscopic and analytical instrumentation, counters, tables, cabinets, and utilities tailored to specific operations.

The Utility Building will contain four 11 MMBtu/hr gas-fired boilers (fuel oil as a standby fuel). The boilers produce hot water for building heat. Adjacent to the RLUOB are three 1500 kW diesel generators which are necessary to provide emergency power should electric power be lost to the facility.

Section 11

Source Determination

Source submitting under 20.2.70, 20.2.72, and 20.2.74 NMAC

All emission sources located at LANL are included in the current Title V operating permit for the facility which is Permit No. P100R1. This application only concerns emission sources to be located at the CMRR RLUOB facility as described in this application.

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe): **CMRR RLUOB**

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

√ **Yes** ☐ **No**

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

√ **Yes** ☐ **No**

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

√ **Yes** ☐ **No**

C. Make a determination:

☐ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, and 20.2.74 NMAC applicability purposes.

√ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe): **For the entire source, see LANL Title V operating permit P100R1.**

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

This is a Title V permit modification application under 20.2.70 NMAC. This section is not applicable.

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74 NMAC to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☐ **a minor source before and after this modification (if so, delete C and D below).**
- ☐ **a major source before this modification. This modification will make this a PSD minor source.**
- ☐ **an existing PSD Major Source that has never had a major modification requiring a BACT analysis.**
- ☐ **an existing PSD Major Source that has had a major modification requiring a BACT analysis**
- ☐ **a new PSD Major Source after this modification.**

B. **This facility [is or is not] one of the listed 20.2.74.501 Table I – PSD Source Categories. The "project" emissions** for this modification are **[significant or not significant]. [Discuss why.] The "project" emissions listed below [do or do not] only result from changes described in this permit application, thus no emissions from other [revisions or modifications, past or future] to this facility. Also, specifically discuss whether this project results in "de-bottlenecking", resulting in higher emissions. The project emissions (before netting) for this project are as follows:**

a. **NOx: XX.X TPY**
b. **CO: XX.X TPY**
c. **VOC: XX.X TPY**
d. **SOx: XX.X TPY**
e. **PM: XX.X TPY**

C. **Netting [is required, and analysis is attached to this document.] OR [is not required (project is not significant)] OR [Applicant is submitting a PSD Major Modification and chooses not to net.]**

D. **BACT** is **[not required for this modification, as this application is a minor modification.] OR [required, as this application is a major modification. List pollutants subject to BACT review and provide a full top down BACT determination.]**

E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications in the last two years were related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

Section 13

Discussion Demonstrating Compliance with Each Applicable State & Federal Regulation

Provide a discussion demonstrating compliance with applicable state & federal regulation. If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB,

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

As specified by 20.2.70 NMAC – Operating Permits, the scope and content of this application are limited to the requested revision, which in this case is incorporation of air emission sources located within the CMRR RLUOB facility into the LANL Operating Permit No. P100R1. Specifically, 20.2.70.300.C NMAC states applications for permit modifications need supply information within the application only if it is related to the proposed change. For this reason, this application and the discussion below are only for the RLUOB air emission sources. For a comprehensive discussion of all federal and state air regulations and their applicability to LANL, see the most recent five-year permit renewal application submitted to NMED in April 2008. In addition, see the annual Title V compliance certification reports submitted by LANL to NMED which describes compliance with all applicable air quality requirements.

Regulation	Regulated Pollutants	Regulated Source Category	Applicability Comment
New Mexico EIB Regulation			
20.2.7 NMAC – Excess Emissions	Criteria Pollutants	RLUOB Boilers RLUOB Emergency Generators RLUOB Chemical Usage	
20.2.61 NMAC – Smoke and Visible Emissions	Opacity	RLUOB Boilers RLUOB Emergency Generators	
20.2.70 NMAC – Operating Permits	Criteria Pollutants and HAPs	RLUOB Boilers RLUOB Emergency Generators RLUOB Chemical Usage	LANL operates under a current operating permit No. P100R1.
20.2.71 NMAC – Operating Permit Fees	Fee Pollutants	LANL All	LANL pays an annual permit fee to NMED.

Regulation	Regulated Pollutants	Regulated Source Category	Applicability Comment
20.2.72 NMAC – Construction Permits	Criteria Pollutants, HAPs, TAPs	RLUOB Boilers RLUOB Emergency Generators RLUOB Chemical Usage	Construction permit 2195-N issued to the RLUOB facility in September 2005. Administrative revision 2195-NR1 issued in December 2007.
20.2.73 NMAC – Notice of Intent and Emissions Inventory Requirements	Criteria Pollutants HAPs	LANL All	LANL submits an annual emission inventory to NMED.
20.2.77 NMAC **Incorporating Federal New Source Performance Standards (NSPS) 40 CFR Part 60 by reference**			
Subpart A – General Provisions	SO_2, PM	RLUOB Boilers	
Subpart Dc – NSPS for Small Industrial-Commercial-Institutional Steam Generating Units	SO_2, PM	RLUOB Boilers	
Subpart IIII – NSPS for Stationary Compression Ignition Internal Combustion Engines	NO_x, CO, PM, HC, SO_2	RLUOB Emergency Generators	
20.2.78 NMAC **Incorporating Federal National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 by reference**			
Subpart A – General Provisions	NO_x, CO, PM, HC, SO_2	RLUOB Emergency Generators	
Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines	NO_x, CO, PM, HC, SO_2	RLUOB Emergency Generators	Generators are new sources under Subpart ZZZZ (constructed after June 12, 2006). Under Subpart ZZZZ, a new source is required to meet the NSPS standards for diesel engines at 40 CFR Part 60, Subpart IIII and no other requirements in Subpart ZZZZ.
Federal Applicable Requirements Not Adopted in EIB Regulations			
40 CFR Part 50 – National Primary and Secondary Ambient Air Quality Standards	Criteria Pollutants	RLUOB Boilers RLUOB Emergency Generators	
40 CFR Part 61 Subpart H – NESHAP for Radionuclides other than Radon from DOE Facilities	Radionuclides	RLUOB	EPA Region VI implements this regulation.

Section 14

Operational Plan to Mitigate Emissions

(submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

√ **Title V Sources** (20.2.70 NMAC)**:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

√ **NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **Title V** (20.2.70 NMAC)**, NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.

Section 15

Alternative Operating Scenarios

(submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

N/A – This application does not request any alternative operating scenarios.

Section 16

Air Dispersion Modeling

NSR (20.2.72 NMAC) and PSD (20.2.74 NMAC) Modeling: Provide an air quality **dispersion modeling** demonstration (if applicable) as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines. If air dispersion modeling has been waived for this permit application, attach the AQB Modeling Section modeling waiver documentation.

SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.

Title V (20.2.70 NMAC) Modeling: Title V applications must specify the NSR Permit number for which air quality dispersion modeling was last submitted. If modeling has not been conducted for all national ambient air quality standards (including standards promulgated since the last renewal), provide dispersion modeling or a modeling waiver as necessary. Additionally, Title V facilities reporting new SSM emissions require modeling or a modeling waiver to demonstrate compliance with standards.

Dispersion modeling was submitted for the RLUOB Utility Building boilers as part of the permit application for NSR Permit No. 2195N. The modeling analysis was for five 11 MMBtu/hr boilers operating at full capacity every hour of the year. As discussed in this application, only four 11 MMBtu/hr boilers are now requested. Hence, ambient impacts from boiler operation are now reduced as compared to the original analysis.

LANL last submitted a dispersion modeling analysis to NMED as part of the application for NSR Permit No. 2195P for three diesel generators located at TA-33. LANL was issued the first five year renewal for the Laboratory's Title V operating permit in August 2009. Because dispersion modeling is continuously updated through the NSR permit process, modeling was not required for the recent Title V renewal.

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

Start up compliance tests of the RLUOB boilers have not yet been conducted because the boilers are not in routine operation providing heat and hot water the facility. It is anticipated RLUOB office space will begin to be occupied in June 2011 at which time the boilers will begin normal full operation. Compliance testing on the boilers will be conducted at that time following the effective startup date for normal operation.

Section 18

Addendum for Streamline Applications

Do not print this section unless this is a streamline application.

Streamline Applications do not require a complete application. Submit Sections 1-A, 1-B, 1-D, 1-F, 1-G, 2-A, 2-C, 2-D, 2-E, 2-G thru L, Sections 3 thru 8, Section 13, Section 18, and Section 22 (Certification). Other sections may be required at the discretion of the Department. 20.2.72.202 NMAC Exemptions do not apply to Streamline sources. 20.2.72.219 NMAC revisions and modifications do not apply to Streamline sources, thus 20.2.72.219 type actions require a complete new application submittal. Please do not print sections of a streamline application that are not required.

N/A – This is not a streamline application.

18-A: Streamline Category

1	**Indicate under which part of 20.2.72.301.D this facility is applying. Refer to the forth column of Table 18-D below, to assist in this determination:**	☐ 20.2.72.301.D(1) NMAC ☐ 20.2.72.301.D(2) NMAC ☐ 20.2.72.301.D(3) NMAC

18-B: Streamline Applicability Criteria

		Answer (yes/no)
1	Does the source category for this facility meet one of those listed in the following table? (20.2.72.301.A NMAC) **20.2.72.501 Table 2 – Permit Streamlining Source Class Categories** 1. Reciprocating internal combustion engines including portable or temporary engines 2. Turbines	☐ Yes ☐ No
2	If this facility is a compressor station, does it meet the definition of a "Compressor station" below? (20.2.72.301.D NMAC) **"Compressor station"** means a facility whose primary function is the extraction of crude oil, natural gas, or water from the earth with compressors, or movement of any fluid, including crude oil or natural gas, or products refined from these substances through pipelines or the injection of natural gas or CO2 back into the earth using compressors. A compressor station may include engines to generate power in conjunction with the other functions of extraction, injection or transmission and may contain emergency flares. A compressor station may have auxiliary equipment which emits small quantities of regulated air contaminants, including but not limited to, separators, de-hydration units, heaters, treaters and storage tanks, provided the equipment is located within the same property boundaries as the compressor engine (underline added). (20.2.72.301.A NMAC)	☐ Yes ☐ No
3	Will the source operate in compliance with all applicable state and federal regulations, including federal new source performance standards incorporated by 20.2.77 NMAC and permit conditions? (20.2.72.305.B NMAC)	☐Yes ☐No
4	Will the fuel combusted at this facility be produced natural gas, sweet natural gas, liquid petroleum gas, or fuel gas containing 0.1 grain of total sulfur or less per dry standard cubic foot; or refinery grade diesel or No. 2 fuel oil that is not a blend containing waste oils or solvents and contains less than 0.3% by weight sulfur? (20.2.72.306 NMAC)	☐Yes ☐No

5	Will all spark ignited gas-fired or any compression ignited dual fuel-fired engine which operates with a non-selective catalytic converter be equipped and operated with an automatic air-fuel ratio (AFR) controller which maintains AFR in the range required to minimize NOx emissions, as recommended by the manufacturer? (20.2.72.306 NMAC)	☐Yes ☐No
6	Has payment of all fees that are specified in 20.2.75 NMAC (Construction Permit Fees), as payable at the time the application is submitted, been included with the application package? (20.2.72.302.15 NMAC)	☐Yes ☐No
7	Is the answer to each of the above questions, #1 through #6, '**Yes**'? If the answer to **this** question is "**No**", this facility does **not** qualify for a streamline permit.	☐Yes ☐No
8	Will the facility, either before or after construction or modification, have a total potential to emit of any regulated air contaminant[2] greater than 200 tons per year (tpy) of any one regulated air pollutant (CO, NOx, SO2, or VOC)? (20.2.72.301.B.2 NMAC); **"Potential to emit"** or **"potential emissions"** means the maximum capacity of a stationary source to emit a regulated air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a regulated air contaminant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitations or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.	☐ Yes ☐ No
9	Is the facility a "major stationary source" as defined in 20 NMAC 2.74? (20.2.72.301.B.1 NMAC)	☐ Yes ☐ No
10	Is this source subject to a NESHAP other than 40CFR61 Subpart M National Emission Standard for Asbestos? (20.2.72.301.B.3 NMAC)	☐ Yes ☐ No
11	Is this a source of potential air toxic emissions (20 NMAC 2.72. 400-499)? (20.2.72.301.B.3 NMAC)	☐ Yes ☐ No
12	Will the reciprocating internal combustion (IC) engines and/or turbines be located at a petroleum refinery, chemical manufacturing plant, bulk gasoline terminal, natural gas processing plant, or at any facility containing sources in addition to IC engines and/or turbines for which an air quality permit is required through state or federal air quality regulations in the absence of the (IC) engines and/or turbines? (20.2.72.301.B.4 NMAC)	☐ Yes ☐ No
13	Will the proposed facility be located within any of the 20.2.72.301.B.5 exclusion areas specified in the Air Dispersion Modeling Guidelines[1], Table: Areas Where Streamline Permits Are Prohibited ? (20.2.72.301.B.5 NMAC) http://www.nmenv.state.nm.us/aqb/modeling	☐ Yes ☐ No
14	Will the proposed facility's impact area intersect any of the areas specified in the Air Dispersion Modeling Guidelines[1], Table: Areas Where Streamline Permits Are Prohibited ? (20.2.72.301.B.5 NMAC) http://www.nmenv.state.nm.us/aqb/modeling	☐Yes ☐No ☐N/A
15	Is the answer to each of the above questions, #8 through #14, '**No**'? If the answer to **this** question is "**No**", this facility does **not** qualify for a streamline permit.	☐Yes ☐No

[1] The Air Dispersion Modeling Guidelines contain a section on streamline permitting. The table mentioned above can be found within those guidelines at http://www.nmenv.state.nm.us/aqb/modeling

[2] The potential to emit for nitrogen dioxide shall be based on total oxides of nitrogen

18-C: Streamline Location Restrictions		Answer (yes/no)	Identify: Name and Distance (km)
1	Will the distance from the nearest property boundary to the nearest school, residence, office building or occupied structure, excluding the immediate facility complex be greater than one (1.0) km? (20.2.72.301.B.6.a NMAC)	☐Yes ☐No	
2	Will the distance from the nearest property boundary to the nearest state park, Class II wilderness or wildlife refuge, historic park, state recreation area be greater than three (3.0) km? (20.2.72.301.B.6.b NMAC) The Air Dispersion Modeling Guidelines[1], Table: List Of State Parks, Class II Wilderness Areas, Class II National Wildlife Refuge, National Historic Parks, State Recreation Areas, and Class I Areas contains a list of most of these areas in New Mexico, but may not include new areas designated since the modeling guidelines were published.	☐Yes ☐No	
3	Will the distance from the nearest property boundary to the nearest community with a population of more than 20,000 people be greater than three (3.0) km? (20.2.72.301.B.6 NMAC).b	☐Yes ☐No	
4	Will the distance from the nearest property boundary to the nearest community with a population of more than 40,000 people be greater than 10 km? (20.2.72.301.B.6.c NMAC)	☐Yes ☐No	
5	Will the distance from the nearest property boundary to the nearest Class I area be greater than 30 km? (20.2.72.301.B.6.d NMAC) The Air Dispersion Modeling Guidelines[1], Table: List Of State Parks, Class II Wilderness Areas, Class II National Wildlife Refuge, National Historic Parks, State Recreation Areas, and Class I Areas contains a list of most of these areas in New Mexico, but may not include new areas designated since the modeling guidelines were published.	☐Yes ☐No	
6	Will the distance from the nearest property boundary to Bernalillo County be greater than 15 km? (20.2.72.301.B.7 NMAC)	☐Yes ☐No	-NA-
7	Is the answer to all of the above question yes or N/A? If the answer to **this** question is "**No**", this facility does not qualify for a streamline permit.	☐Yes ☐No	-NA-

[1] The Air Dispersion Modeling Guidelines contain a section on streamline permitting. The table mentioned above can be found within those guidelines at http://www.nmenv.state.nm.us/aqb/modeling.

18-D: Source Category Determination			
1	Is the total potential to emit of each regulated contaminant from all sources at the facility less than 40 tpy?	☐ Yes ☐ No	• If the answers to this question is "Yes", the facility qualifies for a 20.2.72.301.D.1 NMAC streamline permit. • Public notice is not required, 20.2.72.303.A NMAC. • Modeling is **not** required, 20.2.72.301.D NMAC. • If "Yes", leave the remainder of this table blank.
2	Is the total potential to emit of each regulated contaminant from all emission sources at the facility less than 100 tons per year (tpy) **AND** the impact on ambient air from all sources at the facility less than the ambient significance levels in 20.2.72.500 NMAC?	☐ Yes ☐ No	• If the answer to this question is "Yes", the facility qualifies for a 20.2.72.301.D.2 NMAC streamline permit. • Public notice is not required, 20.2.72.303.A NMAC. • **Modeling is required** in accordance with 20.2.72.301.D.2 NMAC • If "Yes", leave the remainder of this table blank.

3.a	Is the total potential to emit of each regulated contaminant from all emission sources at the facility less than 200 tons per year (tpy) **AND** the maximum modeled ambient impact from the total potential emissions at the facility less than 50 percent of each applicable PSD increment, state and federal ambient air quality standards?	☐ Yes ☐ No	• If the answers to these questions (3.a, 3.b, 3.c, and 3.d) are all "Yes", the facility qualifies for a 20.2.72.301.D.3 NMAC streamline permit. • Public notice is required in accordance with NMAC 20.2.72.303 NMAC. • **Modeling is required** in accordance with 20.2.72.301.D.3 NMAC • If the answers to questions 1, 2, and any of questions in question 3 (3.a, 3.b, 3.c, or 3.d) are "No", this facility does not qualify for a streamline permit.
3.b	Are there no adjacent sources emitting the same regulated air contaminant(s) as the source within 2.5 km of the modeled nitrogen dioxide (NO2) impact area?	☐ Yes ☐ No	
3.c	Is the "sum of the potential emissions for oxides of nitrogen from all adjacent sources" (SUM) within 15 km of the NO2 impact area (SUM15) less than 740 tpy?	☐ Yes ☐ No	
3.d	Is the "sum of the potential emissions for oxides of nitrogen from all adjacent sources" (SUM) within 25 km of the NO2 impact area (SUM25) less than 1540 tpy?	☐ Yes ☐ No	

Note: All modeling demonstrations have the option of demonstrating compliance with 20.2.72.301.D.3 NMAC. All public notices are required to comply with the public notice requirements of a NMAC20.2.72.301.D.3 facility.

18-E: Submittals

1	If a facility is required to submit a modeling analysis to demonstrate compliance with NMAC 20.2.72.300-399, use the Department's most current version of the Departments Air Dispersion Modeling Guidelines, and include a copy of the modeling in the application. A copy of the most current version of the guidelines can be obtained at the following web address: http://www.nmenv.state.nm.us/aqb/modeling.
2	**Public Notice:** Per 20.2.72.303.A NMAC, public notice is only required for sources subject to NMAC 20.2.72.301.D.3. Public notice submittals shall consist of the following: 1. Proof of Public Notice 2. Include a copy of the certified letter receipts (Field office & Federal Land Managers) (20.2.72.206.A.7, 302.A & 302.12) 3. A copy of the letters sent to the appropriate federal land manager if the source will locate within 50 km of a boundary of a Class I area (302.A.2) 4. A statement stating a complete copy of the application and public notice has been provided to the Departments field or district office nearest the source (302.A.1) 5. The location where the public notice has been posted on the site (303.B.2) 6. A copy of the classified or legal ad and its affidavit of publication (303.B.1)

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

Who Must Use this Attachment:

* Any major source as defined in 20.2.70 NMAC.
* Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain an 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
* Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See http://www.nmenv.state.nm.us/aqb/index.html. Sources that are subject to both the Title V and Acid Rain regulations are encouraged to submit both applications simultaneously.
* Any source in a source category designated by the EPA Administrator ("Administrator"), in whole or in part, by regulation, after notice and comment.

19.1 - 40 CFR 64, Compliance Assurance Monitoring (CAM) (20.2.70.300.D.10.e NMAC)

Any source subject to 40CFR, Part 64 (Compliance Assurance Monitoring) must submit all the information required by section 64.7 with the operating permit application. The applicant must prepare a separate section of the application package for this purpose; if the information is already listed elsewhere in the application package, make reference to that location. Facilities not subject to Part 64 are invited to submit periodic monitoring protocols with the application to help the AQB to comply with 20.2.70 NMAC. Sources subject to 40 CFR Part 64, must submit a statement indicating your source's compliance status with any enhanced monitoring and compliance certification requirements of the federal Act.

No emission source at the RLUOB facility is subject to Part 64.

19.2 - Compliance Status (20.2.70.300.D.10.a & 10.b NMAC)

Describe the facility's compliance status with each applicable requirement at the time this permit application is submitted. This statement should include descriptions of or references to all methods used for determining compliance. This statement should include descriptions of monitoring, recordkeeping and reporting requirements and test methods used to determine compliance with all applicable requirements. Refer to Section 2, Tables 2-N and 2-O of the Application Form as necessary. (20.2.70.300.D.11 NMAC) For facilities with existing Title V permits, refer to most recent Compliance Certification for existing requirements. Address new requirements such as CAM, here, including steps being taken to achieve compliance.

The RLUOB facility is not yet in normal operation. Existing operational permit conditions in NSR Permit 2195-N are not yet effective. Notice of boiler startup (commissioning) was provided as required by NSR Permit 2195-N. The latest facility-wide Title V compliance certification was submitted for LANL for calendar year 2009 on January 27, 2010.

19.3 - Continued Compliance (20.2.70.300.D.10.c NMAC)

Provide a statement that your facility will continue to be in compliance with requirements for which it is in compliance at the time of permit application. This statement must also include a commitment to comply with other applicable requirements as they come into effect during the permit term. This compliance must occur in a timely manner or be consistent with such schedule expressly required by the applicable requirement.

Los Alamos National Laboratory will continue to be in compliance with all applicable requirements for which it is currently in compliance, and will, in a timely manner, meet additional applicable requirements that become effective during the permit term.

19.4 - Schedule for Submission of Compliance (20.2.70.300.D.10.d NMAC)

You must provide a proposed schedule for submission to the department of compliance certifications during the permit term. This certification must be submitted annually unless the applicable requirement or the department specifies a more frequent period. A sample form for these certifications will be attached to the permit.

The annual schedule and deadline is January 30th of each year as specified by existing condition 5.1 in Permit P100R1.

19.5 - Stratospheric Ozone and Climate Protection

In addition to completing the four (4) questions below, you must submit a statement indicating your source's compliance status with requirements of Title VI, Section 608 (National Recycling and Emissions Reduction Program) and Section 609 (Servicing of Motor Vehicle Air Conditioners).

---

1. Does your facility have any air conditioners or refrigeration equipment that uses CFCs, HCFCs or other ozone-depleting substances? **Yes** **√ No**

2. Does any air conditioner(s) or any piece(s) of refrigeration equipment contain a refrigeration charge greater than 50 lbs? **√ Yes** **No ODS.** **No**
   (If the answer is yes, describe the type of equipment and how many units are at the facility.)

3. Do your facility personnel maintain, service, repair, or dispose of any motor vehicle air conditioners (MVACs) or appliances ("appliance" and "MVAC" as defined at 82. 152)? **Yes** **√ No**

4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.)

   The RLUOB facility will not have HVAC equipment containing ozone depleting substances (ODS) subject to Title VI requirements.

19.6 - Compliance Plan and Schedule

Applications for sources, which are not in compliance with all applicable requirements at the time the permit application is submitted to the department, must include a proposed compliance plan as part of the permit application package. This plan shall include the information requested below:

A. Description of Compliance Status: (20.2.70.300.D.11.a NMAC)
A narrative description of your facility's compliance status with respect to all applicable requirements (as defined in 20.2.70 NMAC) at the time this permit application is submitted to the department.

B. Compliance plan: (20.2.70.300.D.11.B NMAC)
A narrative description of the means by which your facility will achieve compliance with applicable requirements with which it is not in compliance at the time you submit your permit application package.

C. Compliance schedule: (20.2.70.300D.11.c NMAC)
A schedule of remedial measures that you plan to take, including an enforceable sequence of actions with milestones, which will lead to compliance with all applicable requirements for your source. This schedule of compliance must be at least as stringent as that contained in any consent decree or administrative order to which your source is subject. The obligations of any consent decree or administrative order are not in any way diminished by the schedule of compliance.

D. Schedule of Certified Progress Reports: (20.2.70.300.D.11.d NMAC)
A proposed schedule for submission to the department of certified progress reports must also be included in the compliance schedule. The proposed schedule must call for these reports to be submitted at least every six (6) months.

E. Acid Rain Sources: (20.2.70.300.D.11.e NMAC)
If your source is an acid rain source as defined by EPA, the following applies to you. For the portion of your acid rain source subject to the acid rain provisions of title IV of the federal Act, the compliance plan must also include any additional requirements under the acid rain provisions of title IV of the federal Act. Some requirements of title IV regarding the schedule and methods the source will use to achieve compliance with the acid rain emissions limitations may supersede the requirements of title V and 20.2.70 NMAC. You will need to consult with the Air Quality Bureau permitting staff concerning how to properly meet this requirement.

NOTE: The Acid Rain program has additional forms. See http://www.nmenv.state.nm.us/aqb/index.html. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

The RLUOB facility is in compliance with all applicable requirements. Compliance plan is not required.

19.7 - 112(r) Risk Management Plan (RMP)

Any major sources subject to section 112(r) of the Clean Air Act must list all substances that cause the source to be subject to section 112(r) in the application. The permittee must state when the RMP was submitted to and approved by EPA.

The RLUOB is not subject to the section 112(r) requirements.

19.8 - Distance to Other States, Bernalillo, and Class I Areas

Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B NMAC)?

Yes.

(If the answer is yes, state which apply and provide the distances.)

Taos Pueblo (43), Picuris Pueblo (35), Jicarilla Apache Indian reservation (42), San Juan Pueblo (12), Santa Clara Pueblo (6), San IldefonsoPueblo (3), Pojoaque Pueblo (8), Nambe Pueblo (15), Teseque Pueblo (12), Cochiti Pueblo (8), Santa Domingo Pueblo (17), Zia Pueblo (19), SanFelipe Pueblo (24), Santa Ana Pueblo (25), Jemez Pueblo (12), Sandia Pueblo (38), Laguna Pueblo (48), Bernallio County (35), Bandelier Wilderness (0), Pecos Wilderness (35), San Pedro Wilderness Park (27)

19.9 - Responsible Official

Provide the Responsible Official as defined in 20.2.70.7.AD NMAC: **J. Chris Cantwell, Associate Director, Environment, Safety, Health & Quality, Los Alamos National Security LLC**

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

See Table 2-1 of this application for proposed operating conditions and associated monitoring, recordkeeping, and reporting conditions.

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

Landfill Applications are not required to complete Sections 1-C and 1-E. All other Sections are required.

This application is not for a landfill.

21-A: Landfill Information

1	How long will the landfill be operated?		
2	Maximum operational hours per year:		
3	Landfill Operating hours (open to the public) M-F:	Sat.	Sun.
4	Landfill Design Capacity (Tons):	Megagrams:	Cubic meters:
5	Landfill NMOC Emission Rate	☐ Less than 50mg/year	☐ Greater than 50mg/year
6	Annual Waste Acceptance Rate:		
7	Is Petroleum Contaminated Soil Accepted?	If so, what is the annual acceptance rate?	
8	NM Solid Waste Permit No.:	SW Permit Date:	
9	Describe NM Solid Waste Permit, Status, and Type of waste deposited at landfill		
10	Describe briefly any process(es) or any other operations conducted at the landfill		

21-B: NMOC Emissions

1	NMOC Emissions based on LandGEM:
2	Tier 1:
3	Tier 2:
4	Tier 3:

EMISSIONS (refer to 40 CFR 60.754 for test methods and procedures or AP-42 Sect.2.4)
Include the latest LandGEM calculations and/or testing results.
Facilities that have a Landfill GCCS complete the following section.

21-C: Landfill Gas Collection and Control System (GCCS) Design Plan		Yes	No
1	Was the GCCS design certified by a P.E?		
2	Was the Design System Plan submitted within 12 months of the first report of the site exceeding 50Mg/yr?		
3	Is the GCCS planned to be operational within 30 months of the first report of the site exceeding 50 Mg/yr?		
4	Does the GCCS comply with the 2 year/5 year rule?		
5	Is the design life of the GCCS more than 15 years?		
6	Have measures been taken in the GCCS Plan to control lateral gas migration?		
7	If the GCCS design is for a passive system (non enhanced), are the necessary liners in place?		
8	Is adequate density of collectors planned?		
9	Is the Landfill gas conveyance system sized properly?		
10	Is the landfill gas planned to be routed to a control device? (Utility flare, enclosed flare or other)		
11	If the control device is a flare, does it include continuous temperature monitoring and a flow measurement device?		
12	Is the flare sized properly?		
13	Does the GCCS include fittings to allow connection of additional collectors if necessary in the future?		
14	Does the wellhead for all collectors include at least one sample port and one thermometer port?		
15	Operational Issues: 1. Will the GCCS be operated at a vacume at every well? 2. Will the GCCS be operated at the appropriate gas temps? 3. Will the GCCS be operated with minimal amounts of air? 4. Will monitoring be done monthly to conform with these operational issues? 5. Will surface emissions monitoring be completed? 6. Will the blower automatically be shut down if the control device is inoperable?		
16	Was the design diagram for the GCCS, including the flare, blower, and well location attached to the permit application?		

Section 22: Certification

Company Name: Los Alamos National Security LLC

I, J. Chris Cantwell, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 19 day of October, 2010, upon my oath or affirmation, before a notary of the State of New Mexico.

J. Chris Cantwell
*Signature

10/19/2010
Date

J. Chris Cantwell
Printed Name

Associate Director, Environment, Safety, Health & Quality
Title

Scribed and sworn before me on this 19th day of October, 2010.

My authorization as a notary of the State of New Mexico expires on the 23rd day of February, 2014.

Jeanette V. Rivera
Notary's Signature

10/19/2010
Date

Jeanette V. Rivera
Notary's Printed Name

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AD NMAC.