



***Environmental Protection & Compliance Division  
Environmental Compliance Programs (EPC-CP)***  
PO Box 1663, K490  
Los Alamos, New Mexico 87545  
(505) 667-0666

***National Nuclear Security Administration  
Los Alamos Field Office***  
3747 West Jemez Road, A316  
Los Alamos, New Mexico, 87544  
(505) 665-7314/Fax (505) 667-5948

*Symbol:* ESHQSS: 19-007  
*LA-UR:* 19-20799  
*Locates Action No.:* N/A  
*Date:* **FEB 26 2019**

Mr. Ted Schooley  
Manager, Permit Programs  
New Mexico Environment Department, Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505-1816

**Subject: Los Alamos National Laboratory 2019 Title V Permit Renewal Application**

Dear Mr. Schooley:

Los Alamos National Laboratory (LANL) submits for review the required five-year renewal application for the facility-wide Title V operating permit. The current version of the operating permit is designated P100-R2M3 and expires on February 27, 2020. This renewal application is being submitted more than one year in advance of the expiration date as required by 20.2.70 NMAC – Operating Permits.


As required, the application utilizes NMED's uniform permit application forms which are intended for either Title V or construction permit applications. Therefore, some of the requested information is not relevant to Title V permits and is noted as such. The application also includes a narrative section apart from the forms to aid in understanding the application, LANL emission units, and proposed permit conditions more fully. The application is organized as follows:

- Section 1.0 Facility description and general information regarding the application
- Section 2.0 Permitted emission unit information including proposed permit conditions
- Appendix A – Application Forms
- Appendix B – 2018 Annual Compliance Certification

In general, proposed changes to the current permit conditions are minor and intended to clarify existing condition requirements. There are no requested revisions to the existing facility-wide emission limits within the permit. For two selected sources, the application requests lower annual emission limits where historical actual emissions have been well below current limits. Due to production limits or other constraints, these units are not capable of reaching the current permitted limits. The application also requests an annual operating restriction on older emergency stationary generators which had been present previously in Permit P100. These requests are intended to ensure the total facility potential to emit remains below new source review major source status as the Laboratory continues to develop in the future. In 2018 LANL applied for, and received an NSR permit modification for major upgrades to the existing TA-3 power plant (NSR permit No. 2195B-M3). Due to the long, multi-year construction schedule for this project we are not proposing to roll this into the Title V Operating permit at this time.

The complete application is being submitted on disc as well as hard copy. Once the application is ruled complete, a copy will be sent to EPA Region 6 as required. If you have any questions or comments regarding this submittal or would like to discuss the submittal in greater detail, please contact Marjorie Stockton at (505) 665-3289.

Very truly yours,



Michael W. Hazen  
Associate Lab Director

Very truly yours,



William S. Goodrum  
Manager, Los Alamos Field office

MWH/WSG/CWB:jdm

Attachment(s): Attachment 1 Los Alamos National Laboratory 2019 Title V Permit Renewal Application

Copy: Erica Le Doux, USEPA/Region 6, [LeDoux.Erica@Epa.gov](mailto:LeDoux.Erica@Epa.gov), Dallas, TX  
Adrienne L. Nash, LASO-MA-LS, [adrienne.nash@nnsa.doe.gov](mailto:adrienne.nash@nnsa.doe.gov), (E-File)  
Silas DeRoma, LASO-OC, [silas.deroma@nnsa.doe.gov](mailto:silas.deroma@nnsa.doe.gov), (E-File)  
Erin O. Anderson, LASO-OC, [erin.anderson@nnsa.doe.gov](mailto:erin.anderson@nnsa.doe.gov), (E-File)  
Douglas Hintze, EM-LA, [douglas.hintze@em.doe.gov](mailto:douglas.hintze@em.doe.gov), (E-File)  
Paul Benjamin Underwood, EM-LA, [ben.underwood@em.doe.gov](mailto:ben.underwood@em.doe.gov), (E-File)  
David Rhodes, EM-LA, [david.rhodes@em.doe.gov](mailto:david.rhodes@em.doe.gov), (E-File)  
Hai Shen, EM-LA, [hai.shen@em.doe.gov](mailto:hai.shen@em.doe.gov), (E-File)  
Kelly J. Beierschmitt, DDOPS, [beierschmitt@lanl.gov](mailto:beierschmitt@lanl.gov), (E-File)  
Timothy A. Dolan, GC-ESH, [tdolan@lanl.gov](mailto:tdolan@lanl.gov), (E-File)  
Enrique Torres, EPC-DO, [etorres@lanl.gov](mailto:etorres@lanl.gov), (E-File)  
Jennifer Payne, EPC-DO, [jpayne@lanl.gov](mailto:jpayne@lanl.gov), (E-File)  
Tania Van Valkenburg, EPC-CP, [tauniav@lanl.gov](mailto:tauniav@lanl.gov), (E-File)  
Marjorie B. Stockton, EPC-CP, [mstockton@lanl.gov](mailto:mstockton@lanl.gov), (E-File)  
Katelyn Mahoney, EPC-CP, [kmahoney@lanl.gov](mailto:kmahoney@lanl.gov), (E-File)  
Taylor A. Valdez, PCM-DO, [tvaldez@lanl.gov](mailto:tvaldez@lanl.gov), (E-File)  
Frazer Lockhart, N3B, (E-File)  
Christian Maupin, N3B, (E-File)  
Elizabeth Lowes, N3B, (E-File)  
Dana Lindsay, N3B, (E-File)  
EPC-CP Title V Permit File  
EPC-CP Correspondence File  
[lasomailbox@nnsa.doe.gov](mailto:lasomailbox@nnsa.doe.gov), (E-File)  
[locatesteam@lanl.gov](mailto:locatesteam@lanl.gov), (E-File)  
[aldeshqsscorrespondence@lanl.gov](mailto:aldeshqsscorrespondence@lanl.gov), (E-File)  
[epc-correspondence@lanl.gov](mailto:epc-correspondence@lanl.gov), (E-File)  
[interface@lanl.gov](mailto:interface@lanl.gov), (E-File)

# **ATTACHMENT 1**

Los Alamos National Laboratory  
2019 Title V Permit Renewal Application

ESHQSS: 19-007

LA-UR-19-20799

Date:                     FEB 26 2019

**Los Alamos National Laboratory  
2019 Title V Renewal Application**

**Operated by:**

Triad National Security, LLC  
Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

Newport News Nuclear BWXT-Los Alamos, LLC  
Los Alamos National Laboratory  
Los Alamos, New Mexico 87544

**Owned by:**

U.S. Department of Energy  
National Nuclear Security Administration  
Los Alamos Field Office  
Los Alamos, New Mexico 87544

**FEBRUARY 2019**

**LA-UR-19-20799**

# Los Alamos National Laboratory 2019 Title V Renewal Application

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**LIST OF ACRONYMS AND ABBREVIATIONS**

CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CFC	chlorofluorocarbons
CO	carbon monoxide
DOE	Department of Energy
EIB	Environmental Improvement Board
EPA	Environmental Protection Agency
FGR	flue gas recirculation
HAP	hazardous air pollutant
HCl	hydrochloric acid
HE	high explosive
HEPA	high-efficiency particulate air
HVAC	heating, ventilation, and air conditioning
kW	kilowatts
LANL	Los Alamos National Laboratory
lbs/hr	pounds per hour
MACT	Maximum Achievable Control Technology
MMBtu/hr	million British thermal units per hour
MMscf	million standard cubic feet
MW	megawatts
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NMAAQs	New Mexico Ambient Air Quality Standards
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
NO <sub>2</sub>	nitrogen dioxide
NOI	Notice of Intent
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standard
NSR	New Source Review
PM	particulate matter
PM <sub>2.5</sub>	particulate matter less than 2.5 micrometers in diameter
PM <sub>10</sub>	particulate matter less than 10 micrometers in diameter
PSD	Prevention of Significant Deterioration
R&D	research and development
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
TA	Technical Area
tpy	tons per year
TSP	total suspended particulates
VOC	volatile organic compound

## EXECUTIVE SUMMARY

This permit renewal application is submitted by Los Alamos National Laboratory (LANL or the Laboratory) for renewing LANL's Title V operating permit pursuant to 20.2.70 NMAC – Operating Permits. 20.2.70 NMAC requires facilities defined as “major stationary sources” to obtain comprehensive air quality operating permits that include all air quality requirements applicable to the source. An operating permit is separate and in addition to air quality construction permits, which are issued for construction of new emission units or modifications to existing units. LANL obtained Title V operating permit P100-R2 on February 27, 2015 which will expire on February 27, 2020. In compliance with 20.2.70.300 NMAC, LANL is submitting this permit application 12 months prior to the expiration date. Permit P100-R2M1 was issued as a minor modification on February 3, 2017. Administrative permit amendment Permit P100-R2M2 was issued on May 7, 2018 in which Newport News Nuclear BWXT, LLC (N3B) was added as an operator and permittee. Administrative permit amendment Permit P100-R2M3 was issued October 17, 2018 to substitute Triad National Security, LLC (Triad) for Los Alamos National Security, LLC (LANS) as an operator, effective November 1, 2018. Starting at this point, the latest modified permit number will be used in the rest of this document.

LANL is owned by the U.S. Department of Energy/National Nuclear Security Administration and operated by Triad and N3B. Under agreement with DOE, N3B operates units subject to NESHAPs for radionuclides, 40 CFR Part 61, Subpart H, and units relating to legacy environmental cleanup work at LANL; Triad operates the remainder of the units. The Laboratory is a scientific institution dedicated to research and development (R&D) in nuclear weapons science and technology and national problems in energy, environment, infrastructure, and health security. Air emissions predominantly come from operations that support R&D activities, such as power and steam generation, rather than from R&D activities themselves.

This renewal application requests minor changes to the existing Title V operating permit which are intended primarily to clarify existing permit conditions as well as reduce facility-wide potential to emit emission rates. LANL requests facility-wide emission limits remain unchanged. For two emission units, a reduction in current annual allowable emission rates are requested in order to continue to ensure the calculated facility-wide potential emission rates remain below major source New Source Review thresholds. An annual hours of operation restriction is proposed for older emergency standby generators for the same reason. Several new emergency standby generators, which are subject to New Source Performance Standards (NSPS), are added to the permit.

This Title V renewal application fulfills all the requirements of 20.2.70.300.D NMAC regarding the required contents of renewal permit applications.

## 1.0 INTRODUCTION

The Laboratory is a scientific institution dedicated to R&D to fulfill the missions of ensuring the safety and reliability of the U.S. nuclear deterrent, reducing the global threat of weapons of mass destruction, and solving national problems in energy, environment, infrastructure and health security. The Laboratory is owned by the DOE/NNSA and is operated by Triad and N3B. The Laboratory's products are specific solutions to R&D problems, and many of these solutions are transferred elsewhere for commercialization or production. The Laboratory's R&D operations are unique in that they have no defined process or schedule. Rather, the intent of research is to constantly develop and improve processes. Therefore, operational flexibility is of utmost importance to this institution.

### 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 (Figure 1.1-1). The Laboratory is located on approximately 39 square miles of land and is divided into Technical Areas (TAs) that are used for building sites, experimental areas, roads, and utility rights-of-way (Figure 1.1-2). These uses account for only a small fraction of total land area, because most 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 an R&D institution owned by DOE/NNSA and operated by Triad and N3B. Under agreement with DOE, N3B operates units subject to NESHAPs for radionuclides, 40 CFR Part 61, Subpart H, and units relating to legacy environmental cleanup work at LANL; Triad operates the remainder of the units. The Laboratory falls under the Standard Industrial Classification (SIC) 9711 – National Security. The primary mission of the Laboratory is to ensure the integrity and safety of the United States' current stockpile of nuclear weapons and nuclear materials. Laboratory scientists and engineers accomplish this mission and other non-weapons related research through acquisition of annual funding from various federal departments to support R&D activities.

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.

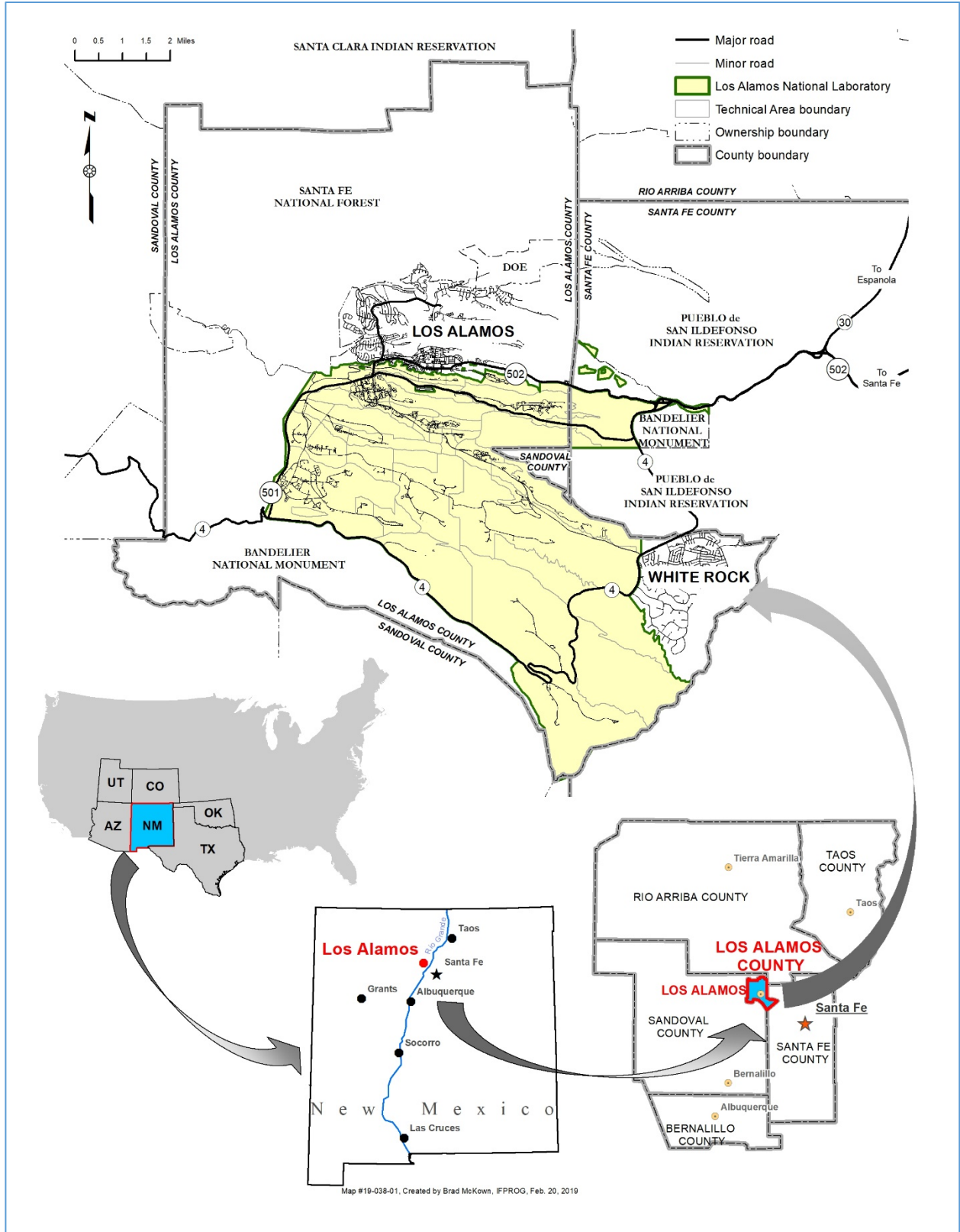


Figure 1.1-1 Location of Los Alamos National Laboratory

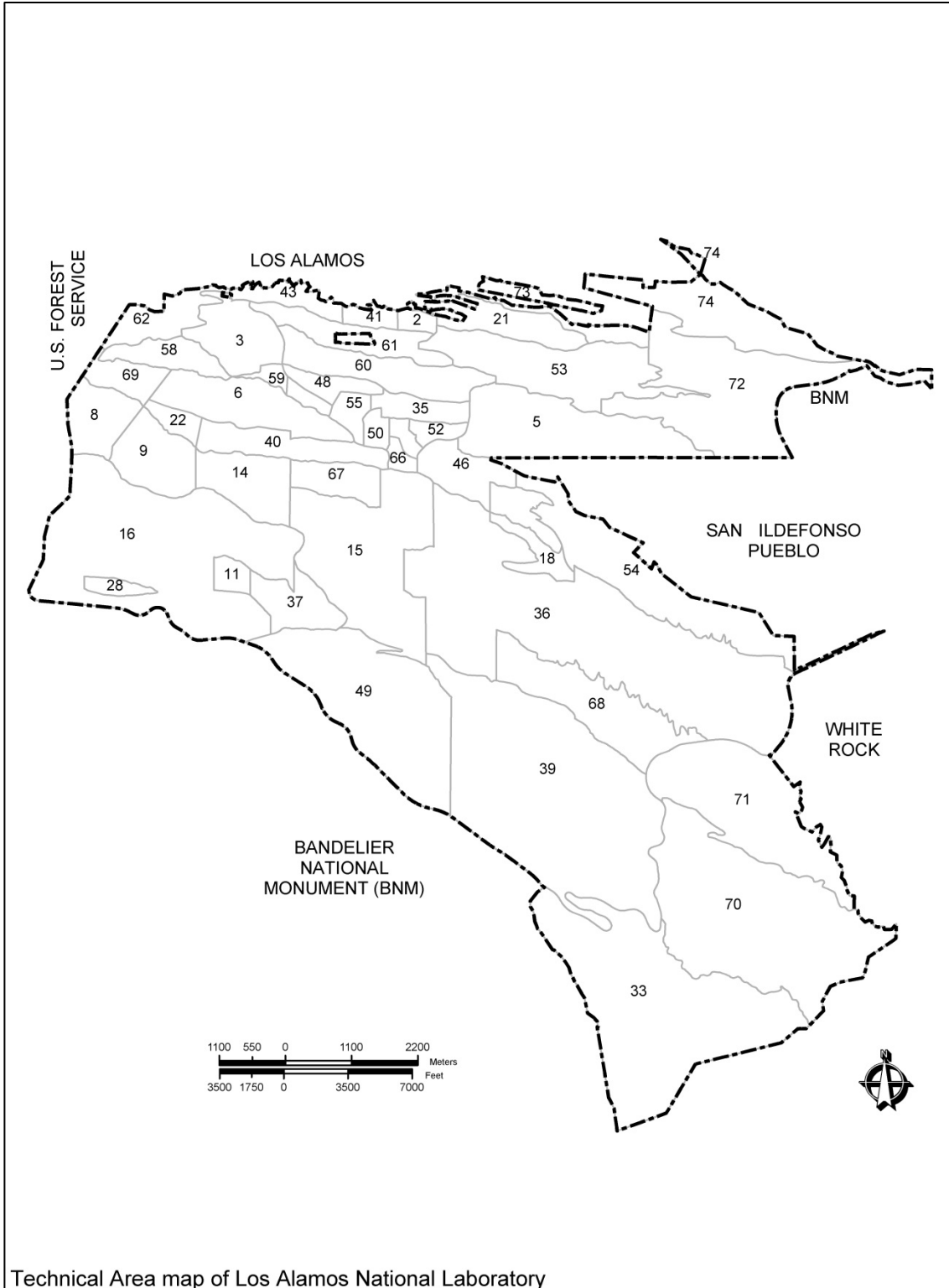


Figure 1.1-2 Technical Area Map of Los Alamos National Laboratory



## 1.2 Application Content

Section 1.0 describes the Laboratory location and missions, the contents of the application, requested changes to the current permit, and provides information on insignificant activities.

Section 2.0 provides information with respect to all permitted emission units or source categories. The subsections are organized in the same manner as the existing LANL Title V permit with similar unit types grouped together. For each regulated source category, the following information is provided:

- A description of the source types and operations;
- The operating schedule for the category;
- A process flow diagram of operations;
- Emission estimates for criteria and hazardous air pollutants;
- A discussion of air pollution control equipment present, if any;
- Discussion of emissions and operational plans during startups, shutdowns, or malfunctions;
- A figure showing the general location of each source;
- A plot plan for each source; and
- In a table format, the listing of each current applicable requirement and any proposed changes.

The completed application forms are included in this application within Appendix A. This includes the following in addition to general information regarding LANL:

- All source information including design ratings, model type, and serial numbers;
- Emission estimates for maximum emissions and requested allowable emissions;
- All emission calculations in support of estimated emissions;
- Exhaust stack parameters;
- Supporting documentation for estimated emissions;
- A description of all applicable requirements applicable to LANL and discussion of selected requirements which do not apply;
- A listing of compliance tests conducted; and
- Estimates of potential greenhouse gas emissions.

Appendix B contains a copy of the most recent 2018 Annual Compliance Certification report to support compliance demonstrations for this application.

### 1.3 Summary History of Permit P100

Permit P100 was first issued in April 2004. Since that time, the permit has been renewed twice as well being modified several times. An administrative amendment was issued on May 7, 2018 to incorporate a new operator and permittee. A second administrative amendment was issued on October 17, 2018 which replaced Los Alamos National Security, LLC with Triad National Security, LLC as co-Operator. Table 1.3-1 below summarizes the history of the LANL Title V permit.

**Table 1.3-1 Permit P100 Chronology**

Permit Number	Date Issued	Purpose
P100	April 30, 2004	Initial permit.
P100-M1	June 15, 2006	Incorporated new combustion turbine into permit. Replaced existing paper shredder with new data disintegrator. Removed closed sources a rock crusher and two boilers at TA-16.
P100-M2	July 16, 2007	Removed closed beryllium source at CMR facility.
P100-R1	August 7, 2009	First permit renewal.
P100-R1M1	June 15, 2012	Incorporated emission units from new RLUOB facility. Revised power plant conditions to reflect revised NSR permit issued. Entire permit reformatted and renumbered.
P100-R1M2	December 26, 2012	Removed four retired boilers from permit located at TA-48 and TA-59.
P100-R1M3	April 26, 2013	Revised permit to reflect 40 CFR Part 63, Subpart ZZZZ applicability and approved compliance extension for diesel generator at TA-33.
P100-R2	February 27, 2015	Second permit renewal.
P100-R2M1	February 3, 2017	Minor modification to incorporate evaporative sprayers.
P100-R2M2	May 7, 2018	Adds Newport News Nuclear BWXT-Los Alamos, LLC as an operator and substitutes the U.S. Department of Energy, National Nuclear Security Administration as owner.
P100-R2M3	October 17, 2018	Substitutes Triad National Security, LLC for Los Alamos National Security, LLC as an operator.

### 1.4 Proposed Changes to Current Operating Permit

Proposed changes to existing permit conditions are all within the equipment specific requirements section of the permit. The reasons for any requested change are explained within those sections. Table 1.4-1 summarizes the requested revisions.

**Table 1.4-1 Proposed Changes to Permit P100-R2M3**

<b>Section Affected</b>	<b>Proposed Change</b>
Part A Facility Specific Requirements	Correct typographical error in A117.B from 40 CFR to 40 CFR 82.
Beryllium Activities	No changes requested.
Asphalt Production	Request a decrease in annual allowable emissions for the pollutants listed in Table 602.A. The requested allowable emissions are (tons per year): NOX: 20; CO: 10; VOC: 20; SOX: 20; PM: 20. This is intended to lower the calculated potential to emit for this source and the Laboratory over-all. The higher annual limits provided by the asphalt plant general permit (GCP-3) are not necessary.
External Combustion	In Table 802.A, under the "Unit No." column, change language to read, "Combined annual emissions for all boilers and heaters". This language reflects what was in P100-R1 issued on August 7, 2009. The allowable emissions in the table apply to all units, not just permitted boilers.
Chemical Usage	No changes requested.
Degreasers	No changes requested.
Internal Combustion Section A1100.A	Request that four new stationary emergency use diesel generators be added to the regulated source list. These units are exempt from NSR but not Title V permitting.  Make slight correction to the generator serial numbers for RLUOB-GEN-1 through -3 are incorrect, they should read: RLUOB-GEN-1: I060970810; RLUOB-GEN-2: I060970811; RLUOB-GEN-3: I060970812
Internal Combustion Section Table 1102.A	Request the pph and tpy allowable emissions for Unit No. TA-33-G-1P be lowered for each pollutant to the values shown on the UA2, Table 2-E: Requested Allowable Emissions form. This change will further lower the facility-wide potential to emit. The higher values present are from the larger generator this unit replaced under an NSR technical permit revision in which emission rates were not required to be lowered and left as is.
Internal Combustion Section A1103.A	Indicate the NSPS Subpart IIII is applicable to the new stationary standby generators.
Internal Combustion Section A1104.C	Add new Condition A1104.C - Request an average of 100 (diesel-fired) and 500 (natural gas-fired) annual operating hours per year restriction for the non-NSPS standby generator pool. This change will lower the facility-wide potential to emit.
Internal Combustion Section A1106.A	Add the four new emergency generators to this 20.2.61 NMAC opacity condition.
Internal Combustion Section A1107.A and B	Request clarifying wording in A1107.A to highlight the slight difference in the two sections for NSPS engines.

Section Affected	Proposed Change
Data Disintegrator	No changes requested.
TA-3 Power Plant	Clarify Condition A1307. H., Monitoring Section, number 1, to read the following, “(1) The testing shall be conducted as follows: (a) Testing frequency shall be once per year subject to the frequency of testing requirements outlined in Section B.108.D. <b>(b)</b> The monitoring period is defined as a calendar year.
Open Burning	Change all references in the Section and Condition titles from “Open Burning” to “Open and Prescribed Burning” throughout the section. The purpose is to clarify this section regulates both open burning under 20.2.60 NMAC and prescribed burning for land management purposes under 20.2.65 NMAC.
Evaporative Sprayers Section A1500	Update “Serial No.”, “Manufacture Date” and “Construction Date” columns in Table A1500.A for TA-60-EVAP-4 and TA-60-EVAP-5. These two spray evaporators have been installed and are currently operating.
Part B General Conditions	No changes requested.

**1.5 Facility-Wide Emissions**

Starting with the initial operating permit application, LANL requested facility-wide emission limits for criteria and hazardous air pollutants. Facility-wide limits are not a requirement to obtain a Title V permit. These were proposed in order to lower the potential emission rate of pollutants and avoid classification of major source status for two substantial Clean Air Act programs. The first is the Prevention of Significant Deterioration (PSD) permit program for new major sources or major modifications. For this major source permit program, the potential to emit for any one criteria pollutant must exceed 250 tons per year. The second program avoided is applicable to a major source of hazardous air pollutants (HAP). Major HAP sources are regulated stringently under source category technology-based control standards at 40 CFR Part 63. A major HAP source has a potential to emit in excess of 25 tons per year of all HAPs combined, or in excess of 10 tons of any one HAP.

The current facility-wide limits applicable to LANL are in Section A102 of Permit P100-R2M3. These emission limits have not changed since the first Title V permit issued in 2004. This application does not request any changes to the limits. LANL is required to report actual emissions from permitted sources on a semi-annual basis to NMED to show compliance with these limits. As shown in these reports, the actual emission rates remain consistently well below the allowable emission limits. Table 1.5-1 lists the facility-wide limits and for comparison actual emissions for these pollutants for the last five years.

**Table 1.5-1 Facility-Wide Limits and Actual Emission Rates**

Year	NO <sub>x</sub> (tpy)	CO (tpy)	VOC (tpy)	SO <sub>2</sub> (tpy)	TSP/PM <sub>10</sub> /PM <sub>2.5</sub> (tpy) <sup>1</sup>	HAPs (tpy) <sup>3</sup>
2013	44.2	30.4	12.5	0.7	4.2	4.4/0.8
2014	38.4	26.4	13.4	0.5	3.6	5.9/1.4
2015	35.9	26.9	11.7	0.5	3.5	5.2/1.4
2016	22.1	24.3	15.1	0.4	3.5	7.2/1.2
2017	30.9	23.0	12.5	0.3	3.5	5.9/1.3
Emission Limits	245.0	225.0	200.0	150.0	120.0 <sup>2</sup>	24.0/8.0

<sup>1</sup>The value shown is the highest for any of the three forms of particulate matter.

<sup>2</sup>The emission limit is 120 tpy for each form of particulate matter.

<sup>3</sup>The first HAP value shown is for total HAP and the second is for the highest single HAP.

## 1.6 Insignificant Activities

Insignificant activities are considered to have minimal or no air quality impact and are therefore not required to be included in Title V permits. With the inception of a facility-wide air permit, there was a need to define those small activities which were not to be included within an operating permit. NMED developed a list of excluded activities. The current list is the NMED's *Operating Permit Program List of Insignificant Activities* dated March 24, 2005. In preparing this renewal application, existing activities were assessed against the criteria defining an insignificant activity. Table 1.6-1 describes insignificant activity sources at LANL and the basis for that determination.

**Table 1.6-1 Insignificant Activities**

Source Category	NMED List Citation	Basis for Designation
Boilers and Heaters	1a, 3, 4	The majority of boilers and heaters at LANL are insignificant activities under Insignificant Activity No. 3 and 4, based on size, type of fuel, and purpose of the equipment. Emissions from this source category are limited with a voluntary permit limit on the total amount of natural gas use for all boilers and heaters site-wide. See Section 2.3 for more details.
Cooling Towers	1a	Each cooling tower has emission rates less than 1 ton per year (tpy).

Source Category	NMED List Citation	Basis for Designation
Degreasers	1a	LANL operates one permitted degreaser that is subject to 40 CFR 63, Subpart T. There are no other degreaser units that use regulated solvents. Degreaser operations facility-wide have emission rates less than 1 tpy.
Electroplating	1a	Electroplating operations have emission rates less than 1 tpy.
Fuel Storage and Dispensing	8	Fuel storage and dispensing activities at LANL have a capacity of less than 25,000 gallons.
Lead Melting	1a	Lead melting operations have emission rates well below 1 tpy.
Open Detonation Sites	1a	Each site where detonation experiments occur has emission rates less than 1 tpy.
Paint Booths	1a	Paint booth operations at LANL have emission rates less than 1 tpy.
Sand Blasting	1a	Self-contained sand blasting operations were reviewed and found to have emission rates well below 1 tpy.
Internal Combustion Sources	6, 7	LANL operates stationary standby generators and portable generators that meet the definition of insignificant emission units. See Section 2.7 for details.
Storage Tanks	1a, 5	LANL has only 2 tanks greater than 500 gallons that store liquid with vapor pressure great than 10 mm Hg. These two tanks (nitric acid and hydrochloric acid) have emission rates below 1 tpy (Insignificant Activity 1a). All other tanks are either smaller than 500 gallons, or store liquids with vapor pressure less than 10 mm Hg (Insignificant Activity 5).
Surface Coating	2	Total clean-up solvent and coating use at LANL results in emissions of less than 2 tpy.
Waste Management	1a	Waste management activities at TA-50, TA-52 and TA-54 do not generate emissions in excess of 1 tpy.
Welding	1a	Site-wide emission from annual welding usage is less than 1 tpy.

## 1.7 Permit Fee Information

20.2.70 NMAC – Operating Permits requires permit applications to include information necessary to determine the annual permit fee for Title V facilities. 20.2.71 NMAC – Operating Permit Emission Fees defines how the fee is calculated. Operating permit fees are based on allowable emission rates. Since LANL has facility-wide emission limits, the fee is assessed against these tons per year limits. For calendar year 2017, LANL was assessed a fee of \$28,923.80 based on allowable emission rates of NO<sub>x</sub>, CO, VOC, SO<sub>2</sub>, and PM.

## 2.0 EMISSION UNITS

### 2.1 Asphalt Production

#### 2.1.1 General Description of Source Category

LANL operates an existing small asphalt batch plant that produces hot mix asphalt for minor road patching and paving. The plant is primarily used for making “pothole” mix, and this is made in small batches. The plant, located at TA-60-236, was manufactured by BDM Engineering and started operation on July 19, 2005. The construction of this plant was approved under General Construction Permit GCP-3-2195G, which was issued under 20.2.72 NMAC on October 29, 2002.

The plant mixes aggregate with liquid asphalt cement to produce bituminous pavement material. Aggregate is stored in piles near the plant and is transferred to the plant using a front-end loader. The asphalt cement consists of asphaltenes, resins, and oils. This material is stored in a tank adjacent to the plant. The asphalt cement is a solid at normal ambient temperature. A propane heater has been used in the past to liquefy the asphalt cement. Propane was replaced in 2013 with a connection to a natural gas line, and natural gas is now the primary fuel used.

Rock and sand are fed into a rotary dryer where it is heated and dried using a 25 MMBtu/hr gas burner. The dried aggregate is discharged into a bucket elevator, which discharges onto a vibrating screen that separates the material into different sizes. Material is discharged into a weigh hopper and then into a mixer where liquid asphalt is added as a percentage of the total mixture. The dust from the dryer is passed through a cyclone and baghouse to clean the gas stream. The gases are discharged to the atmosphere while the particulate collected by the cyclone and baghouse are transferred into the bucket elevator by means of a screw conveyor and then incorporated into the hot mix.

In the initial 2002 Title V application, LANL requested a federally enforceable permitted production limit for asphalt in order to limit criteria pollutant emissions. The proposed asphalt production limit was a 12-month rolling total of 13,000 tpy. The production limit was based on potential demand and actual production rates. This production limit was incorporated within Permit P100 by NMED. In the 2013 Title V permit renewal, NMED lowered the production limit to 6,000 tpy in order for the unit to not be subject to the 40 CFR Part 64 Compliance Assurance Monitoring (CAM) requirements

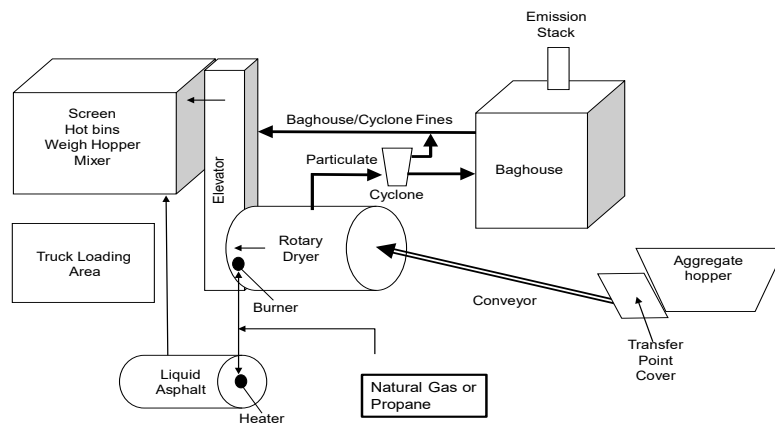
This application requests a decrease in allowable annual tpy emissions for criteria pollutants as described in Table 2.1-2. This request is intended to lower the calculated potential to emit emission rates for LANL facility-wide to accommodate future growth. The current annual emission rates have never been approached by plant operation.

**2.1.2 Operating Schedule**

The normal operating schedule for the BDM asphalt plant is less than four hours per day, four days a week, when asphalt work is being performed. Asphalt may be produced year-round, but it is primarily done during warmer months. The maximum asphalt production design capacity of this plant is 60 tons per hour. No changes to the operating schedule or production limits.

**2.1.3 Process Flow Diagram**

A process flow diagram for the operation of the asphalt plant is provided in Figure 2.1-1.



**Figure 2.1-1 Process Flow Diagram for Asphalt Plant**



#### 2.1.4 Emissions

Emissions from the asphalt plant include criteria pollutants (NO<sub>x</sub>, CO, SO<sub>2</sub>, PM, and VOCs) and trace amounts of HAPs. Annual emissions estimates are shown in Table 2.1-1. The values represent the maximum controlled emissions considering current enforceable production restrictions and control systems. All emission calculations are shown on the UA2 application form in the calculations section.

**Table 2.1-1 Emissions Estimates for Asphalt Production**

Pollutant	Emissions (tpy)
NO <sub>x</sub>	0.04
SO <sub>2</sub>	0.01
PM	0.02
PM <sub>10</sub>	0.01
PM <sub>2.5</sub>	0.01
CO	1.30
VOC	0.02
HAP	0.02

#### 2.1.5 Emissions Control Equipment

The BDM Engineering asphalt plant is equipped with a cyclone, Model Number 84M, and a baghouse, Model Number 18000M. The cyclone and baghouse are rated by the manufacturer, BDM Engineering, to have 70% and 99.9% efficiencies, respectively. The haul road to the asphalt plant was paved in 2006. To control fugitive emissions, the haul road is swept on an “as needed” basis.

#### 2.1.6 Operational Plan

Emissions from the startup and shutdown of the asphalt plant are not expected to differ from those during normal operations. Both the cyclone and baghouse are monitored for proper operation by the operations staff during each run. Emissions of PM could increase from operations if a malfunction of either control device were to occur. During any control device malfunction, the plant operator will take whatever actions are required to prevent an increase of visible emissions.

#### 2.1.7 Applicable Requirements

20.2.11 NMAC sets maximum PM emission rates in pounds per hour. In addition, the regulation requires a fugitive dust control system such that all particulate emissions are limited to the stack outlet. The BDM Engineering asphalt plant has a maximum design process rate of 60 tons per hour (120,000 pounds per

hour). This process rate corresponds to 33.8 pounds per hour for PM, as interpolated from 20.2.11 NMAC allowable emission rates.

Based on the source test performed on May 18, 2009, the PM emission rate, at the test process rate of 45 tons per hour, is 0.33 pounds per hour. This is well below the 33.8 pounds per hour for a process rate of 60 tons per hour, and 32.6 pounds per hour for a process rate of 45 tons per hour. Due to high altitude and other factors, it is not anticipated that the Asphalt Plant will or can operate at greater than 10% above the test throughput of 45 tons per hour, which would be 49.5 TPH.

In 2006, the haul road leading to the asphalt plant, located at TA-60 (Sigma Mesa), was paved. The paved road significantly reduced the potential of fugitive emissions from vehicle traffic. The roads are swept as needed to remove any track out and other debris, which may cause visible emissions.

Permit P100-M2R3 currently requires the pressure drop across the baghouse to be continuously monitored and the readings recorded by a datalogger each time the rotary dryer drum is operating. The pressure data confirm whether the filter(s) are operating within the unit's specifications. Continuously monitoring pressure drop across a baghouse is the most important operational parameter to continuously track to ensure the control device is operating properly. The current permit also requires an opacity reading (EPA Method 22) at least once per month on the dryer/baghouse stack

Table 2.1-3 summarizes the applicable requirements currently identified in the operating permit (P100-R2M3) for asphalt production and recommends changes to those applicable requirements.

#### **2.1.8 Location and Plot Plan for Asphalt Production**

The location of asphalt production and a plot plan for the plant are shown in Figures 2.1-2 and 2.1-3.

**Table 2.1-2 Existing Permit Conditions for Asphalt Production and Proposed Changes**

Existing P100-R2M3 Permit Conditions – Asphalt Production						Proposed Changes												
<p><b>A600 Regulated Sources – Asphalt Production</b></p> <p>A. Table 600.A lists all of the process equipment authorized for this source category. Emission units that were identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and equipment not regulated pursuant to the Act are not included.</p> <p><b>Table 600.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Source Description/ Location</th> <th>Make Model</th> <th>Serial No.</th> <th>Capacity</th> <th>Manufacture Date</th> </tr> </thead> <tbody> <tr> <td>TA-60-BDM</td> <td>Hot Mix Asphalt Plant, TA-60</td> <td>BDM Engineering TM2000</td> <td>unknown</td> <td>60 tph</td> <td>After 6/11/1973</td> </tr> </tbody> </table>						Unit No.	Source Description/ Location	Make Model	Serial No.	Capacity	Manufacture Date	TA-60-BDM	Hot Mix Asphalt Plant, TA-60	BDM Engineering TM2000	unknown	60 tph	After 6/11/1973	No changes.
Unit No.	Source Description/ Location	Make Model	Serial No.	Capacity	Manufacture Date													
TA-60-BDM	Hot Mix Asphalt Plant, TA-60	BDM Engineering TM2000	unknown	60 tph	After 6/11/1973													
<p><b>A601 Control Equipment – Asphalt Production</b></p> <p>A. Table 601.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category. Each emission point is identified by the same number that was assigned to it in the permit application.</p> <p><b>Table 601.A: Control Equipment List</b></p> <table border="1"> <thead> <tr> <th>Control Equipment Unit No.</th> <th>Control Description</th> <th>Pollutant being controlled</th> <th>Control for Unit No.<sup>1</sup></th> </tr> </thead> <tbody> <tr> <td>TA-60-BDM</td> <td>Cyclone Baghouse 99.97% efficiency</td> <td>TSP</td> <td>TA-60-BDM</td> </tr> </tbody> </table> <p><sup>1</sup> Control for unit number refers to a unit number from the Regulated Sources List G. Asphalt Plant Fugitive Dust</p>						Control Equipment Unit No.	Control Description	Pollutant being controlled	Control for Unit No. <sup>1</sup>	TA-60-BDM	Cyclone Baghouse 99.97% efficiency	TSP	TA-60-BDM	No changes.				
Control Equipment Unit No.	Control Description	Pollutant being controlled	Control for Unit No. <sup>1</sup>															
TA-60-BDM	Cyclone Baghouse 99.97% efficiency	TSP	TA-60-BDM															

<p><b>A603 Applicable Requirements – Asphalt Production</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 603.A.</p> <p><b>Table 603.A: Applicable Requirements</b></p> <table border="1"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>NSR Permit GCP-3-2195G</td> <td>X</td> <td>TA-60-BDM</td> </tr> <tr> <td>20.2.11 NMAC Asphalt Process Equipment</td> <td>X</td> <td>TA-60-BDM</td> </tr> <tr> <td>40 CFR 60, Subpart A</td> <td>X</td> <td>TA-60-BDM</td> </tr> <tr> <td>40 CFR 60, Subpart I</td> <td>X</td> <td>TA-60-BDM</td> </tr> </tbody> </table>	Applicable Requirements	Federally Enforceable	Unit No.	NSR Permit GCP-3-2195G	X	TA-60-BDM	20.2.11 NMAC Asphalt Process Equipment	X	TA-60-BDM	40 CFR 60, Subpart A	X	TA-60-BDM	40 CFR 60, Subpart I	X	TA-60-BDM	<p>No changes.</p>
Applicable Requirements	Federally Enforceable	Unit No.														
NSR Permit GCP-3-2195G	X	TA-60-BDM														
20.2.11 NMAC Asphalt Process Equipment	X	TA-60-BDM														
40 CFR 60, Subpart A	X	TA-60-BDM														
40 CFR 60, Subpart I	X	TA-60-BDM														
<p><b>A604 Operational Limitations – Asphalt Production</b></p> <p>A. The permittee shall meet the requirements of NSR permit no. GCP-3-2195G, including the requirements of this permit.</p> <p>B. The equipment in this source category is authorized to operate during those daylight hours occurring between one-half hour after sunrise and through one-half hour before sunset each day of the year. Annual hours of operation are limited to 4380 hrs/y. This limitation on operating hours does not apply to the use of the hot oil heater or the loading and/or hauling of asphalt products or materials. Monitoring, recordkeeping, and reporting for operational hours shall be conducted according to NSR Permit GCP-3-2195G.</p>																
<p><b>A602 Emission Limits – Asphalt Production</b></p> <p>A. Table 602.A lists the emission units, and their allowable emission limits.</p> <p><b>Table 602.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>NO<sub>x</sub> tpy</th> <th>SO<sub>2</sub> tpy</th> <th>PM</th> <th>CO tpy</th> <th>VOC tpy</th> </tr> </thead> <tbody> <tr> <td>TA-60-BDM (dryer stack only)</td> <td>50.0<sup>1</sup></td> <td>50.0</td> <td>0.04 gr/dscf_33.8 lb/hr 50.0<sup>1</sup> tpy</td> <td>30.0<sup>1</sup></td> <td>50.0<sup>1</sup></td> </tr> </tbody> </table> <p><sup>1</sup> Voluntary emission limits that are less than the applicable limits in GCP-3-2195G. Limits taken to reduce total emission in Table 106.A to below the facility-wide allowable emissions in Table 106.B.</p>	Unit No.	NO <sub>x</sub> tpy	SO <sub>2</sub> tpy	PM	CO tpy	VOC tpy	TA-60-BDM (dryer stack only)	50.0 <sup>1</sup>	50.0	0.04 gr/dscf_33.8 lb/hr 50.0 <sup>1</sup> tpy	30.0 <sup>1</sup>	50.0 <sup>1</sup>	<p>Request a decrease in annual allowable emissions for the pollutants listed in the table. The requested allowables are (tons per year): NO<sub>x</sub>: 20; CO: 10; VOC: 20; SO<sub>x</sub>: 20; PM: 20.</p>			
Unit No.	NO <sub>x</sub> tpy	SO <sub>2</sub> tpy	PM	CO tpy	VOC tpy											
TA-60-BDM (dryer stack only)	50.0 <sup>1</sup>	50.0	0.04 gr/dscf_33.8 lb/hr 50.0 <sup>1</sup> tpy	30.0 <sup>1</sup>	50.0 <sup>1</sup>											

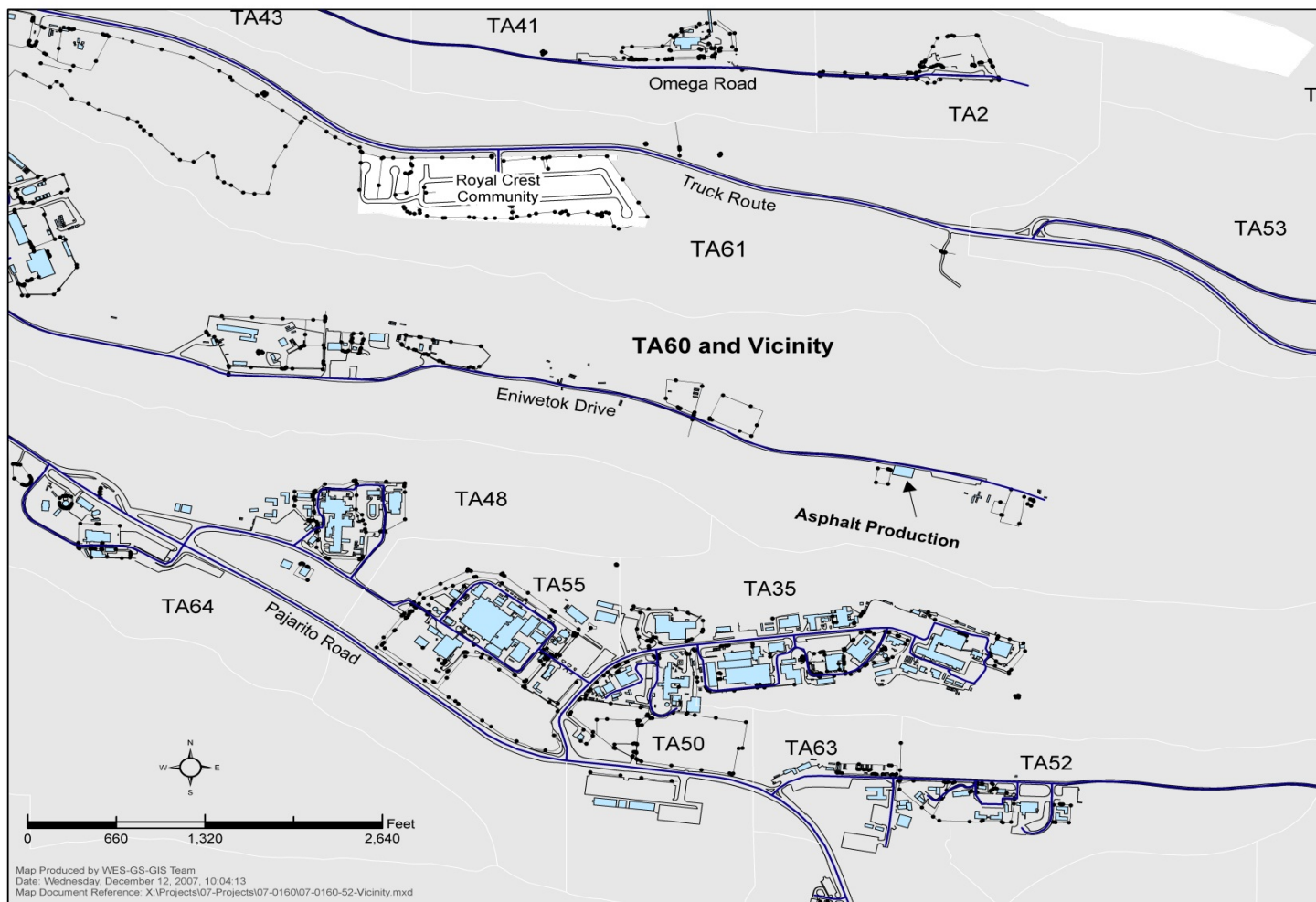
<p><b>A605 Fuel Requirements – Asphalt Production</b></p> <p>A. Asphalt Plant Combustion Sources</p> <table border="1" data-bbox="317 266 1524 570"> <tr> <td data-bbox="317 266 1524 354"> <p><b>Requirement:</b> Combustion sources located at the asphalt plant shall combust only those fuels allowed under condition III.A.3 of the NSR Permit GCP-3-2195G.</p> </td> </tr> <tr> <td data-bbox="317 354 1524 402"> <p><b>Monitoring:</b> N/A</p> </td> </tr> <tr> <td data-bbox="317 402 1524 490"> <p><b>Recordkeeping:</b> The permittee shall meet the recordkeeping requirements of GCP-3 and maintain records in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="317 490 1524 570"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> Combustion sources located at the asphalt plant shall combust only those fuels allowed under condition III.A.3 of the NSR Permit GCP-3-2195G.</p>	<p><b>Monitoring:</b> N/A</p>	<p><b>Recordkeeping:</b> The permittee shall meet the recordkeeping requirements of GCP-3 and maintain records in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirement:</b> Combustion sources located at the asphalt plant shall combust only those fuels allowed under condition III.A.3 of the NSR Permit GCP-3-2195G.</p>					
<p><b>Monitoring:</b> N/A</p>					
<p><b>Recordkeeping:</b> The permittee shall meet the recordkeeping requirements of GCP-3 and maintain records in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p><b>A607 Asphalt Production – Other</b></p> <p>A. Asphalt Plant Baghouse – Differential Pressure</p> <table border="1" data-bbox="317 708 1524 1159"> <tr> <td data-bbox="317 708 1524 795"> <p><b>Requirement:</b> The baghouse shall be equipped with a device to continually measure the pressure drop across the baghouse.</p> </td> </tr> <tr> <td data-bbox="317 795 1524 954"> <p><b>Monitoring:</b> The permittee shall monitor the differential pressure (inches of water) across the filters by the use of a differential pressure gauge. Pressure gauge readings and the time period the rotary dryer drum operates shall be recorded by a data logger each time the rotary dryer drum is operating. The pressure data shall confirm whether the filter(s) are operating within the unit’s specifications.</p> </td> </tr> <tr> <td data-bbox="317 954 1524 1073"> <p><b>Recordkeeping:</b> The permittee shall manually record the baghouse pressure drop readings at least once each day the rotary drum dryer operates and maintain records of all baghouse differential pressure readings in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="317 1073 1524 1159"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The baghouse shall be equipped with a device to continually measure the pressure drop across the baghouse.</p>	<p><b>Monitoring:</b> The permittee shall monitor the differential pressure (inches of water) across the filters by the use of a differential pressure gauge. Pressure gauge readings and the time period the rotary dryer drum operates shall be recorded by a data logger each time the rotary dryer drum is operating. The pressure data shall confirm whether the filter(s) are operating within the unit’s specifications.</p>	<p><b>Recordkeeping:</b> The permittee shall manually record the baghouse pressure drop readings at least once each day the rotary drum dryer operates and maintain records of all baghouse differential pressure readings in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Propose to globally change “rotary dryer drum” to “rotary drum dryer” in all of the asphalt plant conditions.</p>
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<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

<p>B. Asphalt Plant Baghouse - Stack Height (Unit TA-60-BDM)</p> <table border="1"> <tr> <td data-bbox="319 224 1524 272"> <p><b>Requirement:</b> The rotary dryer/baghouse exhaust stack shall be no less than 10 meters in height.</p> </td> </tr> <tr> <td data-bbox="319 272 1524 321"> <p><b>Monitoring:</b> N/A</p> </td> </tr> <tr> <td data-bbox="319 321 1524 370"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="319 370 1524 451"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The rotary dryer/baghouse exhaust stack shall be no less than 10 meters in height.</p>	<p><b>Monitoring:</b> N/A</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	
<p><b>Requirement:</b> The rotary dryer/baghouse exhaust stack shall be no less than 10 meters in height.</p>					
<p><b>Monitoring:</b> N/A</p>					
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<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p>C. Asphalt Plant Baghouse – Opacity</p> <table border="1"> <tr> <td data-bbox="319 547 1524 628"> <p><b>Requirement:</b> Visible emissions from the rotary dryer/baghouse exhaust stack shall not exhibit an opacity of 20% or greater averaged over a (6) minute period.</p> </td> </tr> <tr> <td data-bbox="319 628 1524 790"> <p><b>Monitoring:</b> During periods of drum dryer operation, the permittee shall perform six (6) minute opacity readings on the rotary dryer/baghouse stack. Opacity readings shall be performed at least once per month during any month the drum dryer operates. The observations shall be conducted according to 40 CFR 60, Appendix A, Method 9.</p> </td> </tr> <tr> <td data-bbox="319 790 1524 872"> <p><b>Recordkeeping:</b> The permittee shall maintain records of all opacity observations and in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="319 872 1524 953"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> Visible emissions from the rotary dryer/baghouse exhaust stack shall not exhibit an opacity of 20% or greater averaged over a (6) minute period.</p>	<p><b>Monitoring:</b> During periods of drum dryer operation, the permittee shall perform six (6) minute opacity readings on the rotary dryer/baghouse stack. Opacity readings shall be performed at least once per month during any month the drum dryer operates. The observations shall be conducted according to 40 CFR 60, Appendix A, Method 9.</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records of all opacity observations and in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	
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<p><b>Recordkeeping:</b> The permittee shall maintain records of all opacity observations and in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p>D. Asphalt Plant Baghouse – Fines Cleanout</p> <table border="1"> <tr> <td data-bbox="319 1053 1524 1175"> <p><b>Requirement:</b> The permittee shall sequester or remove particulates collected by the control equipment to prevent wind-blown particulate emissions. Recycled baghouse fines shall be recycled into the drum mixer via a closed-loop system.</p> </td> </tr> <tr> <td data-bbox="319 1175 1524 1224"> <p><b>Monitoring:</b> N/A</p> </td> </tr> <tr> <td data-bbox="319 1224 1524 1273"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="319 1273 1524 1354"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The permittee shall sequester or remove particulates collected by the control equipment to prevent wind-blown particulate emissions. Recycled baghouse fines shall be recycled into the drum mixer via a closed-loop system.</p>	<p><b>Monitoring:</b> N/A</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	
<p><b>Requirement:</b> The permittee shall sequester or remove particulates collected by the control equipment to prevent wind-blown particulate emissions. Recycled baghouse fines shall be recycled into the drum mixer via a closed-loop system.</p>					
<p><b>Monitoring:</b> N/A</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

<p>E. Asphalt Plant Production Rate (Unit TA-60-BDM)</p> <p><b>Requirement:</b> To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the asphalt plant shall limit uncontrolled potential PM emissions by limiting asphalt production to less than or equal to 6,000 tons per year.</p> <p><b>Monitoring:</b> The permittee shall monitor the total daily production rate.</p> <p><b>Recordkeeping:</b> The permittee shall calculate a weekly rolling, 12-month total production rate and maintain records in accordance with Section B109.</p> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	
<p>F. Asphalt Plant Operations – General</p> <p><b>Requirement:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Install, operate, and maintain equipment in accordance with standard operating procedures, and</li> <li>2) equip and operate the asphalt processing equipment such as screens, conveyor belts, and conveyor transfer points with dust control systems to control particulate matter emissions, and</li> <li>3) operate the Plant in accordance with NSR Permit GCP-3-2195G, Section III, A, B, C, D, E, F, and H.</li> <li>4) Ensure that no visible emissions from the facility are observed crossing the perimeter of the restricted area for no more than 5 minutes during any 2 consecutive hours during facility operations.</li> </ol> <p><b>Monitoring:</b> The permittee shall perform all monitoring required under NSR Permit GCP-3-2195G.</p> <p><b>Recordkeeping:</b> The permittee shall maintain records of all standard operating procedures, records of all maintenance and/or replacement of dust control systems, and all records required under NSR Permit GCP-3-2195G, Section IV.B, and including records of actual hours of operation, records of all required monitoring, daily and weekly total asphalt production and the weekly rolling 12 month total production, number of haul truck trips daily including materials delivery and product, frequency of haul road sweeping, and copies of the applicant’s proposed maintenance requirements and records demonstrating conformance with said requirements. The permittee shall maintain records of all compliance test results for total suspended particulates (TSP), particulate matter (PM10), nitrogen oxides, carbon monoxide, and records of all opacity/visible emissions observations performed.</p> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>The Asphalt Plant does not utilize used oil as fuel, as described in Sections III, A, B, C, D, E, F, and H. Request update to language, stating that requirements regarding used oil are not applicable.</p>

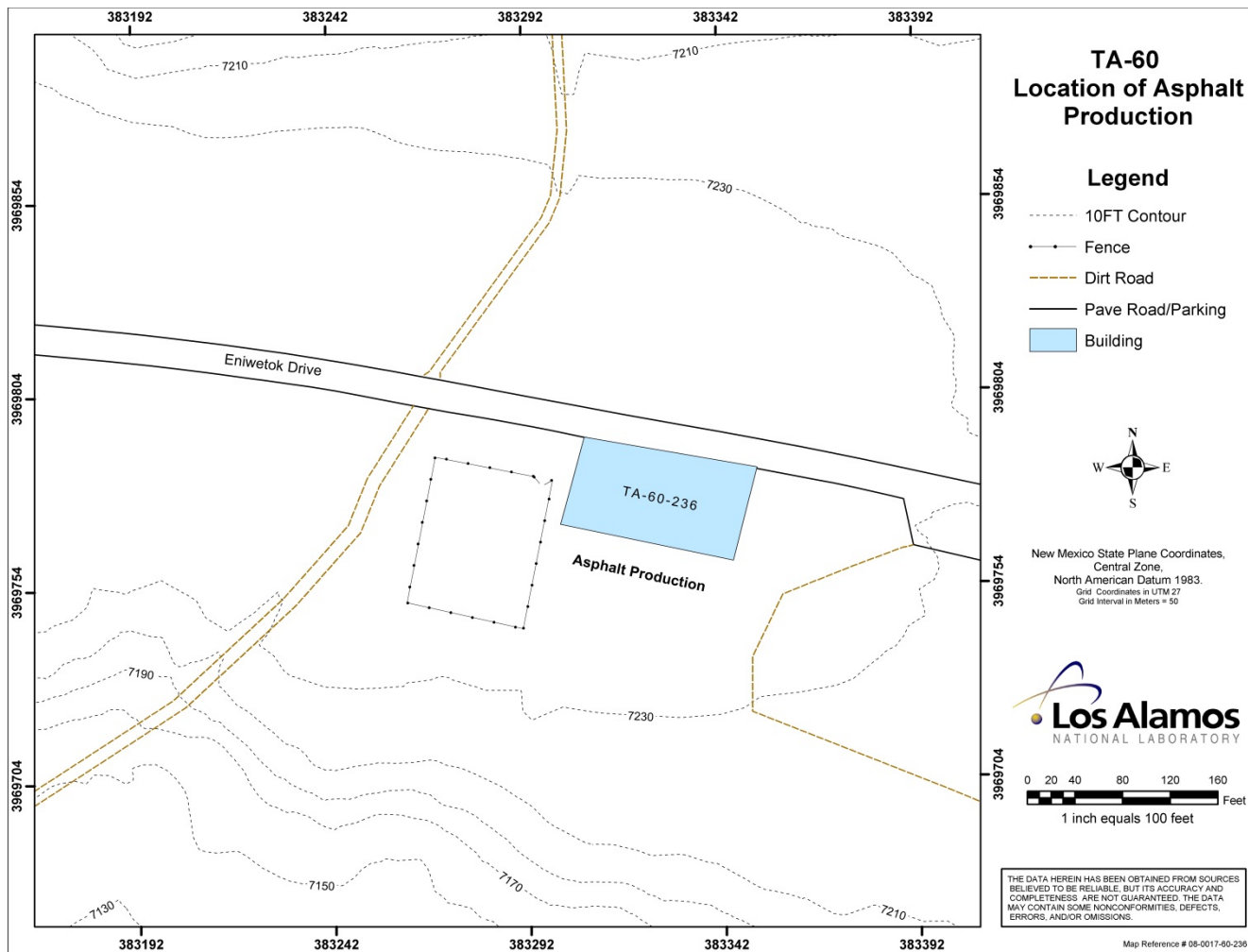
<p>G. Asphalt Plant Fugitive Dust</p> <table border="1"><tr><td data-bbox="317 224 1526 383"><p><b>Requirement:</b> Fugitive dust emissions from asphalt processing equipment, including the system used to recycle fabric filter fines, shall exhibit no more than five (5) minutes of visible emissions during any two consecutive hours. This condition does not apply to fugitive dust emissions from other support operations such as storage piles, front end loaders, or materials handling around the asphalt process equipment.</p></td></tr><tr><td data-bbox="317 383 1526 542"><p><b>Monitoring:</b> The permittee shall perform a Method 22 test at least once per month on all screens, conveyor drop points, and hoppers. The duration of the test shall be a minimum of ten (10) minutes. If visible emissions are observed for more than two (2) minutes, the Method 22 test shall continue for two (2) hours or until scheduled operation of the plant ends.</p></td></tr><tr><td data-bbox="317 542 1526 665"><p><b>Recordkeeping:</b> The permittee shall maintain records of all equipment standard operating procedures, records of all maintenance and/or replacement of dust control systems, results of all visible emissions observations, and all records required under NSR Permit GCP-3-2195G.</p></td></tr><tr><td data-bbox="317 665 1526 748"><p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p></td></tr></table>	<p><b>Requirement:</b> Fugitive dust emissions from asphalt processing equipment, including the system used to recycle fabric filter fines, shall exhibit no more than five (5) minutes of visible emissions during any two consecutive hours. This condition does not apply to fugitive dust emissions from other support operations such as storage piles, front end loaders, or materials handling around the asphalt process equipment.</p>	<p><b>Monitoring:</b> The permittee shall perform a Method 22 test at least once per month on all screens, conveyor drop points, and hoppers. The duration of the test shall be a minimum of ten (10) minutes. If visible emissions are observed for more than two (2) minutes, the Method 22 test shall continue for two (2) hours or until scheduled operation of the plant ends.</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records of all equipment standard operating procedures, records of all maintenance and/or replacement of dust control systems, results of all visible emissions observations, and all records required under NSR Permit GCP-3-2195G.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	
<p><b>Requirement:</b> Fugitive dust emissions from asphalt processing equipment, including the system used to recycle fabric filter fines, shall exhibit no more than five (5) minutes of visible emissions during any two consecutive hours. This condition does not apply to fugitive dust emissions from other support operations such as storage piles, front end loaders, or materials handling around the asphalt process equipment.</p>					
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<p><b>Recordkeeping:</b> The permittee shall maintain records of all equipment standard operating procedures, records of all maintenance and/or replacement of dust control systems, results of all visible emissions observations, and all records required under NSR Permit GCP-3-2195G.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					





Location of Asphalt Production at TA-60.

**Figure 2.1-2 Location of Asphalt Production at TA-60**



Emission Unit: TA-60-236, Asphalt Production

**Figure 2.1-3 Plot Plan for Emission Unit TA-60-236**

## 2.2 Beryllium Activities

### 2.2.1 General Description of Source Category

The Laboratory uses beryllium in numerous R&D activities because of its unique metallurgic properties. Several of these activities are regulated under the NESHAP for beryllium at 40 CFR 61 Subpart C and adopted by reference in 20.2.78 NMAC. All beryllium activities regulated under this rule are required to be included in the LANL Title V operating permit. In general, activities at LANL which fall under the rule meet the broadly defined NESHAP source categories of either *machine shop* or *foundry*.

In addition to the beryllium NESHAP requirements, newer activities also were required to obtain New Source Review permits from NMED which impose additional requirements. Older activities which pre-date the NSR permit requirement were registered under the NESHAP and hence referenced as registered beryllium sources. Over time, several beryllium sources have either closed or NMED has determined they are not an air source of beryllium and removed them from the permit.

#### Permitted Sources

**TA-3-141 Beryllium Test Facility:** This source is dedicated to beryllium R&D. Beryllium activities include beryllium machining and foundry operations. Beryllium metal and beryllium formed from powders and shaped during consolidation operations are machined. Foundry operations include melting scrap beryllium into ingots in furnaces. Other activities involving beryllium conducted at this facility include powder operations, consolidation operations, joining and coating operations, inspection operations, etching, atomizing, coating/plating, pressing, welding, non-destructive measurements, near net shape processes, and other processes to support formation of parts.

**TA-35-213 Target Fabrication Facility:** Activities include machining of small quantities of classified beryllium parts and associated cleanup activities.

**TA-55-PF4 Plutonium Facility:** Beryllium machining activities include weld cutting, weld bead dressing, and metallography. Metallographic specimen preparation includes surface cutting along with grinding. Cutting and grinding operations are conducted in a lubricant bath. Foundry operations include use of a furnace to melt beryllium. Neither the original furnace nor the replacement unit has gone into operation at the time of this application. Non-regulated activities, such as beryllium welding/brazing, compatibility studies, and impact testing, are also conducted in PF4.

## Registered Sources

**TA-3-66 Sigma Facility:** Two registered activities are conducted in this facility: beryllium electroplating/chemical milling and metallographic operations. An additional permitted machining and arc melting/casting operation is also located in the facility.

The electroplating/milling activity typically involves the removal of the surface from mechanical test specimens using acids and plating of metal onto beryllium. All activities are done in aqueous solution.

Metallographic operations involve several activities with small metallographic samples. Etching takes place through the use of chemicals or a beam from a scanning electron microscope. These activities are conducted under a vacuum with oil or are aqueous. Final polishing of metallographic specimens is performed using a wheel covered with an abrasive cloth treated with propylene glycol and/or water, which prevents beryllium particles from becoming airborne. Ion beam sputtering operations are also used to remove fine layers of surface material.

Machining operations are used to prepare small samples for metallographic observation using cutting and grinding methods. Melting and casting operations process small batch quantities of metal to form ingots for further mechanical and heat treating. These ingots may also undergo metallographic specimen preparation and other testing and quantification techniques. All activities are vented through a stack with HEPA filtration. This activity was relocated to TA-3-66 from TA-3-141 in 1996.

### 2.2.2 Operating Schedule

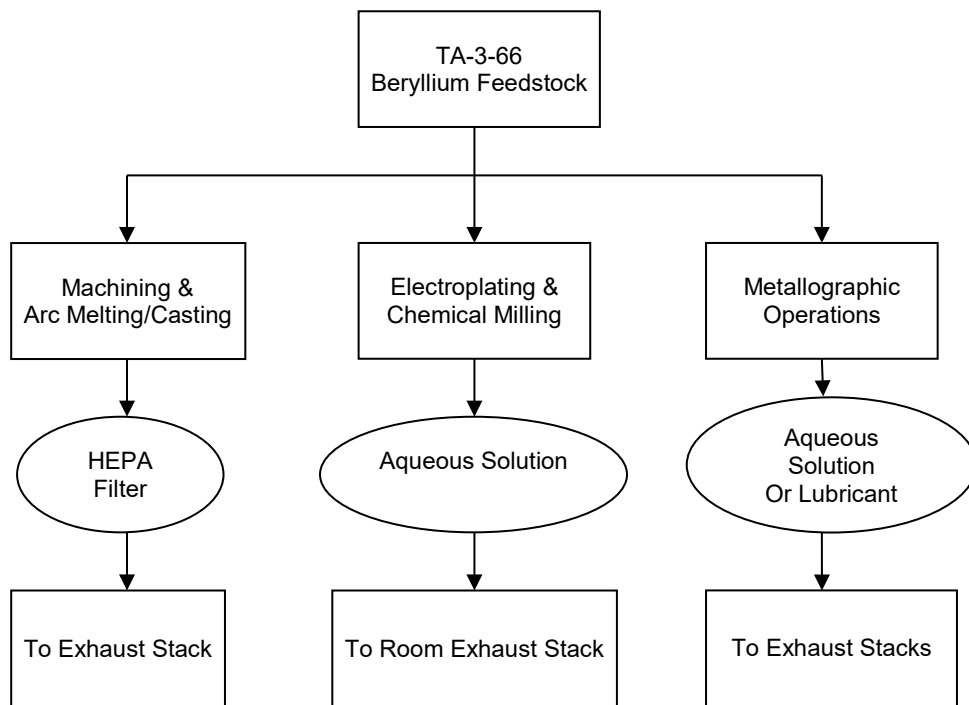
Each source has a different operating schedule, based on the needs of the particular activities conducted within the source. These operating schedules are summarized in Table 2.2-1.

**Table 2.2-1 Operating Schedules for Beryllium Activities**

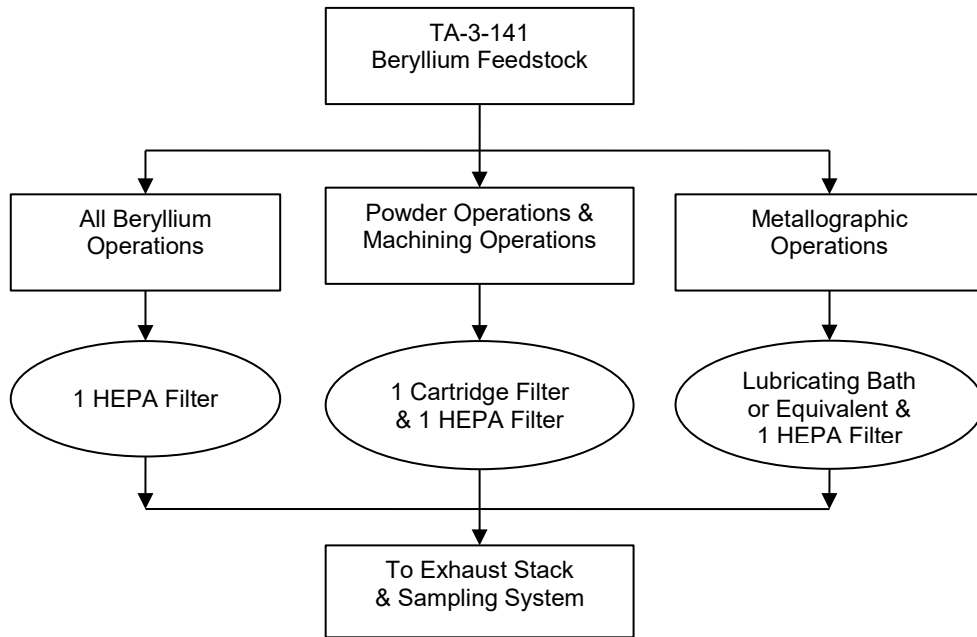
Source	Operating Schedule
TA-3-141	Normal operating schedule is 8 hours/day, 5 days/wk, 4 wks/mo and 12 mo/yr. Maximum operating schedule is twice normal conditions. Full time operations can occur for up to 30 days annually.
TA-35-213	The source has a maximum operating schedule of 8 hr/day, 5 day/wk, 4 wk/mo, and 12 mo/yr. The source has a normal operating schedule of 4 hr/day, 3 day/wk, 4 wk/mo, and 12 mo/yr.
TA-55-PF4	The source is permitted to operate 24 hr/day, 7 day/wk, and 52 wk/yr for a total of 8,760 hr/yr.
TA-3-66	Operating schedules vary among these registered sources. These sources are not subject to any permit requirements and so may operate up to 8,760 hr/yr. Historically, they have operated much less during the year.

**2.2.3 Process Flow Diagram**

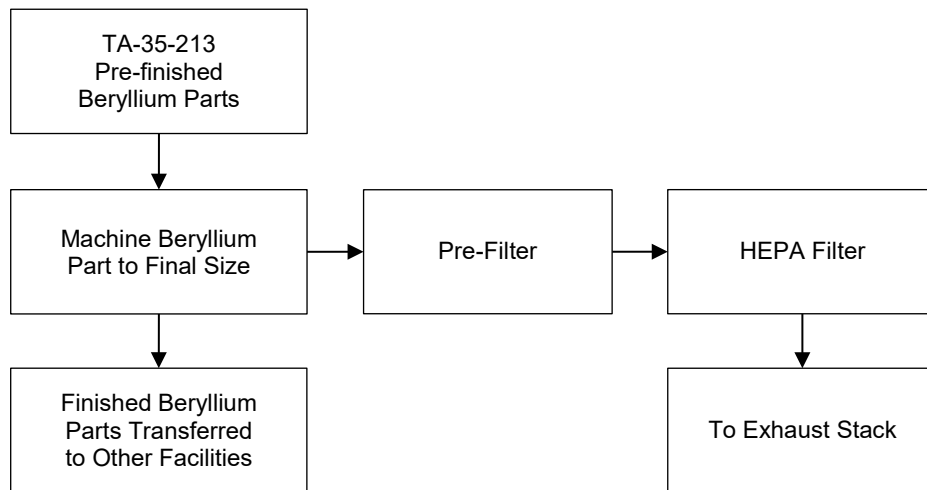
Process flow diagrams for each of the permitted sources are provided (Figures 2.2-1 to 2.2-4).



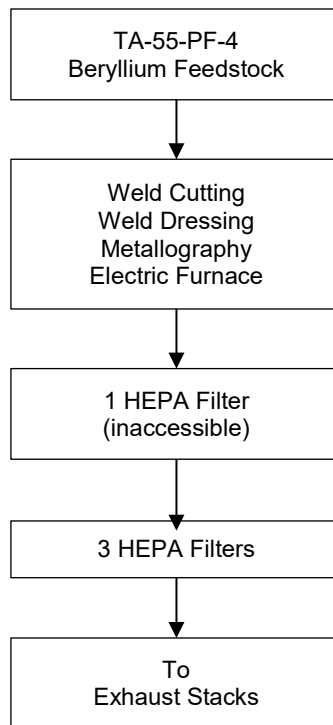
**Figure 2.2-1 Process Flow Diagram for Beryllium Activities (TA-3-66)**



**Figure 2.2-2 Process Flow Diagram for Beryllium Activities (TA-3-141)**



**Figure 2.2-3 Process Flow Diagram for Beryllium Activities (TA-35-213)**



**Figure 2.2-4 Process Flow Diagram for Beryllium Activities (TA-55-PF4)**

#### 2.2.4 Emissions

Emission estimates for permitted sources are shown in Table 2.2-2. All values shown are the current allowable emission limits contained in Permit P100-R2-M3. For activities which were processed through the New Source Review process, emission limits were derived from operation specific emission factors derived from classified process information. For the TA-3-66 registered activities, the higher estimate is the allowable emission standard from the beryllium NESHAP and is not intended to indicate actual emissions are expected to be higher from these activities.

As required by the NSR permit and Permit P100-R2M3, stack emissions at source TA-3-141 have been continuously monitored since the facility began operation. On average, there are usually one to two samples per year that show measurable emission levels above the minimum detectable concentrations. For these reasons, actual beryllium emissions from all beryllium source activities are essentially zero, noted as “less than” or “<” in LANL Title V emission reports.

**Table 2.2-2 Emissions Estimates for Beryllium Activities**

Source	Allowable Emissions Limits	
	Beryllium	Aluminum
TA-3-66	10 gm/24 hr <sup>1</sup>	Not Applicable
TA-3-141 <sup>2</sup>	0.35 gm/24 hr 3.5 gm/yr	Not Applicable
TA-35-213 <sup>3</sup>	1.8 x 10 <sup>-04</sup> gm/hr 0.36 gm/yr	Not Applicable
TA-55-PF4 <sup>4</sup>		
Machining	0.12 gm/24 hr 2.99 gm/yr	0.12 gm/24 hr 2.99 gm/yr
Foundry	3.49 x 10 <sup>-5</sup> gm/24 hr 8.73 x 10 <sup>-4</sup> gm/yr	3.49 x 10 <sup>-5</sup> gm/24 hr 8.73 x 10 <sup>-4</sup> gm/yr

<sup>1</sup> Actual emissions from registered beryllium sources are significantly lower than the standard.

<sup>2</sup> NSR Permit 634-M2

<sup>3</sup> NSR Permit 632

<sup>4</sup> NSR Permit 1081-M1-R5

**2.2.5 Emissions Control Equipment**

Emissions from all permitted and registered sources are mitigated through the use of one or more pollution control devices as shown in Table 2.2-3.

**Table 2.2-3 Emissions Control Equipment**

Source	Emissions Control Equipment
TA-3-66	Metallographic and electroplating/chemical milling operations are conducted in aqueous solution or lubricant bath. Emissions from machining and arc melting/casting operations are exhausted through a HEPA filtration system before entering the atmosphere.
TA-3-141	All processes are exhausted through a HEPA filtration system prior to entering the atmosphere. Powder operations, other than closed glovebox operations, and machining operations, other than the processes used in metallographic preparation, are exhausted through a cartridge filtration system then through the HEPA filtration system. Metallographic preparation activities are conducted in lubricating baths or equivalent.
TA-35-213	All processes are exhausted through a HEPA filtration system prior to entering the atmosphere.
TA-55-PF4	Weld cutting, weld dressing, metallography, and electric melt furnace operations are exhausted through four HEPA filters in series, each with 99.95% control efficiency.



### **2.2.6 Operational Plan**

Emissions from beryllium operations during startup and shutdown are not expected to differ from those during normal operations. The only malfunction that might result in excess emissions would be a HEPA filter failure. Monitoring conditions are in place where appropriate to track HEPA filter status.

### **2.2.7 Applicable Requirements**

Applicable requirements for beryllium activities originate from either NSR permit conditions or the beryllium NESHAP. Table 2.2-4 summarizes the current conditions in Permit P100-R2M3 and recommended changes.

### **2.2.8 Location of Beryllium Activities**

The locations of Beryllium Activities can be found in Figures 2.2-5 – 2.2-9.

**Table 2.2-4 Existing Permit Conditions for Beryllium Activities and Proposed Changes**

Existing P100-R2M3 Permit Conditions - Beryllium Activities			Proposed Changes															
<p><b>A700 Regulated Sources – Beryllium Activities</b></p> <p>A. Table 700.A lists all of the process equipment authorized for this source category. Emission units that were identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and equipment not regulated pursuant to the Act are not included.</p> <p><b>Table 700.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Location/Building</th> <th>Process Description</th> </tr> </thead> <tbody> <tr> <td>TA-3-66</td> <td>TA-3-66</td> <td>Sigma Facility – Electroplating and Chemical Milling; Metallographic Operations; and Machining and Arc Melting/Casting</td> </tr> <tr> <td>TA-3-141</td> <td>TA-3-141</td> <td>Beryllium Technology Facility</td> </tr> <tr> <td>TA-35-213</td> <td>TA-35-213</td> <td>Target Fabrication Facility</td> </tr> <tr> <td>TA-55-PF4</td> <td>TA-55-PF4</td> <td>Plutonium Facility</td> </tr> </tbody> </table>			Unit No.	Location/Building	Process Description	TA-3-66	TA-3-66	Sigma Facility – Electroplating and Chemical Milling; Metallographic Operations; and Machining and Arc Melting/Casting	TA-3-141	TA-3-141	Beryllium Technology Facility	TA-35-213	TA-35-213	Target Fabrication Facility	TA-55-PF4	TA-55-PF4	Plutonium Facility	<p>No changes.</p>
Unit No.	Location/Building	Process Description																
TA-3-66	TA-3-66	Sigma Facility – Electroplating and Chemical Milling; Metallographic Operations; and Machining and Arc Melting/Casting																
TA-3-141	TA-3-141	Beryllium Technology Facility																
TA-35-213	TA-35-213	Target Fabrication Facility																
TA-55-PF4	TA-55-PF4	Plutonium Facility																

Existing P100-R2M3 Permit Conditions - Beryllium Activities					Proposed Changes
<b>A701 Control Equipment – Beryllium Activities</b>					No changes
A. Table 701.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category. Each emission point is identified by the same number that was assigned to it in the permit application.					
<b>Table 701.A: Control Equipment List</b>					
Control Equipment Unit No. <sup>1</sup>	Location/ Building	Process Description	Pollutant being controlled	Type of Control	
TA-3-66	TA-3-66	Sigma Facility Electroplating and Chemical Milling and Metallographic Operations	Beryllium Particulate Matter	Aqueous Solution or Lubricant Bath	
		Sigma Facility Machining and Arc Melting/Casting	Beryllium Particulate Matter	HEPA Filter 99.95% Efficiency	
TA-3-141	TA-3-141	Beryllium Technology Facility	Beryllium Particulate Matter	Lubricating Bath/Cartridge Filtration System/HEPA Filter 99.95% Efficiency	
TA-35-213	TA-35-213	Target Fabrication Facility	Beryllium Particulate Matter	Pre-Filter 48% Efficiency, HEPA Filter 99.95% Efficiency	
TA-55-PF4	TA-55-PF4	Plutonium Facility	Beryllium and Aluminum Particulate Matter	4-Stage HEPA Filter 99.95% Efficiency	
<sup>1</sup> Control for unit number refers to a unit number from the Regulated Sources List					

Existing P100-R2M3 Permit Conditions - Beryllium Activities			Proposed Changes																		
<p><b>A702 Emission Limits – Beryllium Activities</b></p> <p>A. Table 702.A lists the emission units, and their allowable emission limits. (40 CFR 61, Subpart C; NSR Permits 632; 634-M2; 1081-M1, 1081M1-R1, 1081-M1-R3, 1081-M1-R5, and 1081-M1-R6)</p> <p><b>Table 702.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Source</th> <th>Beryllium Particulate Matter</th> <th>Aluminum Particulate Matter</th> </tr> </thead> <tbody> <tr> <td>Sigma Facility TA-3-66</td> <td>10 gm<sup>1</sup>/24 hr</td> <td>N/A</td> </tr> <tr> <td>Beryllium Technology Facility TA-3-141</td> <td>0.35 gm/24 hr 3.5 gm/yr</td> <td>N/A</td> </tr> <tr> <td>Target Fabrication Facility TA-35-213</td> <td>1.8 x 10<sup>-04</sup> gm/hr 0.36 gm/yr</td> <td>N/A</td> </tr> <tr> <td>Plutonium Facility TA-55-PF-4 Machining Operation</td> <td>0.12 gm/24 hr 2.99 gm/yr</td> <td>0.12 gm/24 hr 2.99 gm/y</td> </tr> <tr> <td>Plutonium Facility TA-55-PF-4 Foundry Operation</td> <td>3.49 x 10<sup>-05</sup> gm/24 hr 8.73 x 10<sup>-04</sup> gm/yr</td> <td>3.49 x 10<sup>-05</sup> gm/24 hr 8.73 x 10<sup>-04</sup> gm/y</td> </tr> </tbody> </table> <p><sup>1</sup> gm = gram</p>			Source	Beryllium Particulate Matter	Aluminum Particulate Matter	Sigma Facility TA-3-66	10 gm <sup>1</sup> /24 hr	N/A	Beryllium Technology Facility TA-3-141	0.35 gm/24 hr 3.5 gm/yr	N/A	Target Fabrication Facility TA-35-213	1.8 x 10 <sup>-04</sup> gm/hr 0.36 gm/yr	N/A	Plutonium Facility TA-55-PF-4 Machining Operation	0.12 gm/24 hr 2.99 gm/yr	0.12 gm/24 hr 2.99 gm/y	Plutonium Facility TA-55-PF-4 Foundry Operation	3.49 x 10 <sup>-05</sup> gm/24 hr 8.73 x 10 <sup>-04</sup> gm/yr	3.49 x 10 <sup>-05</sup> gm/24 hr 8.73 x 10 <sup>-04</sup> gm/y	No changes
Source	Beryllium Particulate Matter	Aluminum Particulate Matter																			
Sigma Facility TA-3-66	10 gm <sup>1</sup> /24 hr	N/A																			
Beryllium Technology Facility TA-3-141	0.35 gm/24 hr 3.5 gm/yr	N/A																			
Target Fabrication Facility TA-35-213	1.8 x 10 <sup>-04</sup> gm/hr 0.36 gm/yr	N/A																			
Plutonium Facility TA-55-PF-4 Machining Operation	0.12 gm/24 hr 2.99 gm/yr	0.12 gm/24 hr 2.99 gm/y																			
Plutonium Facility TA-55-PF-4 Foundry Operation	3.49 x 10 <sup>-05</sup> gm/24 hr 8.73 x 10 <sup>-04</sup> gm/yr	3.49 x 10 <sup>-05</sup> gm/24 hr 8.73 x 10 <sup>-04</sup> gm/y																			

Existing P100-R2M3 Permit Conditions - Beryllium Activities			Proposed Changes									
<p><b>A703 Applicable Requirements – Beryllium Activities</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 703.A.</p> <p><b>Table 703.A: Applicable Requirements</b></p> <table border="1"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>NSR Permits 632; 634-M2; 1081-M1, 1081M1-R1, 1081-M1-R3, 1081-M1-R5, and 1081-M1-R6</td> <td>X</td> <td>All Beryllium Sources Listed in Table 700.A per applicable permit</td> </tr> <tr> <td>40 CFR 61, Subpart C</td> <td>X</td> <td>All Beryllium Sources Listed in Table 700.A</td> </tr> </tbody> </table>			Applicable Requirements	Federally Enforceable	Unit No.	NSR Permits 632; 634-M2; 1081-M1, 1081M1-R1, 1081-M1-R3, 1081-M1-R5, and 1081-M1-R6	X	All Beryllium Sources Listed in Table 700.A per applicable permit	40 CFR 61, Subpart C	X	All Beryllium Sources Listed in Table 700.A	No changes
Applicable Requirements	Federally Enforceable	Unit No.										
NSR Permits 632; 634-M2; 1081-M1, 1081M1-R1, 1081-M1-R3, 1081-M1-R5, and 1081-M1-R6	X	All Beryllium Sources Listed in Table 700.A per applicable permit										
40 CFR 61, Subpart C	X	All Beryllium Sources Listed in Table 700.A										
<p><b>A704 Operational Limitations – Beryllium Activities</b></p> <p>A. The equipment/operations in this source category are authorized to operate any time during the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with its hours of operation.</p>			No changes.									

Existing P100-R2M3 Permit Conditions - Beryllium Activities				Proposed Changes
<b>A707 Other – Beryllium Activities</b>				No changes
A. Operational Requirements – Beryllium Activities				
<b>Source</b>	<b>Operating Requirements</b>	<b>Process Limits</b>	<b>Control Equipment Requirements</b>	
Sigma Facility TA-3-66	Beryllium operations will consist of registered metallographic operations, electroplating /chemical milling, and relocated machining, and arc melting/casting sources.	None	<p>Metallographic operations and electroplating/chemical milling operations shall be conducted in aqueous solution or lubricant bath.</p> <p>Emissions from machining and arc melting/casting operations shall be exhausted through a HEPA filtration system prior to entering the atmosphere.</p>	
Beryllium Technology Facility TA-3-141	The continuous emission monitor will be maintained in accordance with the Laboratory’s quality program.	Beryllium processed by the facility will not exceed 10,000 pounds per calendar year. Beryllium processed by the facility will not exceed 1000 pounds per day.	<p>All processes shall be exhausted through a HEPA filtration system prior to entering the atmosphere.</p> <p>Powder operations, other than closed glovebox operations, and machining operations, other than the processes used in metallographic preparation shall be exhausted through a cartridge filtration system then through the HEPA filtration system.</p> <p>Metallographic preparation activities shall be conducted in lubricating baths or equivalent. (NSR permit 634-M2)</p>	

Existing P100-R2M3 Permit Conditions - Beryllium Activities				Proposed Changes
<b>A707 Other – Beryllium Activities</b>				No changes
A. Operational Requirements – Beryllium Activities; <i>continued</i>				
Target Fabrication Facility TA-35-213	Beryllium operations will consist of only beryllium machining and associated cleanup activities.	None	All processes shall be exhausted through a HEPA filtration system prior to entering the atmosphere.	
Plutonium Facility TA-55-PF4	Regulated beryllium activities will be ducted through the pollution control equipment and out the north or south stack of PF-4.  (NSR Permit 1081-M1-R3, Specific Condition 1.b., partial, revised)  The electric furnace shall be enclosed in a glove box, have a maximum operating temperature of 1600 degrees centigrade, and an inside volume space less than 1.1 cubic feet.  (NSR Permit 1081-M1-R6, Specific Condition 1.d., partial, revised)	44 pounds of beryllium (20 kg) in any 24 hour period;  1100 pounds/year (500 kg/year) using a rolling total.  (NSR Permit 1081-M1-R3, Specific Condition 1.c.)	Weld cutting, weld dressing, metallography, and electric furnace operations shall be controlled with 4 HEPA filters with a control efficiency of 99.95% each.  (NSR Permit 1081-M1-R1, Condition 3, partial, revised)  The non-accessible filters shall be replaced when the pressure drop across the filter either falls to levels indicating filter breakthrough or increases to levels indicative of excessive loading.  (NSR Permit 1081-M1-R1, Condition 3, partial, revised)	

<b>Existing P100-R2M3 Permit Conditions - Beryllium Activities</b>		<b>Proposed Changes</b>										
<p>B. Emissions Monitoring Requirements – Beryllium Activities</p> <table border="1"> <thead> <tr> <th style="text-align: center;"><b>Source</b></th> <th style="text-align: center;"><b>Monitoring Requirements</b></th> </tr> </thead> <tbody> <tr> <td> <p>Sigma Facility TA-3-66</p> </td> <td> <p>A log shall be maintained during operations, which shows the number of metallographic specimens used in the metallographic operation and the weight or volume of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations.</p> </td> </tr> <tr> <td> <p>Beryllium Technology Facility TA-3-141</p> </td> <td> <p>Facility exhaust stack will be equipped with a continuous emission monitor used to measure beryllium emissions.</p> <p>Cartridge and HEPA filters shall be equipped with differential pressure gauges that measure the differential pressure across the cartridge and HEPA filters while the exhaust fans are in operation. (NSR permit 634-M2)</p> </td> </tr> <tr> <td> <p>Target Fabrication Facility TA-35-213</p> </td> <td> <p>Records of the stack emission test results (see Condition 2 of NSR Permit No. 632) and other data needed to determine total emissions shall be retained at the source and made available for inspection by the Department.</p> </td> </tr> <tr> <td> <p>Plutonium Facility TA-55-PF4</p> </td> <td> <p>The HEPA filtration systems shall be equipped with a differential pressure gauge that measures the differential pressure (inches of water) across the HEPA filters while the exhaust fans are in operation.</p> <p>(NSR Permit 1081-M1-R3, Condition 11)</p> <p>Control efficiency shall be verified by daily HEPA filter pressure drop tests and annual HEPA filter challenge tests of accessible filters.</p> <p>(NSR Permit 1081-M1-R1, Condition 3, partial, revised)</p> <p>The furnace temperature shall be continuously monitored and the flow rate from the glove box containing the furnace shall be measured once during each metal melt operation.</p> <p>(NSR Permit 1081-M1-R6, Condition 11, revised)</p> </td> </tr> </tbody> </table>		<b>Source</b>	<b>Monitoring Requirements</b>	<p>Sigma Facility TA-3-66</p>	<p>A log shall be maintained during operations, which shows the number of metallographic specimens used in the metallographic operation and the weight or volume of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations.</p>	<p>Beryllium Technology Facility TA-3-141</p>	<p>Facility exhaust stack will be equipped with a continuous emission monitor used to measure beryllium emissions.</p> <p>Cartridge and HEPA filters shall be equipped with differential pressure gauges that measure the differential pressure across the cartridge and HEPA filters while the exhaust fans are in operation. (NSR permit 634-M2)</p>	<p>Target Fabrication Facility TA-35-213</p>	<p>Records of the stack emission test results (see Condition 2 of NSR Permit No. 632) and other data needed to determine total emissions shall be retained at the source and made available for inspection by the Department.</p>	<p>Plutonium Facility TA-55-PF4</p>	<p>The HEPA filtration systems shall be equipped with a differential pressure gauge that measures the differential pressure (inches of water) across the HEPA filters while the exhaust fans are in operation.</p> <p>(NSR Permit 1081-M1-R3, Condition 11)</p> <p>Control efficiency shall be verified by daily HEPA filter pressure drop tests and annual HEPA filter challenge tests of accessible filters.</p> <p>(NSR Permit 1081-M1-R1, Condition 3, partial, revised)</p> <p>The furnace temperature shall be continuously monitored and the flow rate from the glove box containing the furnace shall be measured once during each metal melt operation.</p> <p>(NSR Permit 1081-M1-R6, Condition 11, revised)</p>	<p>No Changes</p>
<b>Source</b>	<b>Monitoring Requirements</b>											
<p>Sigma Facility TA-3-66</p>	<p>A log shall be maintained during operations, which shows the number of metallographic specimens used in the metallographic operation and the weight or volume of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations.</p>											
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Existing P100-R2M3 Permit Conditions - Beryllium Activities		Proposed Changes
C. Recordkeeping Requirements – Beryllium Activities		No changes
<b>Source</b>	<b>Recordkeeping Requirements</b>	
Sigma Facility TA-3-66	Recordkeeping for this source is specified in Condition A707.B.	
Beryllium Technology Facility TA-3-141	Generate and maintain beryllium inventory records to demonstrate compliance with the 10,000 pounds of beryllium per calendar year and the 1000 pounds of beryllium per day processing limit.  Record pressure drop across the cartridge and HEPA filters once per day that the exhaust fans are in operation and the facility is occupied.  Record control equipment maintenance and repair activities. (NSR permit 634-M2)	
Target Fabrication Facility TA-35-213	Recordkeeping for this source is specified in Condition A707.B.	

<b>Existing P100-R2M3 Permit Conditions - Beryllium Activities</b>		<b>Proposed Changes</b>
<p>Plutonium Facility TA-55-PF4</p>	<p>Stack emission test results and facility operating parameters including a daily record of the pressure drop measured across each appropriate HEPA plenum filtration stage, when the exhaust fans are operating. (NSR Permit 1081-M1-R3, Condition 9, partial, revised)</p> <p>A copy of the annual HEPA test, a log of the daily pressure drop readings and a control equipment maintenance log shall be kept. This documentation shall be provided upon request. (NSR Permit 1081-M1-R1, Condition 3, partial, revised)</p> <p>A log of the filter replacement shall be kept and made available to Department personnel upon request. (NSR Permit 1081-M1-R1, Condition 3, partial, revised)</p> <p>The permittee shall keep records of the number and weight of classified parts processed during a 24-hour period and year using a rolling total. Records shall be made available to properly cleared Department personnel upon request. (NSR Permit 1081-M1-R3, Condition 9, partial, revised)</p> <p>The permittee shall for each use of the furnace record the following operating parameters: metal type, theoretical melting point of the metal, metal melt duration once melting is commenced, maximum furnace temperature and glove box flow rate. (NSR Permit 1081-M1-R6, Condition 9, partial, revised)</p> <p>A record of the furnace's internal volume shall be maintained at the facility. (NSR Permit 1081-M1-R6, Condition 9, partial, revised)</p>	<p>No changes</p>

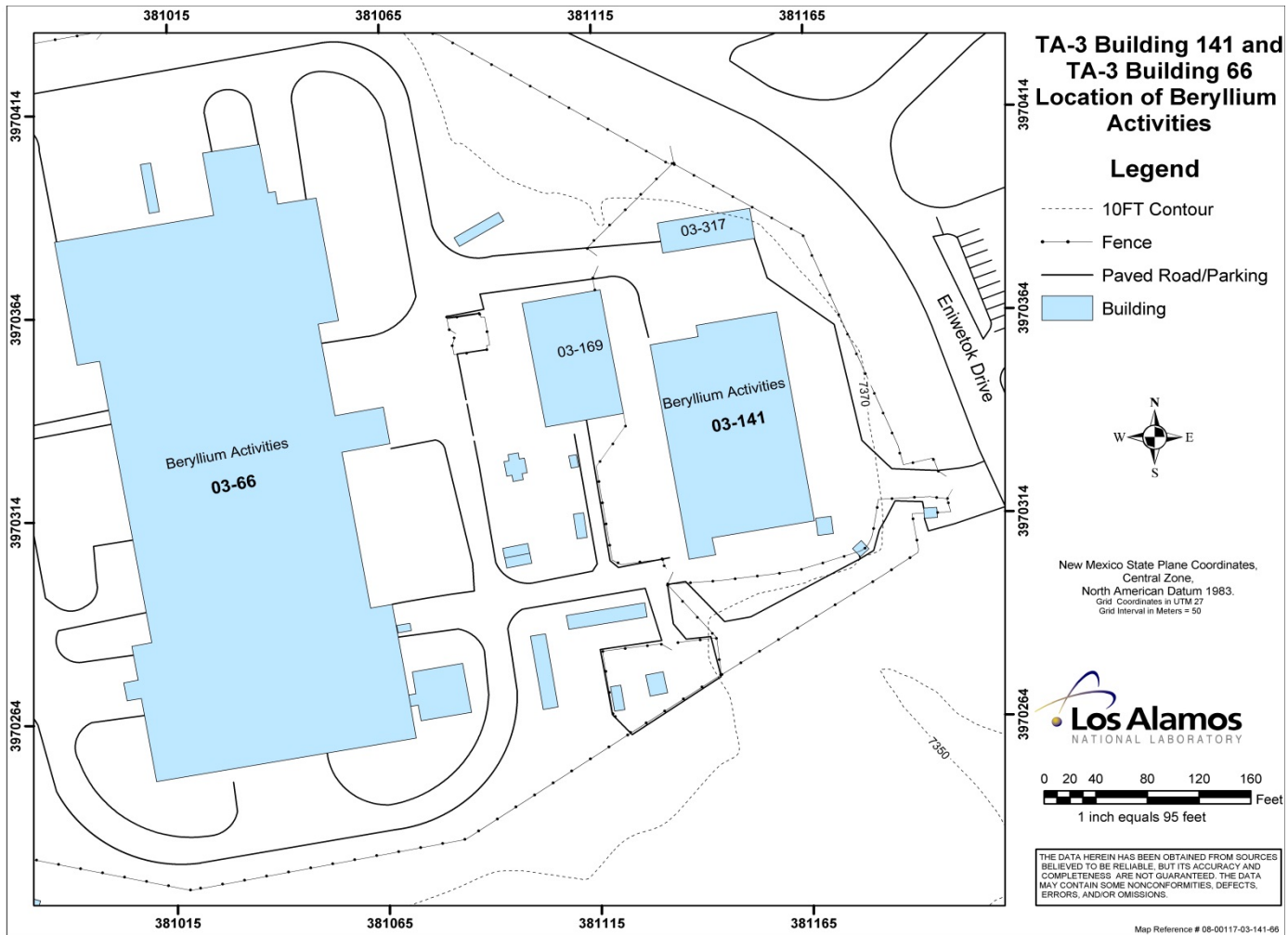
Existing P100-R2M3 Permit Conditions - Beryllium Activities		Proposed Changes
D. Reporting Requirements – Beryllium Activities		No changes
Source	Reporting Requirements	
Sigma Facility TA-3-66	The permittee shall reports described in Section A109 and in accordance with Section B110.	
Beryllium Technology Facility TA-3-141	<p>Anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date.</p> <p>Actual date of initial startup of each new or modified source within fifteen (15) days after the startup date.</p> <p>Provide 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.</p> <p>Notify the Department within 60 days after each calendar quarter of the facility's compliance status with the permitted emission rate from the continuous monitoring system.</p> <p>Provide any data generated by activities described in the Quality Assurance Project Plan (QAPP) that will assist the Air Quality Bureau's Enforcement Section in determining the reliability of the methodology used for demonstrating compliance with the permitted emission rate within 45 days of such a request.</p> <p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	

Existing P100-R2M3 Permit Conditions - Beryllium Activities		Proposed Changes				
<p>D. Reporting Requirements – Beryllium Activities; <i>continued</i></p> <table border="1" style="width: 100%;"> <tr> <td style="width: 25%;"> <p>Target Fabrication Facility TA-35-213</p> </td> <td> <p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> <tr> <td> <p>Plutonium Facility TA-55-PF4</p> </td> <td> <p>Stack emission test results and facility operating parameters will be made available to Department personnel upon request.</p> <p>Reports may be required to be submitted to the Department if inspections of the source indicate noncompliance with this permit or as a means of determining compliance.</p> <p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>		<p>Target Fabrication Facility TA-35-213</p>	<p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Plutonium Facility TA-55-PF4</p>	<p>Stack emission test results and facility operating parameters will be made available to Department personnel upon request.</p> <p>Reports may be required to be submitted to the Department if inspections of the source indicate noncompliance with this permit or as a means of determining compliance.</p> <p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes</p>
<p>Target Fabrication Facility TA-35-213</p>	<p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p>Plutonium Facility TA-55-PF4</p>	<p>Stack emission test results and facility operating parameters will be made available to Department personnel upon request.</p> <p>Reports may be required to be submitted to the Department if inspections of the source indicate noncompliance with this permit or as a means of determining compliance.</p> <p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					



Location of Beryllium Activity at TA-3.

**Figure 2.2-5 Location of Beryllium Activities at TA-3**



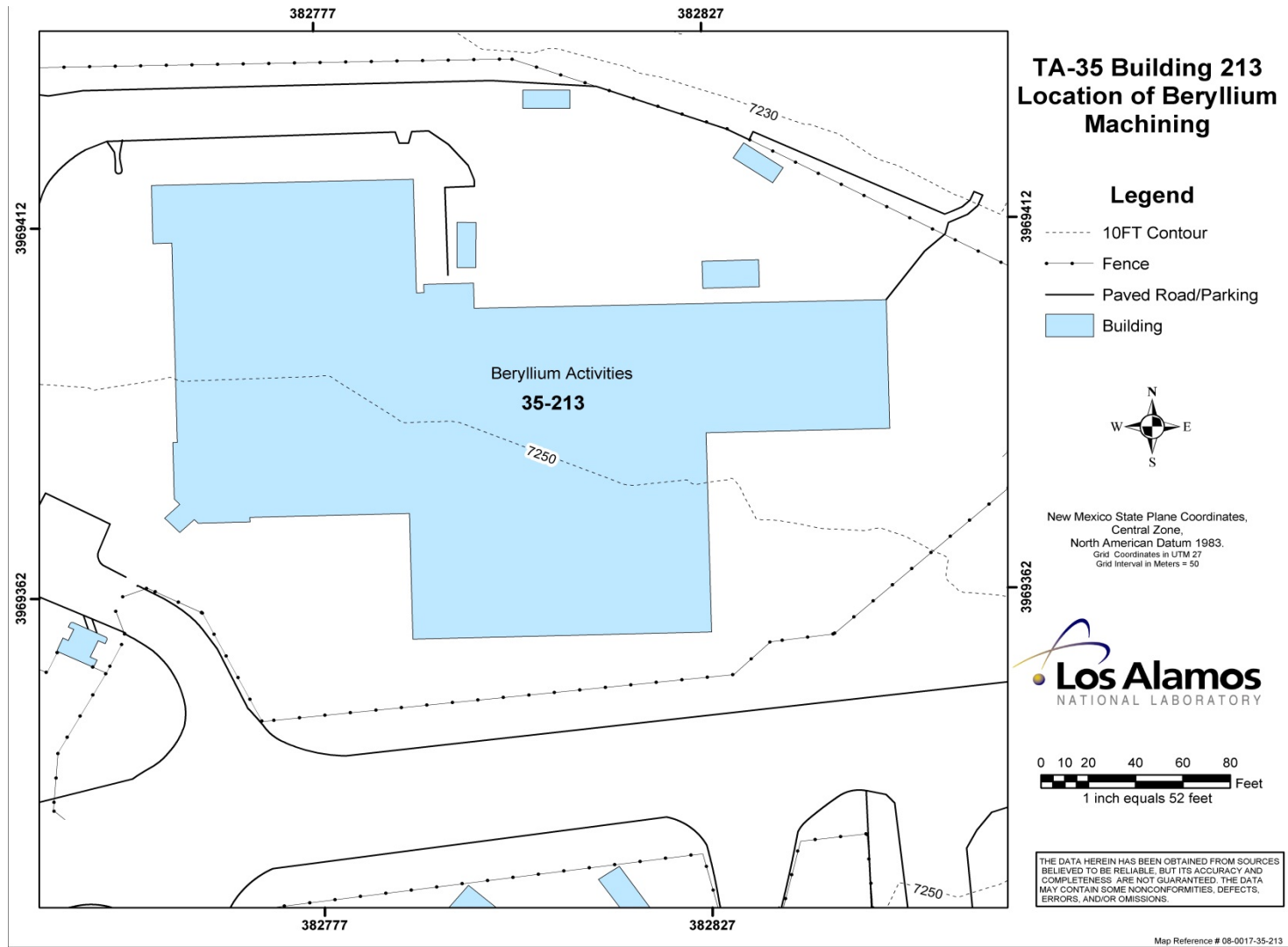
Emission Units: TA-3-141 and TA-3-66, Beryllium Activities.

**Figure 2.2-6 Location of Emission Units TA-3-141 and TA-3-66, Beryllium Activities**



Location of Beryllium Activities at TA-55 and TA-35.

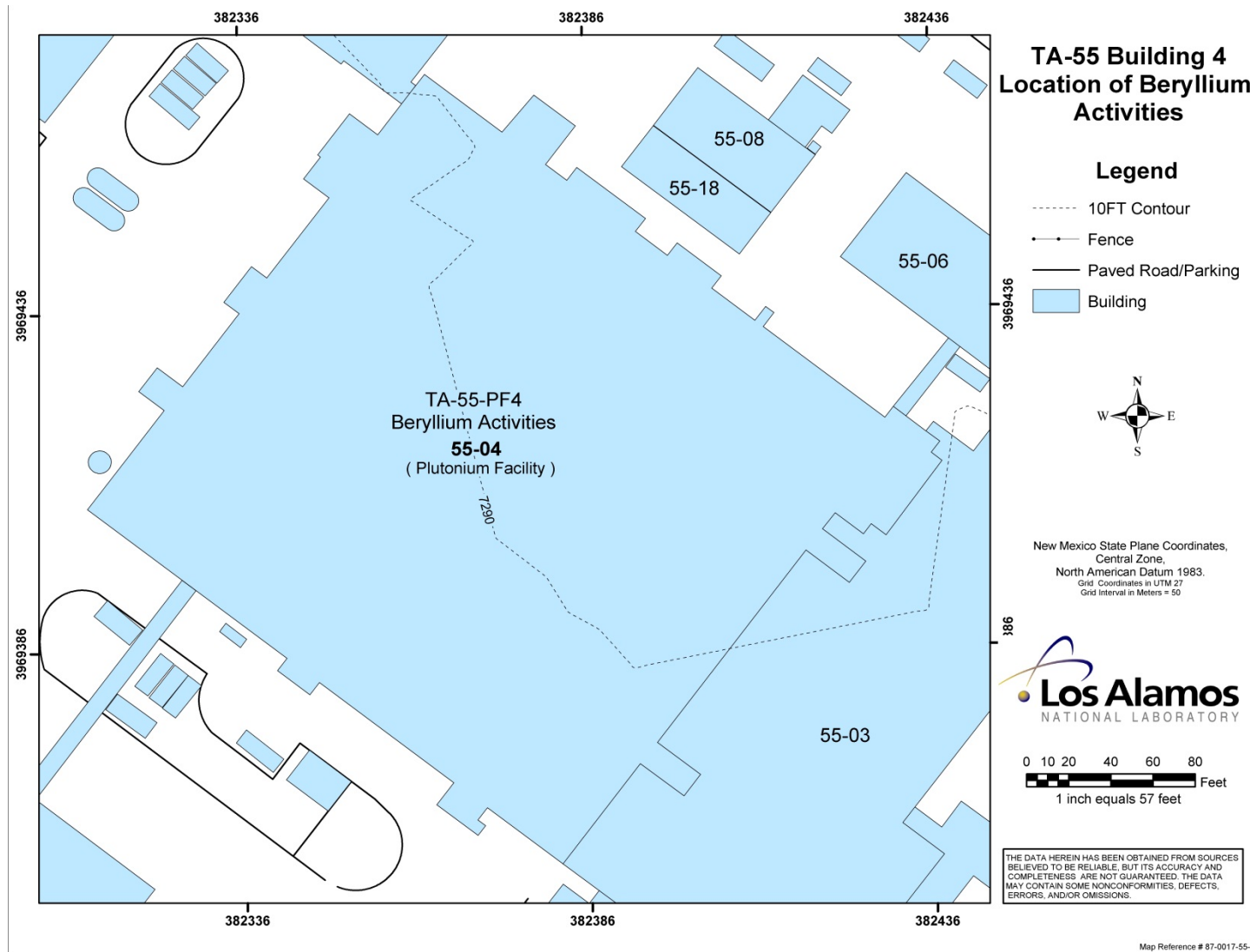
**Figure 2.2-7 Location of Beryllium Activities at TA-55 and TA-35**



Emission Units: TA-35-213, Beryllium Activities.

**Figure 2.2-8 Location of Emission Unit TA-35-213, Beryllium Activities**





Emission Unit: TA-55-PF4, Beryllium Activities.

**Figure 2.2-9 Location of Emission Unit TA-55-PF4, Beryllium Activities**

## 2.3 Boilers and Heaters

### 2.3.1 General Description of Source Category

LANL maintains and operates many small natural-gas-fired boilers, personal comfort heaters and furnaces, personal use water heaters, and combined comfort heating, ventilation, and air conditioning (HVAC) units with small gas heaters. There are approximately 235 boilers that range in size from 0.02 MMBtu/hr to 14.6 MMBtu/hr for the maximum nameplate heat input capacity. There are numerous small furnaces, heaters, and HVAC units in addition to the boilers with an average size range of less than 0.5 MMBtu/hr. The majority of boilers, and all furnaces and heaters, are used solely to provide comfort heating and hot water for personal use. Three larger boilers that are not included here are located at the TA-3 Power Plant and are discussed in Section 2.8.

Because LANL is located at a high elevation, the boilers do not operate at nameplate capacity. The maximum heat input capacity, derated for altitude, is referred to as the design rate. For atmospheric boilers, the design rate reflects a 30% decrease in input rating consistent with the LANL Engineering Standards Manual specification for this altitude (derate 4% for each 1,000 feet above sea level at an average elevation of 7,500 feet). For forced draft boilers, the design rate reflects an assumed 15% decrease in input rating .

More than 80% of the LANL boilers operate on a seasonal basis. The boilers that operate seasonally are mainly those used to provide comfort space heat and to keep water tanks and cooling towers from freezing. The majority of insignificant boilers at LANL are less than 5 MMBtu/hr in size, with only two insignificant boilers greater than 5 MMBtu/hr heat input.

A summary description of boiler size ranges and functions are provided in Table 2.3-1. As shown in Table 2.3-1, most of the boilers qualify as insignificant emissions units under NMED Title V operating permit requirements.

There are ten gas-fired boilers that do not meet the insignificant emission unit criteria established by NMED. Each of the ten boilers are currently within Permit P100-R2M3. These boilers are listed in Table 2.3-2.

Heaters and furnaces are used solely to provide either hot water for personal use or building heat for personal comfort. All heaters and furnaces have a design rate less than or equal to 5 MMBtu/hr and qualify for insignificant activity #3 in the NMED insignificant activity list.

**Table 2.3-1 Miscellaneous Boiler Summary Description**

Percentage of Boilers Within Category	Approximate Sum of Design Ratings for Category (MMBtu/hr)	Functional Category	Status <sup>1</sup>
93.6	254.2	Comfort Heat	NMED Insignificant Activity #3
1.0	10.6	Comfort and Process Heat	NMED Insignificant Activity #1
1.3	2.4	Comfort and Process Heat	Electric powered boilers, not regulated
4.3	90	Comfort and/or Process Heat	Non-Exempt

<sup>1</sup> NMED List of Insignificant Activities, March 24, 2005.

**Table 2.3-2 List of Non-Exempt Boilers**

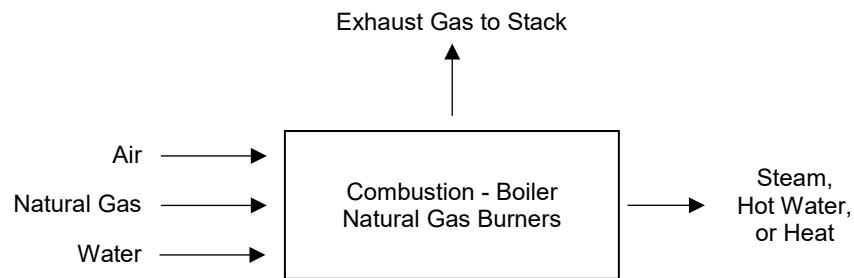
Location (Technical Area-Building)	Emission Unit No.	Equipment ID (Manufacturer/ Model No.)	Maximum and Design Input Rating (MMBtu/hr)	Air Pollution Control System
TA-16-1484	TA-16-1484-BS-1	Sellers/183H.P.-SH-LN390	7.47/6.35	Low-NO <sub>x</sub>
TA-16-1484	TA-16-1484-BS-2	Sellers/183H.P.-SH-LN390	7.47/6.35	Low-NO <sub>x</sub>
TA-53-365	TA-53-365-BHW-1	Sellers/15 Seniors-2-200-w	8.37/7.11	None
TA-53-365	TA-53-365-BHW-2	Sellers/15 Seniors-2-200-w	8.37/7.11	None
TA-55-6	TA-55-6-BHW-1	Sellers/350H.P.-W-LN490	14.6/12.4	Low-NO <sub>x</sub>
TA-55-6	TA-55-6-BHW-2	Sellers/350H.P.-W-LN490	14.6/12.4	Low-NO <sub>x</sub>
TA-55-440	RLUOB-BHW-1	Unilux/ZF1100W	11.0/9.35	Low-NO <sub>x</sub>
TA-55-440	RLUOB-BHW-2	Unilux/ZF1100W	11.0/9.35	Low-NO <sub>x</sub>
TA-55-440	RLUOB-BHW-3	Unilux/ZF1100W	11.0/9.35	Low-NO <sub>x</sub>
TA-55-440	RLUOB-BHW-4	TBD	11.0/9.35	Low-NO <sub>x</sub>

**2.3.2 Operating Schedule**

The majority of the boilers, furnaces, and heaters at LANL operate seasonally. The typical heating season starts at the beginning of October and ends mid-May. During the heating season, the units can operate continuously. The process boilers operate as needed.

**2.3.3 Process Flow Diagram**

A general process flow diagram for an external combustion unit is provided in Figure 2.3-1.



**Figure 2.3-1 Process Flow Diagram for Boilers and Heaters**

**2.3.4 Emissions**

Combustion of natural gas in boilers and heaters generates emissions of criteria pollutants (NO<sub>x</sub>, CO, SO<sub>2</sub>, PM, VOCs) and small quantities of HAPs. Emission estimates are shown in Table 2.3-3. The values shown represent the maximum controlled emissions considering current enforceable fuel restrictions. The emission estimates do not take credit for any reduction in NO<sub>x</sub> emissions due to low-NO<sub>x</sub> burners, which are present on some boilers.

**Table 2.3-3 Maximum Emissions Estimates for Miscellaneous Boilers and Heaters**

Criteria Pollutant	Total (tpy)
NO <sub>x</sub>	62.9
CO	44.4
SO <sub>x</sub>	2.4
TSP PM <sub>10</sub> , or PM <sub>2.5</sub>	4.5
VOC	8.0
HAP	1.2

<sup>1</sup> These emission rates are the sum of the insignificant small boilers and heaters (870 MMscf/yr) and the emission rates of the 10 permitted individual boilers.

### **2.3.5 Emissions Control Equipment**

The primary air pollutant from gas-fired boilers is NO<sub>x</sub>. The LANL Engineering Standards Manual requires new boilers to be equipped with low-NO<sub>x</sub> burners. Low-NO<sub>x</sub> burners reduce NO<sub>x</sub> emissions by staging the combustion process, which partially delays combustion. This results in reduced flame temperatures and suppressed NO<sub>x</sub> formation. A NO<sub>x</sub> reduction of approximately 67% is achieved with this type of burner. Eight of the ten LANL permitted boilers are equipped with low-NO<sub>x</sub> technology.

### **2.3.6 Operational Plan**

The majority of boilers and heaters at LANL operate seasonally during cold weather months. During this operational period, the units start up and shut down automatically in response to heating demand. Typically, the systems are always operating at some level during the heating season until they are shut down in the spring. Startups and shutdowns are minimal and emissions at those times are not expected to differ substantially from steady-state emissions. The units are checked periodically during the heating season to ensure proper operation. Routine and preventive maintenance are performed during the warm weather months.

### **2.3.7 Applicable Requirements**

Existing applicable requirements currently in permit P100-R2M3, which apply to the miscellaneous boilers and heaters, are listed in Table 2.3-4. Any proposed changes to these conditions are noted also in the table.

### **2.3.8 Locations and Plot Plans for Boilers and Heaters**

The locations and plot plans for permitted boilers can be found in Figures 2.3-2 through 2.3-9.

**Table 2.3-4 Existing Permit Conditions for Boilers and Heaters and Proposed Changes**

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters					Proposed Changes
<b>A800 Regulated Sources – External Combustion</b>					No changes.
A. Table 800.A lists all of the process equipment authorized for this source category.					
<b>Table 800.A: Regulated Sources List</b>					
Emission Unit	Location/ Building	Manufacturer/Model/ Serial Number	Date of Construction, Modification, or Reconstruction <sup>1</sup>	Maximum Heat Input (nameplate) <sup>2</sup> MMBtu/hr	
TA-16-1484-BS-1	TA-16-1484	Sellers/183H.P.-SH-LN390 S/N 100848-B	1995	7.47	
TA-16-1484-BS-2	TA-16-1484	Sellers/183H.P.-SH-LN390 S/N 100848-A	1995	7.47	
TA-53-365-BHW-1	TA-53-365	Sellers/15 Seniors-2-200-w S/N 99031-1	1988	8.37	
TA-53-365-BHW-2	TA-53-365	Sellers/15 Seniors-2-200-w S/N 99031-2	1988	8.37	
TA-55-6-BHW-1	TA-55-6	Sellers/350 H.P. W-LN490 S/N 101319-B	2001	14.6	
<sup>1</sup> Construction, Modification, or Reconstruction as defined according to 40 CFR 60. <sup>2</sup> Emission estimates from these units shall be based on the maximum heat input rating, derated for altitude. <sup>3</sup> Emission units in this table are all boilers.					

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters				Proposed Changes																																												
<p><b>A801 Control Equipment – External Combustion</b></p> <p>A. Table 801.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category. Each emission point is identified by the same number that was assigned to it in the permit application.</p> <p><b>Table 801.A: Control Equipment List</b></p> <table border="1"> <thead> <tr> <th>Control Equipment Unit No.<sup>1</sup></th> <th>Location/Building</th> <th>Control Description</th> <th>Pollutant being controlled</th> </tr> </thead> <tbody> <tr> <td>TA-16-1484-BS-1</td> <td>TA-16-1484</td> <td>Low-NO<sub>x</sub> Burner</td> <td>NO<sub>x</sub></td> </tr> <tr> <td>TA-16-1484-BS-2</td> <td>TA-16-1484</td> <td>Low-NO<sub>x</sub> Burner</td> <td>NO<sub>x</sub></td> </tr> <tr> <td>TA-53-365-BHW-1</td> <td>TA-53-365</td> <td>none</td> <td>none</td> </tr> <tr> <td>TA-53-365-BHW-2</td> <td>TA-53-365</td> <td>none</td> <td>none</td> </tr> <tr> <td>TA-55-6-BHW-1</td> <td>TA-55-6</td> <td>Low-NO<sub>x</sub> Burner</td> <td>NO<sub>x</sub></td> </tr> <tr> <td>TA-55-6-BHW-2</td> <td>TA-55-6</td> <td>Low-NO<sub>x</sub> Burner</td> <td>NO<sub>x</sub></td> </tr> <tr> <td>RLUOB-BHW-1</td> <td>TA-55-440</td> <td>Low-NO<sub>x</sub> Burner<sup>2</sup></td> <td>NO<sub>x</sub></td> </tr> <tr> <td>RLUOB-BHW-2</td> <td>TA-55-440</td> <td>Low-NO<sub>x</sub> Burner</td> <td>NO<sub>x</sub></td> </tr> <tr> <td>RLUOB-BHW-3</td> <td>TA-55-440</td> <td>Low-NO<sub>x</sub> Burner</td> <td>NO<sub>x</sub></td> </tr> <tr> <td>RLUOB-BHW-4</td> <td>TA-55-440</td> <td>Low-NO<sub>x</sub> Burner</td> <td>NO<sub>x</sub></td> </tr> </tbody> </table> <p><sup>1</sup> Control for unit number refers to a unit number from the Regulated Sources List  <sup>2</sup> Low-NO<sub>x</sub> burners are required for Units CMRR-BHW-1 through -4 by NSR Permit 2195N-R2, Specific Condition 1.f.</p>				Control Equipment Unit No. <sup>1</sup>	Location/Building	Control Description	Pollutant being controlled	TA-16-1484-BS-1	TA-16-1484	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>	TA-16-1484-BS-2	TA-16-1484	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>	TA-53-365-BHW-1	TA-53-365	none	none	TA-53-365-BHW-2	TA-53-365	none	none	TA-55-6-BHW-1	TA-55-6	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>	TA-55-6-BHW-2	TA-55-6	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>	RLUOB-BHW-1	TA-55-440	Low-NO <sub>x</sub> Burner <sup>2</sup>	NO <sub>x</sub>	RLUOB-BHW-2	TA-55-440	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>	RLUOB-BHW-3	TA-55-440	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>	RLUOB-BHW-4	TA-55-440	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>	<p>No changes.</p>
Control Equipment Unit No. <sup>1</sup>	Location/Building	Control Description	Pollutant being controlled																																													
TA-16-1484-BS-1	TA-16-1484	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>																																													
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RLUOB-BHW-2	TA-55-440	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>																																													
RLUOB-BHW-3	TA-55-440	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>																																													
RLUOB-BHW-4	TA-55-440	Low-NO <sub>x</sub> Burner	NO <sub>x</sub>																																													

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters							Proposed Changes														
<p><b>A802 Emission Limits – External Combustion</b></p> <p>B. Table 802.A lists specific emission units and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 40 CFR 60, Subpart Dc).</p> <p><b>Table 802.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>NO<sub>x</sub> tpy<sup>1</sup></th> <th>CO tpy</th> <th>VOC tpy</th> <th>SO<sub>2</sub> tpy</th> <th>TSP tpy</th> <th>PM<sub>10</sub> tpy</th> </tr> </thead> <tbody> <tr> <td>Combined annual emissions for all units listed in Table 800.A <sup>2</sup></td> <td>80.0</td> <td>80.0</td> <td>50.0</td> <td>50.0</td> <td>50.0</td> <td>50.0</td> </tr> </tbody> </table> <p><sup>1</sup> Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO<sub>2</sub>.  <sup>2</sup> Excludes TA-3-22 Power Plant addressed in Section A1300.</p>							Unit No.	NO <sub>x</sub> tpy <sup>1</sup>	CO tpy	VOC tpy	SO <sub>2</sub> tpy	TSP tpy	PM <sub>10</sub> tpy	Combined annual emissions for all units listed in Table 800.A <sup>2</sup>	80.0	80.0	50.0	50.0	50.0	50.0	<p>In Table 802.A, under the "Unit No." column, change language to read, "Combined annual emissions for all boilers and heaters". This language reflects what was in the P100R1 version of this permit issued on August 7, 2009. LANL reports emissions of all insignificant boilers and heaters.</p>
Unit No.	NO <sub>x</sub> tpy <sup>1</sup>	CO tpy	VOC tpy	SO <sub>2</sub> tpy	TSP tpy	PM <sub>10</sub> tpy															
Combined annual emissions for all units listed in Table 800.A <sup>2</sup>	80.0	80.0	50.0	50.0	50.0	50.0															



Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters														Proposed Changes																																																																																																																																																																						
<p>A. Table 802.B lists specific emission units and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 40 CFR 60, Subpart Dc; NSR Permit 2195N-R2)</p> <p><b>Table 802.B: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>NO<sub>x</sub><sup>1</sup> pph</th> <th>NO<sub>x</sub> tpy</th> <th>CO pph</th> <th>CO tpy</th> <th>VOC pph</th> <th>VOC tpy</th> <th>SO<sub>2</sub> pph</th> <th>SO<sub>2</sub> tpy</th> <th>TSP pph</th> <th>TSP tpy</th> <th>PM<sub>10</sub> pph</th> <th>PM<sub>10</sub> tpy</th> <th>PM<sub>2.5</sub> pph</th> <th>PM<sub>2.5</sub> tpy</th> </tr> </thead> <tbody> <tr> <td>RLUOB-BHW-1 (GAS)</td> <td>0.7</td> <td>2.9</td> <td>1.1</td> <td>4.8</td> <td>--<sup>2</sup></td> <td>--</td> <td>0.1</td> <td>0.3</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> </tr> <tr> <td>RLUOB-BHW-1 (OIL)</td> <td>1.6</td> <td></td> <td>0.5</td> <td></td> <td>--</td> <td>--</td> <td>5.8</td> <td></td> <td>0.3</td> <td></td> <td>0.2</td> <td></td> <td>0.2</td> <td></td> </tr> <tr> <td>RLUOB-BHW-2 (GAS)</td> <td>0.7</td> <td>2.9</td> <td>1.1</td> <td>4.8</td> <td>--</td> <td>--</td> <td>0.1</td> <td>0.3</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> </tr> <tr> <td>RLUOB-BHW-2 (OIL)</td> <td>1.6</td> <td></td> <td>0.5</td> <td></td> <td>--</td> <td>--</td> <td>5.8</td> <td></td> <td>0.3</td> <td></td> <td>0.2</td> <td></td> <td>0.2</td> <td></td> </tr> <tr> <td>RLUOB-BHW-3 (GAS)</td> <td>0.7</td> <td>2.9</td> <td>1.1</td> <td>4.8</td> <td>--</td> <td>--</td> <td>0.1</td> <td>0.3</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> </tr> <tr> <td>RLUOB-BHW-3 (OIL)</td> <td>1.6</td> <td></td> <td>0.5</td> <td></td> <td>--</td> <td>--</td> <td>5.8</td> <td></td> <td>0.3</td> <td></td> <td>0.2</td> <td></td> <td>0.2</td> <td></td> </tr> <tr> <td>RLUOB-BHW-4 (GAS)</td> <td>0.7</td> <td>2.9</td> <td>1.1</td> <td>4.8</td> <td>--</td> <td>--</td> <td>0.1</td> <td>0.3</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> <td>0.1</td> <td>0.4</td> </tr> <tr> <td>RLUOB-BHW-4 (OIL)</td> <td>1.6</td> <td></td> <td>0.5</td> <td></td> <td>--</td> <td>--</td> <td>5.8</td> <td></td> <td>0.3</td> <td></td> <td>0.2</td> <td></td> <td>0.2</td> <td></td> </tr> <tr> <td>All boilers – Oil<sup>4</sup></td> <td>N/A</td> <td>2.9</td> <td>N/A</td> <td>0.9</td> <td>--</td> <td>--</td> <td>N/A</td> <td>10.4</td> <td>N/A</td> <td>0.5</td> <td>N/A</td> <td>0.3</td> <td>N/A</td> <td>0.3</td> </tr> <tr> <td>Combined Total<sup>3</sup></td> <td></td> <td>14.5</td> <td></td> <td>20.1</td> <td></td> <td>--</td> <td></td> <td>11.6</td> <td></td> <td>2.1</td> <td></td> <td>1.9</td> <td></td> <td>1.9</td> </tr> </tbody> </table>														Unit No.	NO <sub>x</sub> <sup>1</sup> pph	NO <sub>x</sub> tpy	CO pph	CO tpy	VOC pph	VOC tpy	SO <sub>2</sub> pph	SO <sub>2</sub> tpy	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy	PM <sub>2.5</sub> pph	PM <sub>2.5</sub> tpy	RLUOB-BHW-1 (GAS)	0.7	2.9	1.1	4.8	-- <sup>2</sup>	--	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4	RLUOB-BHW-1 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2		RLUOB-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	RLUOB-BHW-2 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2		RLUOB-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	RLUOB-BHW-3 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2		RLUOB-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	RLUOB-BHW-4 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2		All boilers – Oil <sup>4</sup>	N/A	2.9	N/A	0.9	--	--	N/A	10.4	N/A	0.5	N/A	0.3	N/A	0.3	Combined Total <sup>3</sup>		14.5		20.1		--		11.6		2.1		1.9		1.9	No changes.	
Unit No.	NO <sub>x</sub> <sup>1</sup> pph	NO <sub>x</sub> tpy	CO pph	CO tpy	VOC pph	VOC tpy	SO <sub>2</sub> pph	SO <sub>2</sub> tpy	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy	PM <sub>2.5</sub> pph	PM <sub>2.5</sub> tpy																																																																																																																																																																						
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<p><sup>1</sup> Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO<sub>2</sub></p> <p><sup>2</sup> The "--" symbol indicates a value that was considered negligible and not permitted under NSR 2195N-R2.</p> <p><sup>3</sup> The annual tpy combined emission totals represent enforceable emission limit caps for all 4 boilers combined, fired with any combination of allowed fuel types.</p> <p><sup>4</sup> Tpy emission cap for any combination of oil fired boilers.</p>																																																																																																																																																																																				

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters		Proposed Changes												
<p><b>A803 Applicable Requirements – External Combustion</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 803.A.</p> <p><b>Table 803.A: Applicable Requirements</b></p> <table border="1"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>NSR Permit 2195N-R2</td> <td>X</td> <td>RLUOB-BHW-1 through -4</td> </tr> <tr> <td>20.2.61 NMAC Smoke and Visible Emissions</td> <td>X</td> <td>All combustion sources</td> </tr> <tr> <td>40 CFR 60, Subpart Dc</td> <td>X</td> <td>TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1 through -4</td> </tr> </tbody> </table>		Applicable Requirements	Federally Enforceable	Unit No.	NSR Permit 2195N-R2	X	RLUOB-BHW-1 through -4	20.2.61 NMAC Smoke and Visible Emissions	X	All combustion sources	40 CFR 60, Subpart Dc	X	TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1 through -4	No changes.
Applicable Requirements	Federally Enforceable	Unit No.												
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<p><b>A804 Operational Limitations – External Combustion</b></p> <p>A. All external combustion equipment except Units RLUOB-BHW-1 through -4 when operating with fuel oil is authorized to operate any time during the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with its hours of operation.</p> <p>B. Units RLUOB-BHW-1 through -4 shall be operated on fuel oil for no more than 48 hours per year per boiler for non-emergency maintenance and readiness testing. This condition establishes exemption from 40 CFR 63, Subpart JJJJJ</p> <p>C. Total annual fuel oil consumption for Units RLUOB-BHW-1 through -4 shall not exceed 289,100 gallons on a rolling 365-day total basis.</p>		No changes.												

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters	Proposed Changes				
<p><b>A805 Fuel Sulfur Requirements – External Combustion</b></p> <p>A. All Boilers and Heaters (<b>except</b> Units RLUOB-BHW-1 through -4)</p> <table border="1" data-bbox="310 329 1598 704"> <tr> <td data-bbox="310 329 1598 451"> <p><b>Requirement:</b> All boilers and heaters, except Units RLUOB-BHW-1 through -4 and the Power Plant addressed in Section A1300 shall combust only natural gas containing no more than 2 grains of total sulfur per 100 dry standard cubic feet.</p> </td> </tr> <tr> <td data-bbox="310 451 1598 500"> <p><b>Monitoring:</b> None.</p> </td> </tr> <tr> <td data-bbox="310 500 1598 659"> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel gas analysis, specifying the allowable limit or less. If fuel gas analysis is used, the analysis shall not be older than one year.</p> </td> </tr> <tr> <td data-bbox="310 659 1598 704"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> All boilers and heaters, except Units RLUOB-BHW-1 through -4 and the Power Plant addressed in Section A1300 shall combust only natural gas containing no more than 2 grains of total sulfur per 100 dry standard cubic feet.</p>	<p><b>Monitoring:</b> None.</p>	<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel gas analysis, specifying the allowable limit or less. If fuel gas analysis is used, the analysis shall not be older than one year.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
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<p><b>Monitoring:</b> None.</p>					
<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel gas analysis, specifying the allowable limit or less. If fuel gas analysis is used, the analysis shall not be older than one year.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p>B. Units RLUOB-BHW-1 through -4</p> <table border="1" data-bbox="310 797 1598 1286"> <tr> <td data-bbox="310 797 1598 919"> <p><b>Requirement:</b> Units RLUOB-BHW-1 through -4 shall combust either natural gas containing no more than 2.0 grains of total sulfur per 100 dry standard cubic feet or No. 2 fuel oil containing no more than 0.5 wt% total sulfur. (NSR Permit 2195N-R2, Specific Condition 1.c.,)</p> </td> </tr> <tr> <td data-bbox="310 919 1598 967"> <p><b>Monitoring:</b> None.</p> </td> </tr> <tr> <td data-bbox="310 967 1598 1239"> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit and/or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the allowable limit or less. If a fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195N-R2, Specific Condition 3.c., revised). Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p> </td> </tr> <tr> <td data-bbox="310 1239 1598 1286"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> Units RLUOB-BHW-1 through -4 shall combust either natural gas containing no more than 2.0 grains of total sulfur per 100 dry standard cubic feet or No. 2 fuel oil containing no more than 0.5 wt% total sulfur. (NSR Permit 2195N-R2, Specific Condition 1.c.,)</p>	<p><b>Monitoring:</b> None.</p>	<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit and/or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the allowable limit or less. If a fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195N-R2, Specific Condition 3.c., revised). Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
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<p><b>Monitoring:</b> None.</p>					
<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit and/or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the allowable limit or less. If a fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195N-R2, Specific Condition 3.c., revised). Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters	Proposed Changes				
<p><b>A806 20.2.61 NMAC Opacity – External Combustion</b></p> <p>A. All Boilers and Heaters (<b>except</b> Units RLUOB-BHW-1 through -4)</p> <table border="1" data-bbox="310 329 1598 779"> <tr> <td data-bbox="310 329 1598 415"><b>Requirement:</b> Exhaust emissions from any external combustion source shall not exceed 20% opacity averaged over a 10-minute period.</td> </tr> <tr> <td data-bbox="310 415 1598 610"><b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.</td> </tr> <tr> <td data-bbox="310 610 1598 696"><b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.</td> </tr> <tr> <td data-bbox="310 696 1598 779"><b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</td> </tr> </table>	<b>Requirement:</b> Exhaust emissions from any external combustion source shall not exceed 20% opacity averaged over a 10-minute period.	<b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.	<b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.	<b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	<p>No changes.</p>
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<b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.					
<b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.					
<p>B. Units RLUOB-BHW-1 through -4: Natural Gas-Fired</p> <table border="1" data-bbox="310 873 1598 1323"> <tr> <td data-bbox="310 873 1598 959"><b>Requirement:</b> Exhaust emissions from any external combustion source shall not exceed 20% opacity averaged over a 10-minute period.</td> </tr> <tr> <td data-bbox="310 959 1598 1154"><b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.</td> </tr> <tr> <td data-bbox="310 1154 1598 1240"><b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.</td> </tr> <tr> <td data-bbox="310 1240 1598 1323"><b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</td> </tr> </table>	<b>Requirement:</b> Exhaust emissions from any external combustion source shall not exceed 20% opacity averaged over a 10-minute period.	<b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.	<b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.	<b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	<p>No changes.</p>
<b>Requirement:</b> Exhaust emissions from any external combustion source shall not exceed 20% opacity averaged over a 10-minute period.					
<b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.					
<b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.					
<b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.					

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters	Proposed Changes
<p><b>A806 20.2.61 NMAC Opacity – External Combustion</b>                      C. Units RLUOB-BHW-1 through -4: Fuel Oil-Fired</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Requirement:</b> Exhaust emissions from any external combustion source shall not exceed 20% opacity averaged over a 10-minute period.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Monitoring:</b> The permittee shall perform a least one (1) opacity observation each day that fuel oil is used to fire any of Units RLUOB-BHW-1 through -4. Opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. (NSR Permit 2195N-R2, Specific Condition 3.d., revised)</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings. (NSR Permit 2195N-R2, Specific Condition 3.b., revised)</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </div>	<p>No changes.</p>
<p><b>A807 Other – External Combustion</b>                      A. Natural Gas Fuel Usage (Sources listed in Table 800.A <b>except</b> RLUOB-BHW-1 through -4)</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Requirement:</b> The combined natural gas fuel usage shall be limited to 870 MMscf/y. This limitation shall apply to all boilers and heaters listed in Table 800.A except Units RLUOB-BHW-1 through -4, but including all other boilers and heaters at the Facility that qualify as Title V Insignificant Activities.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Monitoring:</b> The permittee shall monitor the monthly total volumetric flow of natural gas to Units TA-55-6-BHW-1 and TA-55-6-BHW-2 through use of a totalizing flow meter.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Calculate the monthly rolling 12-month total natural gas fuel usage for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4.</li> <li>2) Calculate the actual emissions rate for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4. The calculation shall be based on the actual fuel usage of Units equipped with individual flow meters and the Facility-Wide metered or estimated natural gas usage.</li> <li>3) Calculate the semiannual and annual total emissions rate (tons/year) for this source category and compare them to the emission limits in Table 802.A. The permittee shall maintain records in accordance with Section B109.</li> </ol> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </div>	<p>No changes.</p>

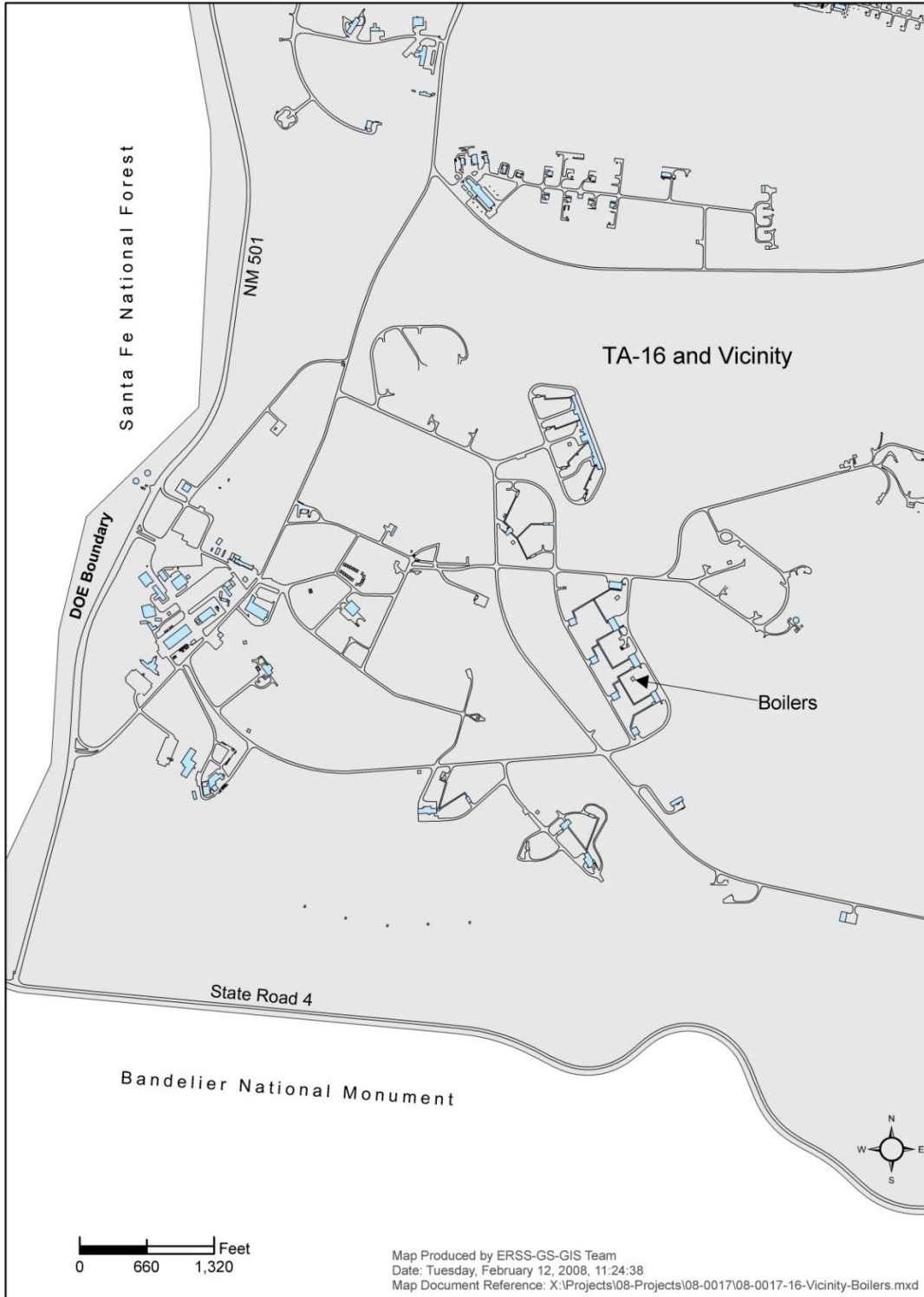
Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters	Proposed Changes				
<p><b>A807 Other – External Combustion</b></p> <p>B. Natural Gas and Fuel Oil Usage (Units RLUOB-BHW-1 through -4)</p> <table border="1" data-bbox="310 342 1598 1036"> <tr> <td data-bbox="310 342 1598 391"><b>Requirement:</b> The permittee shall comply with the emission limits in Table 802.B for each fuel type.</td> </tr> <tr> <td data-bbox="310 391 1598 670"> <p><b>Monitoring:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Monitor the monthly total volumetric flow of natural gas to Units RLUOB-BHW-1 through -4 using a totalizing flow meter. (NSR Permit 2195N-R2, Specific Condition 3.a., partial, revised)</li> <li>2) Monitor the daily fuel oil consumption during which any of the 4 RLUOB boilers are fired with this fuel type. (NSR Permit 2195N, Specific Condition 3.a, partial, revised)</li> <li>3) Monitor the hours of operation for each boiler when fired on fuel oil and during non-emergency maintenance and readiness testing.</li> </ol> </td> </tr> <tr> <td data-bbox="310 670 1598 989"> <p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Calculate and record the annual fuel oil usage for Units RLUOB-BHW-1 through -4 as a daily rolling 365-day total.</li> <li>2) Calculate and record the semiannual and calendar year total emissions rate (tons/year) for each fuel type and for the combination of both fuels compare to the emission limits in Table 802.B.</li> <li>3) Record the annual hours of operation of each boiler when fired on fuel oil during non-emergency maintenance and readiness testing and compare to the limitation at Condition A804.B.</li> <li>4) The permittee shall maintain records in accordance with Section B109.</li> </ol> </td> </tr> <tr> <td data-bbox="310 989 1598 1036"><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</td> </tr> </table>	<b>Requirement:</b> The permittee shall comply with the emission limits in Table 802.B for each fuel type.	<p><b>Monitoring:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Monitor the monthly total volumetric flow of natural gas to Units RLUOB-BHW-1 through -4 using a totalizing flow meter. (NSR Permit 2195N-R2, Specific Condition 3.a., partial, revised)</li> <li>2) Monitor the daily fuel oil consumption during which any of the 4 RLUOB boilers are fired with this fuel type. (NSR Permit 2195N, Specific Condition 3.a, partial, revised)</li> <li>3) Monitor the hours of operation for each boiler when fired on fuel oil and during non-emergency maintenance and readiness testing.</li> </ol>	<p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Calculate and record the annual fuel oil usage for Units RLUOB-BHW-1 through -4 as a daily rolling 365-day total.</li> <li>2) Calculate and record the semiannual and calendar year total emissions rate (tons/year) for each fuel type and for the combination of both fuels compare to the emission limits in Table 802.B.</li> <li>3) Record the annual hours of operation of each boiler when fired on fuel oil during non-emergency maintenance and readiness testing and compare to the limitation at Condition A804.B.</li> <li>4) The permittee shall maintain records in accordance with Section B109.</li> </ol>	<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	<p>No changes.</p>
<b>Requirement:</b> The permittee shall comply with the emission limits in Table 802.B for each fuel type.					
<p><b>Monitoring:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Monitor the monthly total volumetric flow of natural gas to Units RLUOB-BHW-1 through -4 using a totalizing flow meter. (NSR Permit 2195N-R2, Specific Condition 3.a., partial, revised)</li> <li>2) Monitor the daily fuel oil consumption during which any of the 4 RLUOB boilers are fired with this fuel type. (NSR Permit 2195N, Specific Condition 3.a, partial, revised)</li> <li>3) Monitor the hours of operation for each boiler when fired on fuel oil and during non-emergency maintenance and readiness testing.</li> </ol>					
<p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Calculate and record the annual fuel oil usage for Units RLUOB-BHW-1 through -4 as a daily rolling 365-day total.</li> <li>2) Calculate and record the semiannual and calendar year total emissions rate (tons/year) for each fuel type and for the combination of both fuels compare to the emission limits in Table 802.B.</li> <li>3) Record the annual hours of operation of each boiler when fired on fuel oil during non-emergency maintenance and readiness testing and compare to the limitation at Condition A804.B.</li> <li>4) The permittee shall maintain records in accordance with Section B109.</li> </ol>					
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.					

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters	Proposed Changes
<p><b>A807 Other – External Combustion, <i>continued</i></b></p> <p>C. 40 CFR 60, Subpart Dc (Units TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1 through -4)</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Requirement:</b> The units are subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:</p> <ol style="list-style-type: none"> <li>1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).</li> </ol> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Monitoring:</b> The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40 CFR 60.48c(c), (f) and (g) 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Reporting:</b> The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(4) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period may be modified to coincide with the Semi-Annual reporting period in Section A109. The permittee shall report in accordance with Section B110.</p> </div>	<p>No changes.</p>

Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters	Proposed Changes
<p>D. 40 CFR 60, Subpart Dc (New Unit RLUOB-BHW-4)</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Requirement:</b> The units are subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:</p> <ol style="list-style-type: none"> <li>1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d) and (g). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).</li> <li>2. For new boiler RLUOB-BHW-4, the permittee shall demonstrate initial compliance with the SO<sub>2</sub> standard through a certification from the fuel supplier per 40 CFR 60.44c(h).</li> </ol> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Monitoring:</b> The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40 CFR 60.48c(c), (f) and (g) 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Reporting:</b> The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(3) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period may be modified to coincide with the Semi-Annual reporting period in Section A109.</p> </div>	<p>No changes.</p>
<p>E. Initial Compliance Testing (Units RLUOB-BHW-4)</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Requirement:</b> Initial compliance tests are required for boiler, Unit RLUOB-BHW-4. The tests shall be conducted for NO<sub>x</sub> and CO while burning natural gas fuel only. This condition applies only if boiler Unit RLUOB-BHW-4 is not an identical make and model to boiler units RLUOB-BHW-1 through -3. (NSR Permit 2195N-R2, Specific Condition 6.a., revised)</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Monitoring:</b> The permittee shall conduct EPA Method tests for CO and NO<sub>x</sub> within six (6) months of any new boiler start up. Method 19 may be used for determining stack flow rates. This requirement supersedes Condition B111.A(2). Initial compliance testing shall be conducted in accordance with Section B111.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Reporting:</b> The permittee shall report in accordance with Section B110 and Section B111.</p> </div>	<p>No changes.</p>

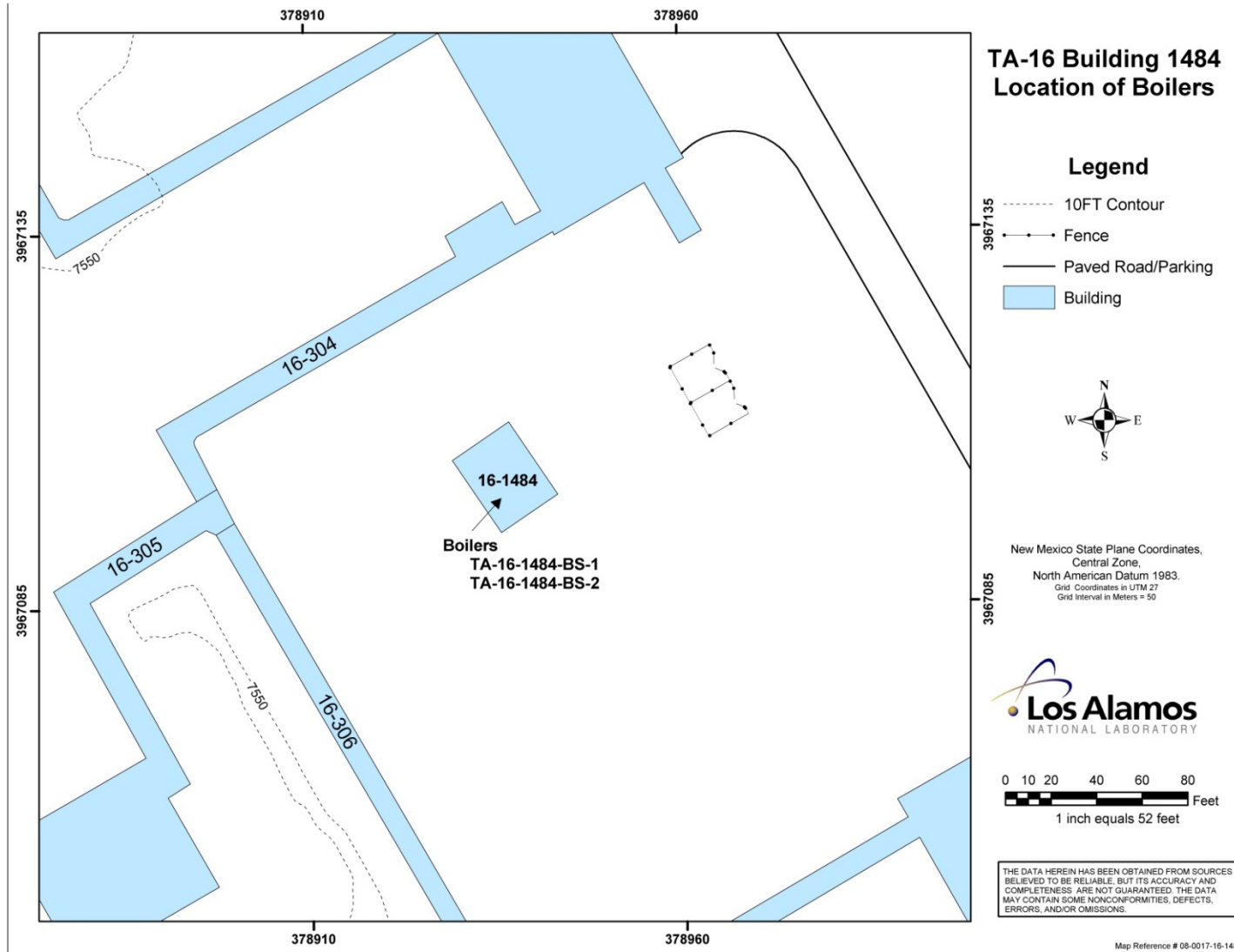


Existing Permit P100-R2M3 Permit Conditions - Boilers and Heaters	Proposed Changes			
<p>F. Operational Inspection (Sources listed in Table 800.A)</p> <table border="1" data-bbox="296 302 1591 675"> <tr> <td data-bbox="296 302 1591 378"> <p><b>Requirement:</b> Compliance with the allowable emission limits in Table 802.A shall be demonstrated by performing periodic inspections to ensure proper operations.</p> </td> </tr> <tr> <td data-bbox="296 378 1591 565"> <p><b>Monitoring:</b> The permittee shall conduct annual operational inspections to determine that the boilers are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the boiler manufacturer, and indications based on operational experience with these units.</p> </td> </tr> <tr> <td data-bbox="296 565 1591 675"> <p><b>Recordkeeping:</b> The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the boilers into compliance. The permittee shall maintain records in accordance with Section B109.</p> </td> </tr> </table>	<p><b>Requirement:</b> Compliance with the allowable emission limits in Table 802.A shall be demonstrated by performing periodic inspections to ensure proper operations.</p>	<p><b>Monitoring:</b> The permittee shall conduct annual operational inspections to determine that the boilers are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the boiler manufacturer, and indications based on operational experience with these units.</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the boilers into compliance. The permittee shall maintain records in accordance with Section B109.</p>	<p>No changes.</p>
<p><b>Requirement:</b> Compliance with the allowable emission limits in Table 802.A shall be demonstrated by performing periodic inspections to ensure proper operations.</p>				
<p><b>Monitoring:</b> The permittee shall conduct annual operational inspections to determine that the boilers are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the boiler manufacturer, and indications based on operational experience with these units.</p>				
<p><b>Recordkeeping:</b> The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the boilers into compliance. The permittee shall maintain records in accordance with Section B109.</p>				



Location of Boilers at TA-16.

**Figure 2.3-2 Location of Boilers at TA-16**



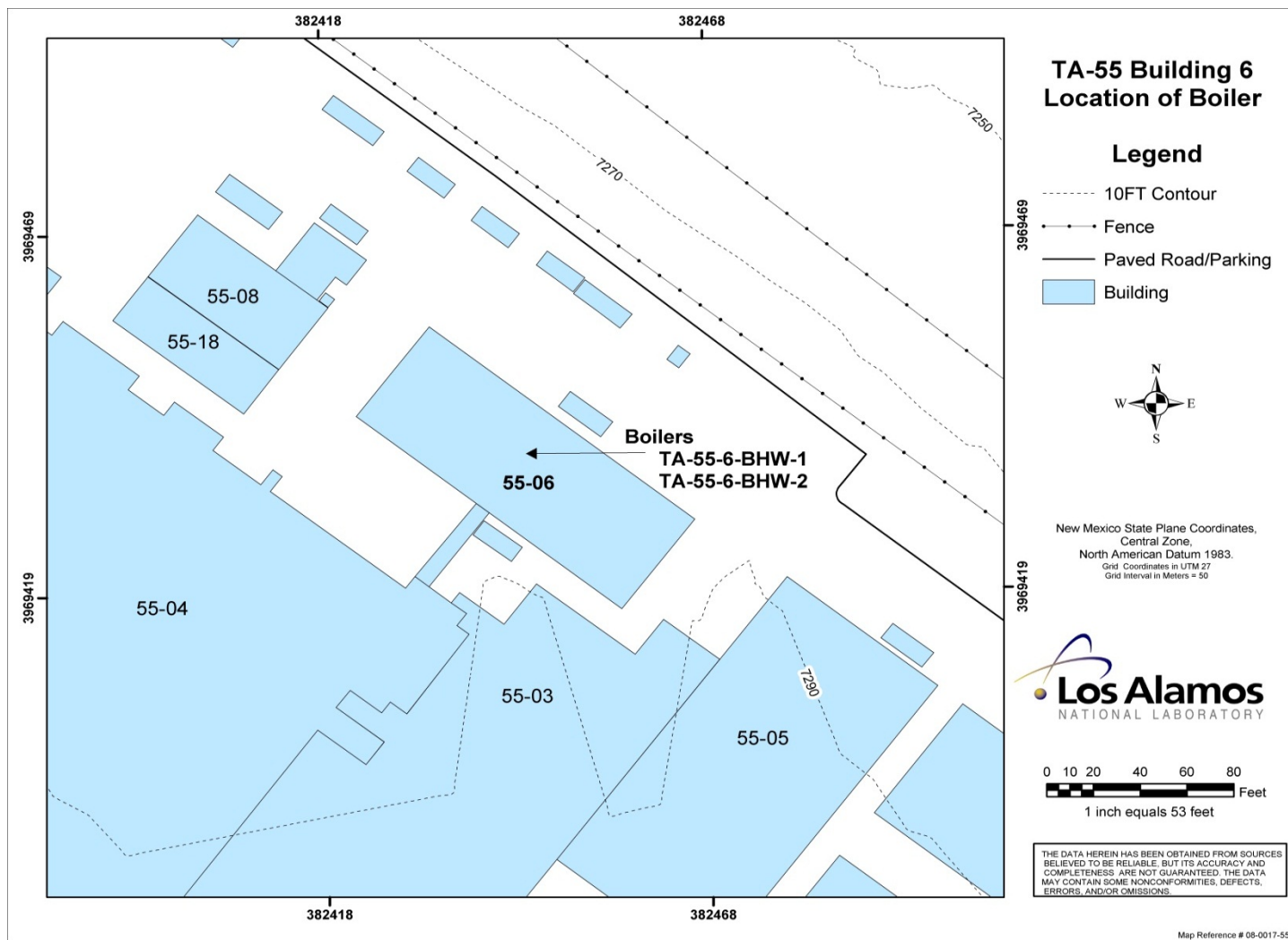
Emission Units: TA-16-1484-BS-1 and BS-2, Boilers.

**Figure 2.3-3 Plot Plan for Emission Units TA-16-1484-BS-1 and TA-16-1484-BS-2, Boilers**



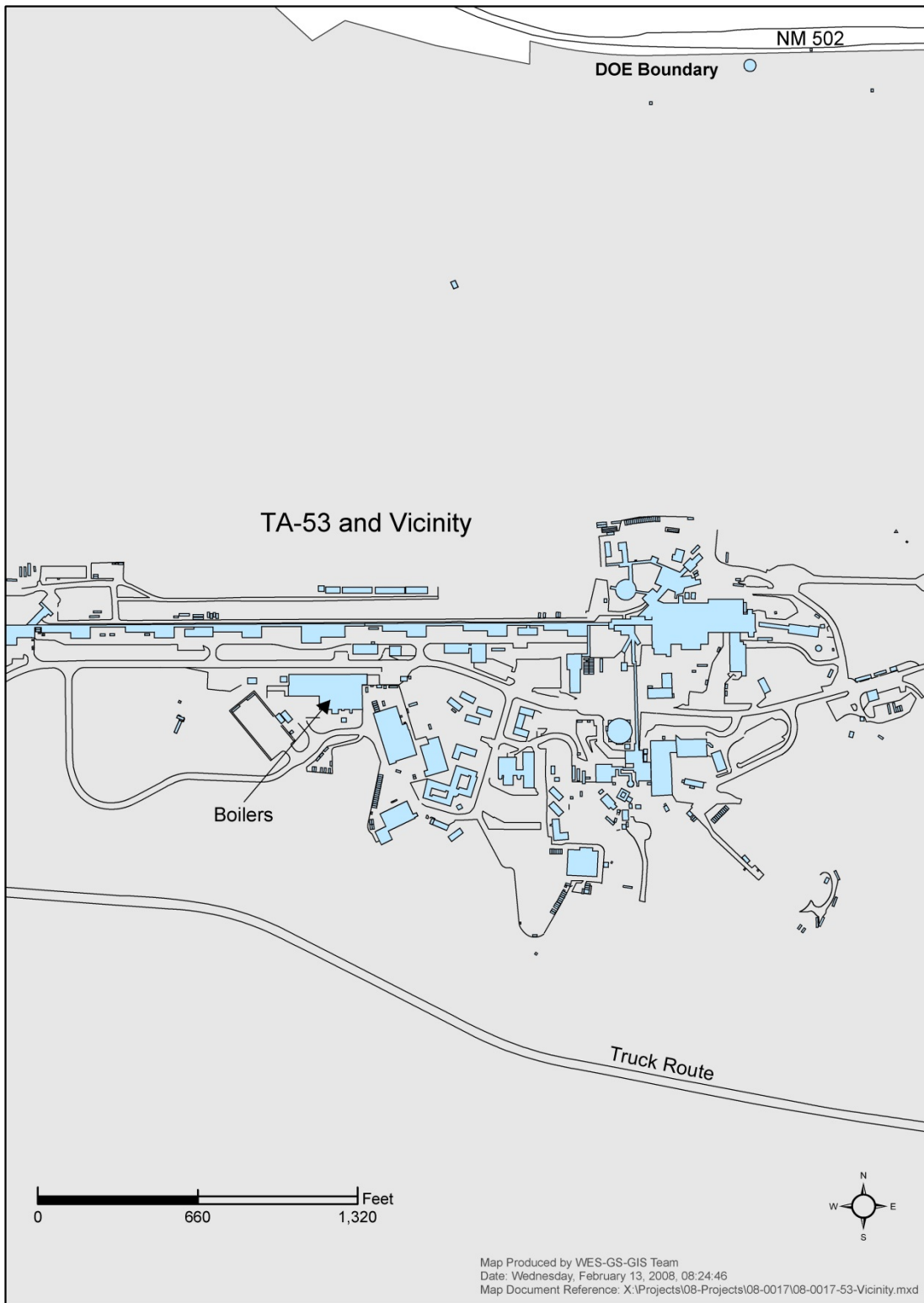
Location of Boilers at TA-55.

Figure 2.3-4 Location of Boilers at TA-55



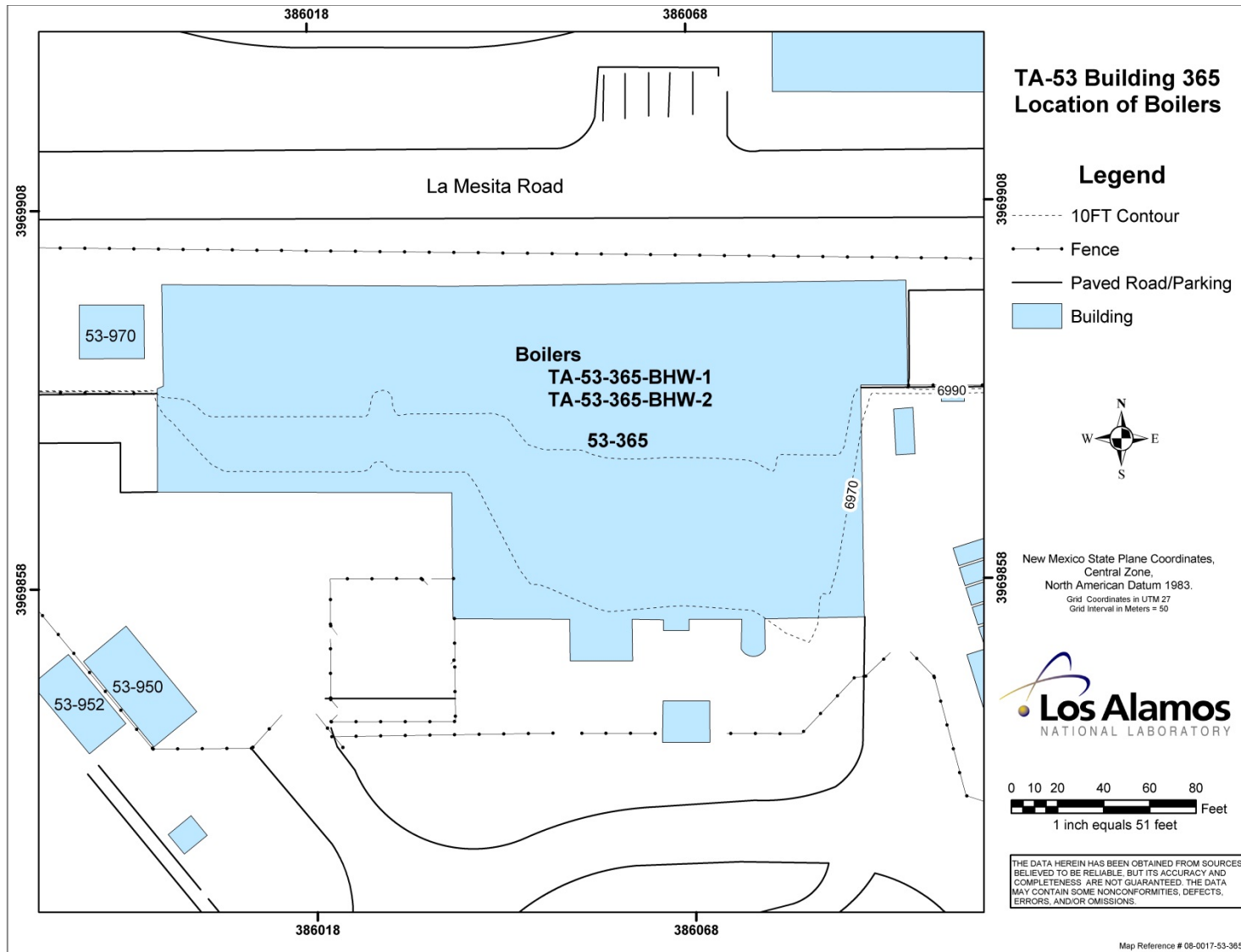
Emission Units: TA-55-6-BHW-1 and BHW-2, Boilers.

**Figure 2.3-5 Plot Plan for Emission Units TA-55-6-BHW-1 and TA-55-6-BHW-2, Boilers**



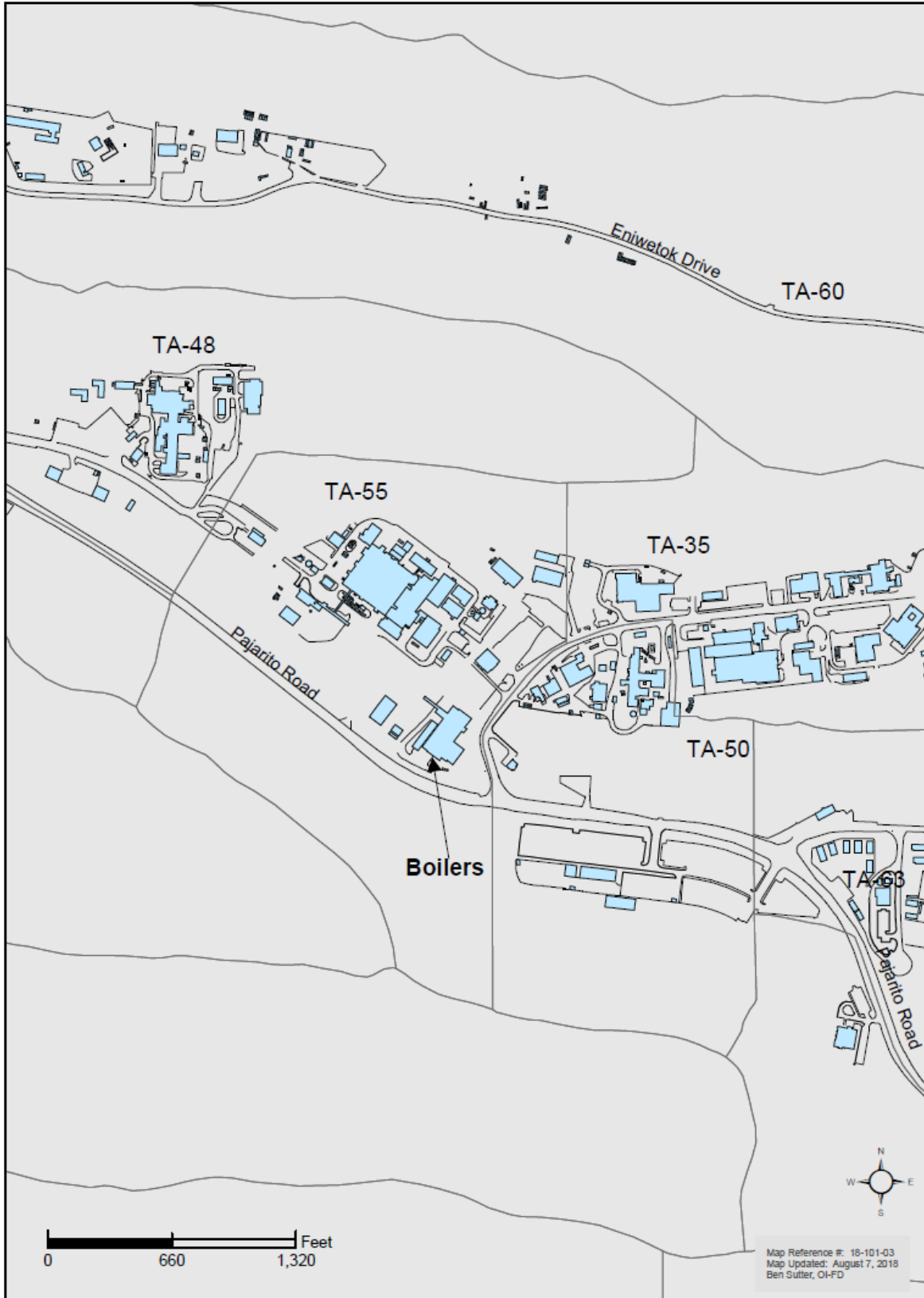
Location of boilers at TA-53.

**Figure 2.3-6 Location of Boilers at TA-53**



Emission Units: TA-53-365-BHW-1 and BHW-2, Boilers.

Figure 2.3-7 Plot Plan for Emission Units TA-53-365-BHW-1 and TA-53-365-BHW-2, Boilers



Location of Boilers at RLUOB TA-55-440.

Figure 2.3-8 Location of Boilers at CMRR-RLUOB TA-55-440



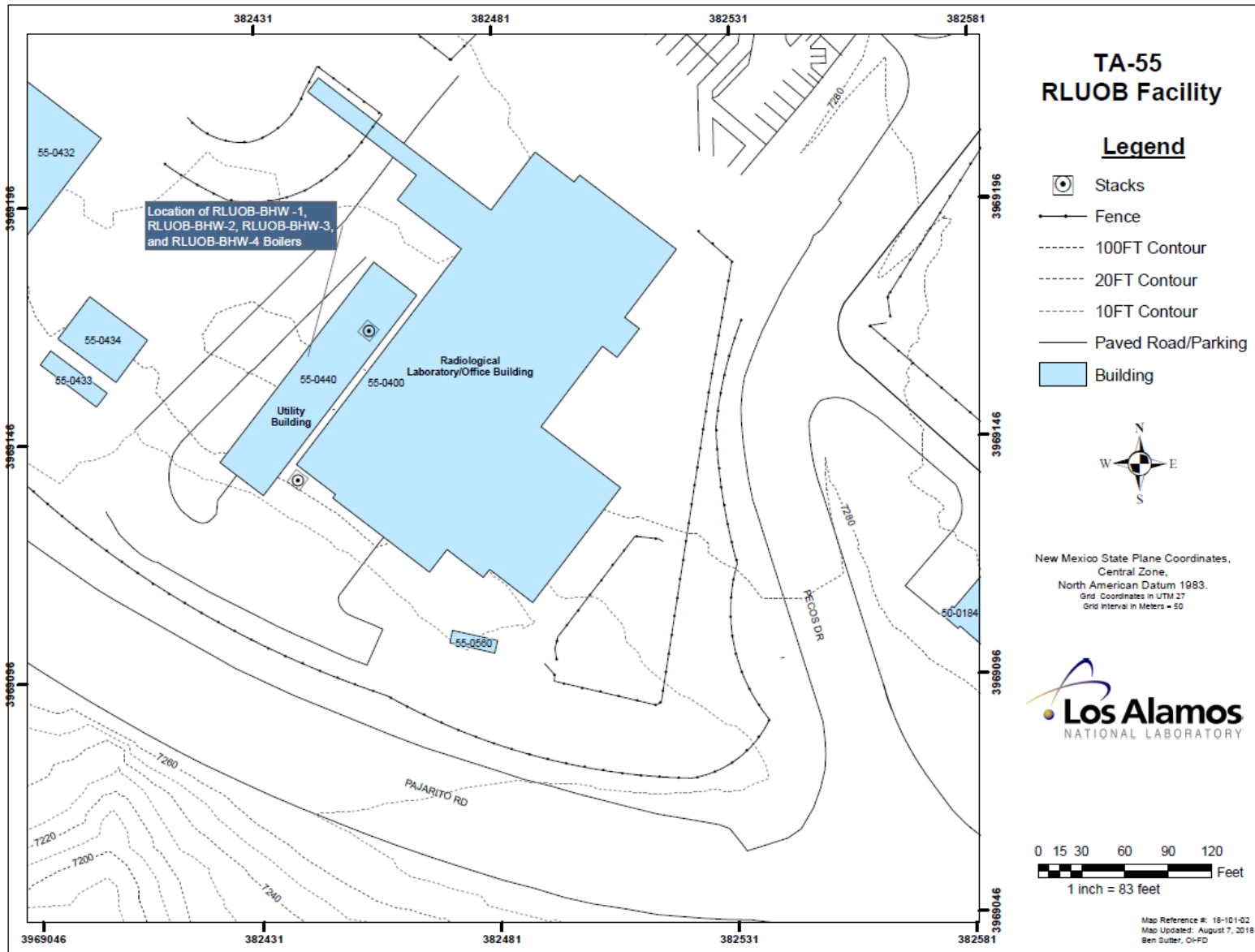


Figure 2.3-9 Plot Plan for Emission Units RLUOB-BHW-1 through 4, Boilers

## **2.4 Chemical Usage**

### **2.4.1 General Description of Source Category**

LANL scientists conduct a wide variety of R&D activities which often involve the use of small quantities of various chemicals. Air emissions from these activities cannot be permitted or estimated in conventional ways because the activities and chemicals being used are constantly changing. However, actual air emissions can be conservatively estimated through the use of purchase information, this process is described below.

Chemicals are used in hundreds of different areas of the Laboratory. For safety reasons, many activities occur under lab hoods with forced ventilation out a stack or into general building exhaust systems. However, other activities occur in open areas of buildings, outdoors, or in other research locations. There are no defined stacks or point sources for this category.

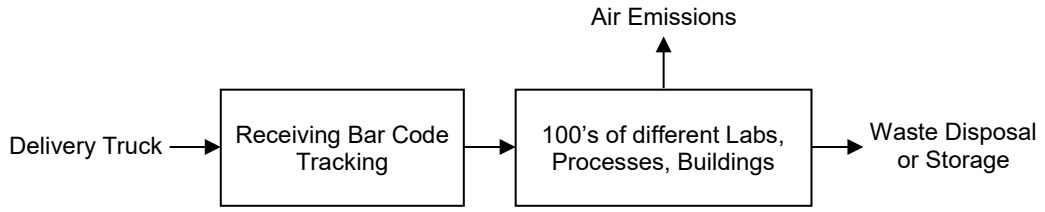
Chemical use throughout the Laboratory is tracked diligently through a chemical inventory tracking system. Purchases of regulated chemicals go through a central purchasing system before they are brought on-site. When chemicals are brought on-site, they are barcoded and entered into a facility-wide chemical tracking database. Note that at the time of this application N3B is working towards implementation of a barcode system. Until this is complete, N3B prepares a chemical inventory for entry into the facility-wide database using an Excel spreadsheet system. Based on the past five year's analysis, approximately 30,000 separate chemical purchase line-items are entered into the database each year.

### **2.4.2 Operating Schedule**

There are no set operating schedules for R&D activities. Chemical use can occur at any time. For the purpose of this application, the operating schedule is 8,760 hours per year.

### **2.4.3 Process Flow Diagram**

Figure 2.4-1 shows a simplified process flow diagram of emissions from chemical use.



**Figure 2.4-1 Process Flow Diagram for R & D Chemical Usage**

#### 2.4.4 Emissions

As required under 20.2.73 NMAC, LANL submits estimates of VOC and HAP emissions from Laboratory-wide chemical use in the annual emission inventory report. For each year, the emission estimates for chemical usage as reported in the annual emission inventory report are a sum of the emission estimates for chemical usage from the two Title V Semiannual Emissions Reports. For the most part, the emission estimates reported are based on a very conservative assumption that the total amount of regulated chemicals purchased is equivalent to total emissions. This is a very conservative approach because it assumes all chemicals purchased are used and evaporate as air emissions. It does not take into account chemicals that are purchased and remain in a process, or the amount of chemicals that are disposed of as waste. Occasionally, process knowledge is used to refine the emission estimates. Chemicals used for activities that qualify as trivial or exempt activities are deleted from the analysis (e.g., grounds and building maintenance, calibration of laboratory equipment, etc.). Table 2.4-1 summarizes the actual VOC and HAP emissions from chemical use for the past five years, as reported in the 20.2.73 NMAC Emissions Inventory submittal for LANL. For the past five years, the highest individual HAP as reported on the annual emission inventory report is shown in Table 2.4-2.

**Table 2.4-1 Past Actual VOC and HAP Emissions from Chemical Use**

Year	VOC (tons)	Total HAPs (tons)
2013	9.6	3.5
2014	10.9	5.1
2015	9.1	4.4
2016	12.7	6.4
2017	10.3	5.2

**Table 2.4-2 Past Actual Highest Individual HAP Emission**

Year	Estimated Emissions (ton/year)
2013	0.8 (hydrochloric acid)
2014	1.4 (hydrochloric acid)
2015	1.4 (glycol ethers)
2016	1.2 (hydrochloric acid)
2017	1.3 (methanol)

#### **2.4.5 Emissions Control Equipment**

There are no air pollution controls required or noted in this application for chemical usage for research and development activities.

#### **2.4.6 Operational Plan**

Since there is no specific equipment associated with miscellaneous chemical use, there are no startup, shutdown, or emergency emissions to be addressed.

#### **2.4.7 Applicable Requirements**

There are currently no applicable regulatory requirements for emissions from chemical use other than the existing requirements in Permit P100-R2M3. LANL is proposing in this application to maintain the current permit conditions for this activity. Table 2.4-3 lists existing applicable requirements for chemical use.

**Table 2.4-3 Existing Permit Conditions for Chemical Usage and Proposed Changes**

Existing P100-R2M3 Permit Conditions – Chemical Usage		Proposed Changes									
<p><b>A900 Regulated Sources – Chemical Usage</b></p> <p>A. Table 900.A lists all of the process equipment authorized for this source category.</p> <p><b>Table 900.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Source Description/Location</th> <th>Emission Type</th> </tr> </thead> <tbody> <tr> <td>LANL-FW-CHEM</td> <td>Chemical Usage, Facility-wide (except RLUOB)</td> <td>VOC, HAPs, TAPs</td> </tr> <tr> <td>RLUOB-CHEM</td> <td>Chemical Usage, Bldg. TA-55-400 (the laboratory portion only of this RLUOB building)</td> <td>VOC, HAPs, TAPs</td> </tr> </tbody> </table>		Unit No.	Source Description/Location	Emission Type	LANL-FW-CHEM	Chemical Usage, Facility-wide (except RLUOB)	VOC, HAPs, TAPs	RLUOB-CHEM	Chemical Usage, Bldg. TA-55-400 (the laboratory portion only of this RLUOB building)	VOC, HAPs, TAPs	No changes.
Unit No.	Source Description/Location	Emission Type									
LANL-FW-CHEM	Chemical Usage, Facility-wide (except RLUOB)	VOC, HAPs, TAPs									
RLUOB-CHEM	Chemical Usage, Bldg. TA-55-400 (the laboratory portion only of this RLUOB building)	VOC, HAPs, TAPs									
<p><b>A902 Emission Limits – Chemical Usage</b></p> <p>B. Table 902.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC, NSR Permit 2195N-R2).</p> <p><b>Table 902.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>VOC/HAPs (tpy)</th> </tr> </thead> <tbody> <tr> <td>LANL-FW-CHEM</td> <td>--<sup>1</sup></td> </tr> <tr> <td>RLUOB-CHEM</td> <td>3.75<sup>1</sup></td> </tr> </tbody> </table> <p><sup>1</sup>The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in Table 106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs. Any VHAPs that are also defined as a VOC shall be included in the VOC total.</p>		Unit No.	VOC/HAPs (tpy)	LANL-FW-CHEM	-- <sup>1</sup>	RLUOB-CHEM	3.75 <sup>1</sup>	No changes.			
Unit No.	VOC/HAPs (tpy)										
LANL-FW-CHEM	-- <sup>1</sup>										
RLUOB-CHEM	3.75 <sup>1</sup>										
<p><b>A903 Applicable Requirements – Chemical Usage</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 903.A.</p> <p><b>Table 903.A: Applicable Requirements</b></p> <table border="1"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>NSR Permit 2195N-R2</td> <td>X</td> <td>RLUOB-CHEM</td> </tr> </tbody> </table>		Applicable Requirements	Federally Enforceable	Unit No.	NSR Permit 2195N-R2	X	RLUOB-CHEM	No changes.			
Applicable Requirements	Federally Enforceable	Unit No.									
NSR Permit 2195N-R2	X	RLUOB-CHEM									

**Table 2.4-3 Existing Permit Conditions for Chemical Usage and Proposed Changes**

<p><b>A904 Operational Limitations – Chemical Usage</b></p> <p>A. The Chemical Usage source category is authorized for continuous operation. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with continuous hours of operation.</p> <p>B. For Unit RLUOB-CHEM, the permittee shall obtain a NSR permit revision prior to the use of any TAP that is expected to be emitted in excess of the stack-height-corrected screening level at 202.72.502 NMAC. (NSR Permit 2195N-R2, Specific Condition 1.i, revised)</p>	<p>No changes.</p>				
<p><b>A907 Other – Chemical Usage</b></p> <p>A. Emission calculations (Unit LANL-FW-CHEM)</p> <table border="1" data-bbox="310 578 1600 917"> <tr> <td data-bbox="310 578 1600 626"> <p><b>Requirement:</b> The permittee shall comply with the facility-wide VOC and HAP emission limits at Table 106.B.</p> </td> </tr> <tr> <td data-bbox="310 626 1600 748"> <p><b>Monitoring:</b> The permittee shall monitor facility-wide chemical purchasing and site location using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a semi-annual basis, and categorized as VOC, HAP, or a combination of these categories.</p> </td> </tr> <tr> <td data-bbox="310 748 1600 833"> <p><b>Recordkeeping:</b> The permittee shall record the quantity of total VOC emitted and the quantity of each individual and total HAPs on a semi-annual basis. These records shall be maintained in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="310 833 1600 917"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.</p> </td> </tr> </table>	<p><b>Requirement:</b> The permittee shall comply with the facility-wide VOC and HAP emission limits at Table 106.B.</p>	<p><b>Monitoring:</b> The permittee shall monitor facility-wide chemical purchasing and site location using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a semi-annual basis, and categorized as VOC, HAP, or a combination of these categories.</p>	<p><b>Recordkeeping:</b> The permittee shall record the quantity of total VOC emitted and the quantity of each individual and total HAPs on a semi-annual basis. These records shall be maintained in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.</p>	<p>No changes.</p>
<p><b>Requirement:</b> The permittee shall comply with the facility-wide VOC and HAP emission limits at Table 106.B.</p>					
<p><b>Monitoring:</b> The permittee shall monitor facility-wide chemical purchasing and site location using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a semi-annual basis, and categorized as VOC, HAP, or a combination of these categories.</p>					
<p><b>Recordkeeping:</b> The permittee shall record the quantity of total VOC emitted and the quantity of each individual and total HAPs on a semi-annual basis. These records shall be maintained in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.</p>					

**Table 2.4-3 Existing Permit Conditions for Chemical Usage and Proposed Changes**

<p>B. Emission calculations (Unit RLUOB-CHEM)</p> <table border="1" style="width: 100%;"> <tr> <td data-bbox="310 289 1598 375"> <p><b>Requirement:</b> The permittee shall comply with the source-specific VOC emission limit at Table 902.A and the facility-wide VOC and HAP emission limits at Table 106.B. (NSR Permit 2195N-R2, Specific Condition 2.a., revised)</p> </td> </tr> <tr> <td data-bbox="310 375 1598 532"> <p><b>Monitoring:</b> The permittee shall monitor chemical purchasing for the RLUOB-CHEM facility using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a monthly basis, and categorized as VOC, HAP, TAP, or a combination of these categories. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)</p> </td> </tr> <tr> <td data-bbox="310 532 1598 654"> <p><b>Recordkeeping:</b> The permittee shall record the quantity of total VOC and TAP, each individual HAP, and the total HAPs emitted on a monthly rolling, 12-month total basis. These records shall be maintained in accordance with Section B109. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)</p> </td> </tr> <tr> <td data-bbox="310 654 1598 740"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.</p> </td> </tr> </table>	<p><b>Requirement:</b> The permittee shall comply with the source-specific VOC emission limit at Table 902.A and the facility-wide VOC and HAP emission limits at Table 106.B. (NSR Permit 2195N-R2, Specific Condition 2.a., revised)</p>	<p><b>Monitoring:</b> The permittee shall monitor chemical purchasing for the RLUOB-CHEM facility using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a monthly basis, and categorized as VOC, HAP, TAP, or a combination of these categories. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)</p>	<p><b>Recordkeeping:</b> The permittee shall record the quantity of total VOC and TAP, each individual HAP, and the total HAPs emitted on a monthly rolling, 12-month total basis. These records shall be maintained in accordance with Section B109. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.</p>	<p>No changes.</p>
<p><b>Requirement:</b> The permittee shall comply with the source-specific VOC emission limit at Table 902.A and the facility-wide VOC and HAP emission limits at Table 106.B. (NSR Permit 2195N-R2, Specific Condition 2.a., revised)</p>					
<p><b>Monitoring:</b> The permittee shall monitor chemical purchasing for the RLUOB-CHEM facility using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a monthly basis, and categorized as VOC, HAP, TAP, or a combination of these categories. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)</p>					
<p><b>Recordkeeping:</b> The permittee shall record the quantity of total VOC and TAP, each individual HAP, and the total HAPs emitted on a monthly rolling, 12-month total basis. These records shall be maintained in accordance with Section B109. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.</p>					



## **2.5 Degreasers**

### **2.5.1 General Description of Source Category**

There is one solvent cleaning machine, or degreaser, at LANL that uses a regulated halogenated solvent. The active degreaser, TA-55-DG-1, is located within a fully enclosed glove box that is vented from the top through a three-stage HEPA filtration system. It is used for parts cleaning and has a capacity of 20 liters. The degreaser is an ultrasonic cold batch type cleaning machine and in the past only used trichloroethylene (CAS No. 79-01-6) as the solvent. The solvent is not heated or boiled. An exemption notice was submitted on April 9, 2018 and was approved by NMED on May 8, 2018 for a non-halogenated solvent to be used in the degreaser. LANL intends to keep the flexibility to use the halogenated solvent in the future and therefore is continuing to comply with all permit requirements, regardless of which solvent is being used.

Parts in an ultrasonic degreaser are cleaned by cavitation which is the rapid formation and violent collapse of minute bubbles or cavities in the cleaning fluid. This activity creates a highly effective and unique penetrating action that is effective in removing residue and leaves the surface clean and undamaged.

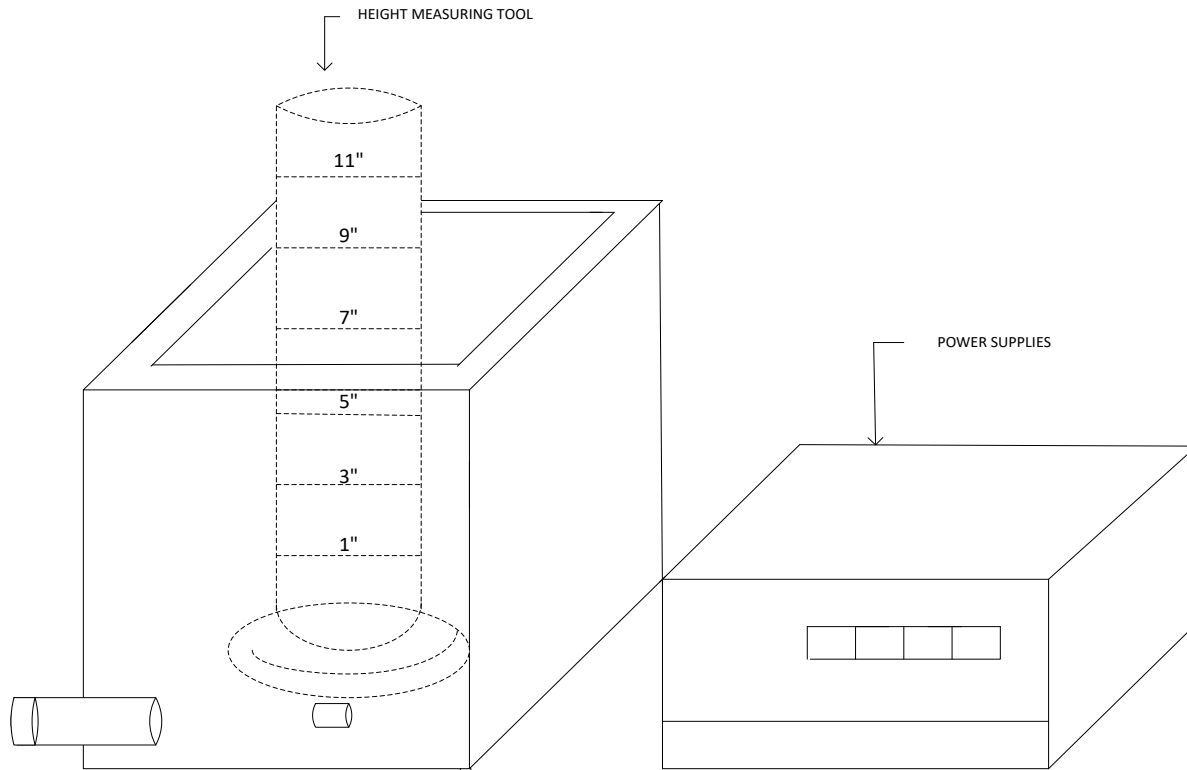
Additional degreasers are used at LANL. None of these additional degreasers use halogenated solvents. They qualify as insignificant emission units under Insignificant Activity #1. In addition, a few of the degreasers containing non-halogenated solvents are used in shops that are dedicated to facility maintenance activities and qualify as Trivial Activity #2.

### **2.5.2 Operating Schedule**

The degreaser is used sporadically for short periods of time, depending on the amount of parts that are cleaned. When the degreaser is not being used, the lid is kept closed or the solvent is removed. LANL is not proposing to limit solvent use, hours of operation or emissions specifically from the degreasers.

### **2.5.3 Process Flow Diagram**

A general process flow diagram is presented in Figure 2.5-1.



**Figure 2.5-1 Process Flow Diagram for the Degreaser**

#### **2.5.4 Emissions**

Actual air emissions are estimated on a mass balance approach. Maximum emissions or potential to emit cannot be estimated for this source type. Before a degreaser is used, the amount of solvent present in the degreaser is recorded (i.e., initial amount). The addition or removal of any solvent is also recorded. Based on the amounts added or removed, the new amount of solvent is recorded (i.e., final amount). Air emissions are calculated as the difference between the final amount of solvent from the previous use and the initial amount of solvent for the next use.

Based on the dimensions of the degreaser tanks, the tank depth corresponds to a known volume. The tank contents are monitored with a graduated dipstick. Each addition or removal of solvent is recorded in depth (inches) and converted to its corresponding volume.

For informational purposes emissions estimates based on actual records of use are shown in Table 2.5-1. The pollutant emitted, trichloroethylene, is categorized as both a HAP and VOC. Allowable emissions of HAPs and VOCs are limited on a facility-wide basis and are discussed in Section 1, Introduction.

**Table 2.5-1 Past Actual Emissions Estimates from Degreaser TA-55-DG-1**

Year	Trichloroethylene (lbs)
2013	15.8
2014	15.8
2015	12.6
2016	19.0
2017	3.2

### 2.5.5 Emissions Control Equipment

The degreaser is located within a fully enclosed glove box that is vented from the top through a three-stage HEPA filtration system. This system does not remove solvent vapors. Other than being totally enclosed in the glove box, there are currently no physical controls on the degreaser to reduce or eliminate emissions. Work practice standards are in place to minimize air emissions as required by the applicable rule at 40 CFR Part 63, Subpart T NESHAP. Subpart T does not require control equipment for this type and size of degreaser.

### 2.5.6 Operational Plan

Emissions from the cold batch type degreaser during startup and shutdown are not expected to differ from those during normal operations. The only malfunction that might result in excess emissions would be a solvent spill or equipment leak. Since the degreaser is located inside a glovebox, the glovebox would serve as secondary containment should spills or leaks occur. LANL personnel routinely check for spills and leaks and correct such situations immediately upon discovery.

### 2.5.7 Applicable Requirements

Applicable requirements present in current Title V permit P100-R2M3 are shown in Table 2.5-2. They represent primarily the work practice standards required by 40 CFR 63 Subpart T for cold batch degreasers using halogenated solvents. LANL is not requesting any changes to these existing conditions.

### 2.5.8 Location and Plot Plan for Degreaser

The location and plot plan for the degreaser is found in Figures 2.5-2 and 2.5-3.

**Table 2.5-2 Existing Permit Conditions for the Degreaser and Proposed Changes**

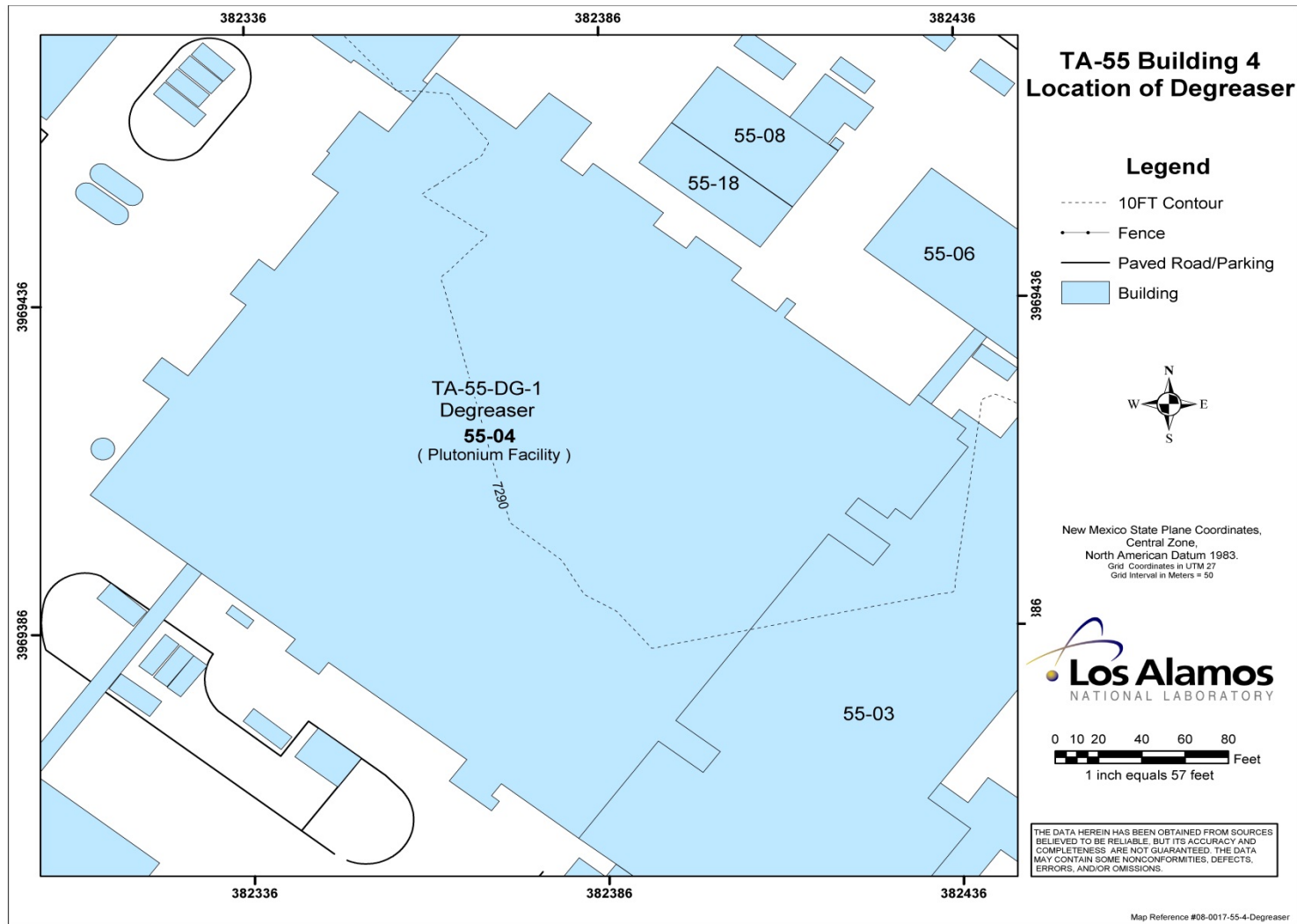
Existing P100-R2M3 Permit Conditions - Degreaser	Proposed Changes						
<p><b>A1000 Regulated Sources – Degreasers</b></p> <p>A. Table 1000.A lists all of the process equipment authorized for this source category.</p> <p><b>Table 1000.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Source Description/Location</th> <th>Emissions Type</th> </tr> </thead> <tbody> <tr> <td>TA-55-DG-1</td> <td>Ultrasonic Cold Batch</td> <td>VOCs, HAPs</td> </tr> </tbody> </table>	Unit No.	Source Description/Location	Emissions Type	TA-55-DG-1	Ultrasonic Cold Batch	VOCs, HAPs	No changes.
Unit No.	Source Description/Location	Emissions Type					
TA-55-DG-1	Ultrasonic Cold Batch	VOCs, HAPs					
<p><b>A1002 Emission Limits –Degreasers</b></p> <p>A. Table 1002.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC).</p> <p><b>Table 1002.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>VOC/HAPs (tpy)</th> </tr> </thead> <tbody> <tr> <td>TA-55-DG-1</td> <td>--<sup>1</sup></td> </tr> </tbody> </table> <p><sup>1</sup> The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in Table 106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs. Any VHAPs that are also defined as a VOC shall be included in the VOC total.</p>	Unit No.	VOC/HAPs (tpy)	TA-55-DG-1	-- <sup>1</sup>	No changes.		
Unit No.	VOC/HAPs (tpy)						
TA-55-DG-1	-- <sup>1</sup>						
<p><b>A1003 Applicable Requirements – Degreasers</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 1003.A.</p> <p><b>Table 1003.A: Applicable Requirements</b></p> <table border="1"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>40 CFR 63, Subpart T National Emission Standards for Halogenated Solvent Cleaning</td> <td style="text-align: center;">X</td> <td>TA-55-DG-1</td> </tr> </tbody> </table>	Applicable Requirements	Federally Enforceable	Unit No.	40 CFR 63, Subpart T National Emission Standards for Halogenated Solvent Cleaning	X	TA-55-DG-1	No changes.
Applicable Requirements	Federally Enforceable	Unit No.					
40 CFR 63, Subpart T National Emission Standards for Halogenated Solvent Cleaning	X	TA-55-DG-1					
<p><b>A1004 Operational Limitations – Degreasers</b></p> <p>A. The Degreasers source category is authorized for continuous operation. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with continuous hours of operation.</p>	No changes.						

Existing P100-R2M3 Permit Conditions - Degreaser	Proposed Changes
<p><b>A1007 Other – Degreasers</b></p> <p>B. Operational Requirements (Degreasers)</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Requirement:</b> The permittee shall comply with the applicable requirements according to 40 CFR 63, Subpart T, including, but not limited to:</p> <ol style="list-style-type: none"> <li>1) Ensure the degreaser is closed with a tight fitting cover whenever not in use, and</li> <li>2) Maintain a freeboard ratio of 0.75 or greater, and</li> <li>3) Collect and store all waste solvent and wipe rags in closed containers, and</li> <li>4) Perform flushing within the freeboard area only, and</li> <li>5) Allow cleaned parts to drip for 15 seconds or until dripping stops, and</li> <li>6) Do not exceed the fill line on the solvent level, and</li> <li>7) Wipe up spills immediately, and</li> <li>8) Do not create observable splashing with agitation device, and</li> <li>9) Ensure that the degreaser is not exposed to drafts greater than 40 meters/min, and</li> <li>10) Do not clean sponges, fabric, wood, or paper.</li> </ol> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Monitoring:</b> The permittee shall monitor and record the amount of solvent added to the degreaser.</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Calculate the actual emissions rate (pounds/month) of VOC and HAPs based on the quantity of solvent lost to evaporation on a monthly basis.</li> <li>2) Calculate the semi-annual emissions rate (tons/year) for this source category and add to the facility-wide emission rates in Table 106.B.</li> <li>3) Maintain records of the degreaser solvent content and quantity added and work practice checklists.</li> <li>4) The permittee shall maintain records in accordance with Section B109.</li> </ol> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </div>	<p>No changes</p>



Location of Degreaser at TA-55.

**Figure 2.5-2 Location of Degreaser at TA-55**



Emission Unit: TA-55-DG-1, Degreaser.

Figure 2.5-3 Plot Plan for Emission Unit TA-55-DG-1, Degreaser

## 2.6 Internal Combustion Sources

### 2.6.1 General Description of Source Category

LANL maintains and operates stationary and portable electrical generators with design capacities ranging from approximately 12 kW to 1,500 kW. Stationary generators are primarily used on standby (emergency) status to provide power to critical systems at LANL during power outages. The stationary generators are fueled by natural gas or diesel. Portable generators are used for temporary operations requiring remote power or to provide emergency backup power during power outages at various sites. The portable generators are fueled by gasoline or diesel. Within this category, there are also four stationary fire pumps located at LANL powered by diesel engines. The fire pumps are only used during an emergency should water pressure be lost.

NMED has two EPA-approved lists which exempt small emission sources with minor air emissions from Title V permit requirements. One list contains activities referenced as trivial (NMED List of Trivial Activities, January 10, 1996) and the second list contains activities termed insignificant (NMED List of Insignificant Activities, March 24, 2005). Trivial activities are not required to be included in permit applications and are exempt from permitting. Categories of insignificant sources are required to be listed in permit applications, but the activities themselves are also exempt from permitting. Numbered activities in these NMED lists are referenced in the paragraphs below.

**Stationary Standby Generators – Title V Insignificant Activity.** LANL maintains a pool of approximately 25 stationary standby generators at various locations throughout the Laboratory. All of these generators meet the definition of standby equipment under 20.2.70 NMAC and are used solely to provide emergency backup power for less than 500 hours annually. Therefore all of these units are defined as insignificant sources and exempt from the Title V operating permit program (Insignificant Activity #7). As described below, newer standby generators are subject to the NSPS for stationary engines and are therefore required to be in Title V permits. Even though these stationary generators are exempt from permitting, LANL has tracked and reported emissions from these sources in the semiannual emissions reports required by Permit P100-R2M3 to demonstrate facility-wide emission limits are being met. Over time, the total number of older standby generators in this category is diminishing as the units age and are replaced by new engines subject to NSPS standards.

**Generators – Title V Permitted Units.** LANL operates four portable generators that are used to support research-related activities at TA-33. Each unit has gone through NSR permitting and is currently



in Permit P100-R2M3 (Unit Nos. TA-33-G1P, G2, G3 and G4). Three stationary standby generators located at the RLUOB facility were exempt from NSR permitting but are not exempt from Title V due to applicable NSPS requirements. These three generators are also currently within Permit P100-R2M3 (Unit Nos. RLUOB-GEN-1, GEN-2 and GEN-3). There are four additional generators permitted in Permit P100-R2M3 (Unit Nos. TA-48-GEN-1, TA-55-GEN-1 , TA-55-2 and TA-55-GEN-3) that were exempt from NSR permitting but are not exempt from Title V due to applicable NSPS requirements . This application requests the addition of four new NSPS standby generators to the Title V permit (see proposed changes).

**Portable Generators.** LANL maintains a pool of portable generators used for temporary power at remote locations and to provide emergency back-up power. Many of these portable generators qualify as trivial activities based on size. Trivial Activity #21 exempts small portable generators that can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device from one location to another.

Some of the portable generators do not qualify as trivial activities, but are considered insignificant emission units based on rated capacity and fuel type. Insignificant Activity #6 is for portable engines with design capacity less than or equal to 200 horsepower if fueled by diesel or natural gas, and less than 500 horsepower if fueled by gasoline. Insignificant Activity #7 exempts emergency generators used less than 500 hours per year.

**Stationary Fire Pump Engines.** The four fire pump engines range in size from 110 to 225 hp. These are used only during emergencies. The engines pre-date the stationary engine NSPS and are not subject to it. The engines are also not subject to the stationary engine RICE NESHAP under the emergency engine exemption for institutional facilities. These engines are exempt from Title V under NMED trivial activity #5 as fire control equipment. There is an additional fire pump engine that was added during the last five years, however, this engine runs on electric power.

Table 2.6-1 summarizes the categories of internal combustion equipment at LANL.

**Table 2.6-1 Types of Internal Combustion Sources at LANL**

<b>Equipment Description</b>	<b>Approximate Total of Design Rating</b>	<b>Fuel</b>	<b>Operational Status</b>	<b>Permitting Status</b>
Stationary Standby Generators – Title V Insignificant Activity	10,895 generator kW	Natural Gas/ Diesel/LPG	Standby emergency	Exempt- Insignificant Activity #7
Generators – Title V Permitted Units	8380 generator kW	Diesel	Periodic for experimental research or Standby emergency	Currently or proposed to be within Permit P100-R2M3.
Portable Generators	1321generator kW	Gasoline/ Diesel	Standby emergency or portable temporary use	Exempt -Trivial Activity #21, and IEU #6 and 7
Fire Pump Engines	765 engine hp	Diesel	Standby emergency	Exempt – Trivial Activity #5

**2.6.2 Operating Schedule**

**Stationary Standby Generators – Title V Insignificant Activity.** These stationary standby generators operate whenever commercially available power is not available. These engines also are run periodically for testing and maintenance. Normally each generator is tested for approximately one hour per month. Past actual hours of operation for this pool of generators have typically been 10 to 15 hours per year. For the purpose of this application, the generators can operate at any time during the year.

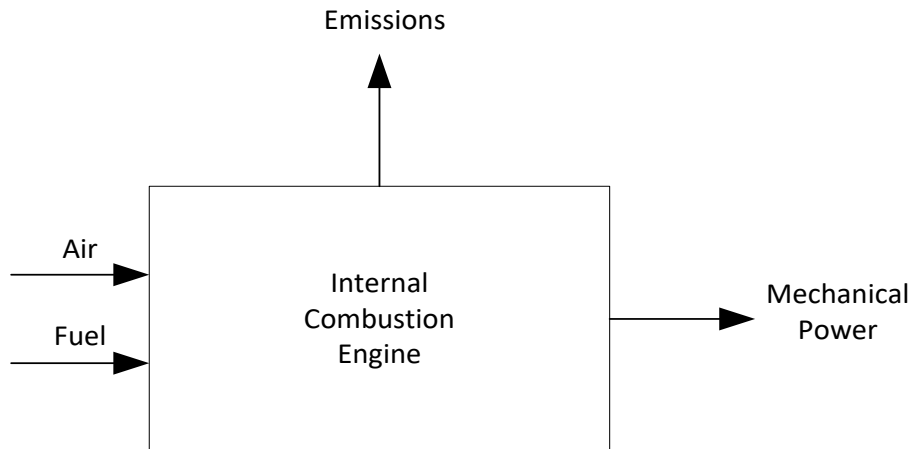
**Generators – Title V Permitted Units.** Each generator in this category has an annual operating restriction either due to NSR permit conditions or the stationary engine NSPS. All annual operating restrictions are either currently in Permit P100-R2M3 or proposed in this application. Standby emergency use generators subject to the stationary engine NSPS are limited to 100 hours per year operation for maintenance and readiness testing, with no limits for emergency use. The portable generators used at TA-33 are limited to 500 hours use per year. The large portable generator (TA-33-G1P) at TA-33 has operating restrictions approximately equal to 900 hours of operation per year and can only operate 8 hours per day between 7 AM and 5 PM.

**Portable Generators.** Portable generators operate on a temporary basis which can occur at any time.

**Stationary Fire Pump Engines.** These four engines operate only during emergencies or for periodic testing and maintenance.

**2.6.3 Process Flow Diagram**

A general process flow diagram for an internal combustion unit is provided in Figure 2.6-1.



**Figure 2.6-1 Process Flow Diagram for Internal Combustion Sources**

**2.6.4 Emissions**

Emissions from internal combustion engines include the criteria pollutants (NO<sub>x</sub>, CO, SO<sub>2</sub>, PM, and VOCs) and trace amounts of HAPs. All emission calculations and emission factors for this source category are shown in the worksheet “Internal Combustion” in the calculations section. Emission estimates are shown below in Table 2.6-2 for the permitted and stationary standby generator engine categories. The values shown represent annual maximum emissions considering any current or proposed enforceable operating restriction such as hours of operation.

**Table 2.6-2 Emissions Estimates for Internal Combustion Engines**

	<b>Stationary Standby Generators – Title V Insignificant Activity (tpy)</b>	<b>Generators – Title V Permitted Units (tpy)</b>	<b>Total (tpy)</b>
NO <sub>x</sub>	23.4	18.0	41.4
CO	5.5	9.8	15.3
SO <sub>x</sub>	1.3	0.7	2.0
PM	1.0	0.8	1.8
VOC	1.71	2.6	3.6
HAPs	0.01	0.006	0.02

### **2.6.5 Emissions Control Equipment**

There are no air pollution controls on the internal combustion engines.

### **2.6.6 Operational Plan**

Diesel and gasoline engines may have increased particulate emissions at startup until the engine is warmed up. This is a normal condition for older engines in this category. LANL is required to conduct opacity readings on recently permitted engines during cold startups and take corrective action if an opacity limit is exceeded. Increased emissions during shutdowns or malfunctions are not anticipated from this type of equipment.

### **2.6.7 Applicable Requirements**

The current applicable requirements for this source category are shown in Table 2.6-3. Included within the table are any proposed revisions to these existing conditions. Several changes are proposed in order to clarify existing permit conditions. For the new stationary standby generators (TA-50-GEN-184, TA-55-GEN-474, TA-55-GEN-475, and TA-63-GEN-TRU) which are subject to the stationary engine CI NSPS at Subpart IIII, several citations to these units and NSPS requirements should be made. EPA Region VI determined emergency use stationary engines at LANL are exempt from the requirements of the Part 63 Subpart ZZZZ RICE NESHAP in a letter dated October 11, 2012.

LANL is requesting at this time to add a restriction of an average of 100 hours per year which would be applicable to the non-NSPS standby generator pool diesel engines. An hours per year restriction of 500 hours is requested for standby generators with natural gas fuel. Previously there was a similar restriction in the initial Title V permit which had been proposed by LANL in the 2002 Title V application. The purpose of this request is to provide additional assurance that the calculated facility-wide potential to emit will not exceed major NSR thresholds. In the last five years, average operating hours per engine have ranged from 8 to 20 hours. The highest pollutant emitted, NO<sub>x</sub>, has ranged from 3 to 5 tons per year for the engine group, far below potential to emit values Any new stationary generator will be limited to 100 hours of operation per year under the stationary engine NSPS requirements.

### **2.6.8 Location and Plot Plans for Internal Combustion Sources**

The location and plot plans for permitted internal combustion sources at LANL can be found in Figures 2.6-2 through 2.6-12.

**Table 2.6-3 Existing Permit Conditions for Internal Combustions Sources and Proposed Changes**

Existing P100-R2M3 Permit Conditions – Internal Combustion Sources									Proposed Changes
<b>A1100 Regulated Sources – Internal Combustion</b>									Add new standby NSPS generators TA-50-GEN-184, TA-55-GEN-474, TA-55-GEN-475, and TA-63-GEN-TRU to table.  The generator serial numbers for RLUOB-GEN-1 through -3 are slightly incorrect, they should read: RLUOB-GEN-1: I060970810; RLUOB-GEN-2: I060970811; RLUOB-GEN-3: I060970812.
A. Table 1100.A lists all of the process equipment authorized for this source category.									
<b>Table 1100.A: Regulated Sources List</b>									
Unit No.	Source Location	Source Type <sup>1</sup>	Generator Make/ Model	Generator Serial No.	Capacity	Engine Make/Model	Engine Serial No.	Manufacture Date	
TA-33-G-1P	TA-33	CI-RICE, Portable Generator	Cummins/ DFHD	H010276941	1490 hp	Cummins/QS T30-G5-NR1	37199764	2001	
TA-33-G-2	TA-33, TA-36 and TA-39	CI-RICE, Portable Generator	Kohler/ 20EORZ	2025460	36 hp	YANMAR 4TNE84T - EKRW	52993	2003	
TA-33-G-3	TA-33, TA-36 and TA-39	CI-RICE, Portable Generator	Kohler/ 20EORZ	2025461	36 hp	YANMAR 4TNE84T - EKRW	52992	2003	
TA-33-G-4	TA-33, TA-36 and TA-39	CI-RICE, Portable Generator	Caterpillar /SR4B	6PK01065	316 hp	Caterpillar/ 3306	8JJ00165	1999	
RLUOB-GEN-1	TA-55-00585 (RLUOB)	CI-RICE Stationary Generator	Cummins/ DFLE- 5754172	I06970810	2220 hp	Cummins/ KTA50G9	25314401	9/06	
RLUOB-GEN-2	TA-55-0584 (RLUOB)	CI-RICE Stationary Generator	Cummins/ DFLE- 5754172	I06970811	2220 hp	Cummins/ KTA50G9	25314399	9/06	

Existing P100-R2M3 Permit Conditions – Internal Combustion Sources									Proposed Changes
<b>A1100 Regulated Sources – Internal Combustion <i>continued</i></b>									
Unit No.	Source Location	Source Type <sup>1</sup>	Generator Make/Model	Generator Serial No.	Capacity	Engine Make/Model	Engine Serial No.	Manufacture Date	
RLUOB-GEN-3	TA-55-0583 (RLUOB)	CI-RICE Stationary Generator	Cummins/DFLE-5754172	I06970812	2220 hp	Cummins/KTA50G9	33165566	9/06	
TA-48-GEN-1	TA-48-1	CI-RICE Stationary Generator	Cummins/150DSGAC	L100178636	250 hp	QSB7-G3NR3	73176927	2010	
TA-55-GEN-1	TA-55-PF10	CI-RICE Stationary Generator	Whisper Watt/DCA 25SSiU4F DF-027012	7150008	40.2 hp	ISUZU Model: BZ-4LE2T	4LE2-298868	2014	
TA-55-GEN-2	TA-55-PF11	CI-RICE Stationary Generator	Whisper Watt/DCA 25SSiU4F DF-027012	7150066	40.2 hp	ISUZU Model: BZ-4LE2T	4LE2-299432	2014	
TA-55-GEN-3	TA-55-371	CI-RICE Stationary Generator	Caterpillar /SR4B-6D	G5C03702	1335 hp	Caterpillar/ C32	SYCO5236	2009	

Existing P100-R2M3 Permit Conditions – Internal Combustion Sources												Proposed Changes	
<b>A1102 Emission Limits – Internal Combustion</b>													
<b>Table 1102.A: Allowable Emissions</b>													
Unit No.	NO <sub>x</sub> pph	NO <sub>x</sub> tpy	CO pph	CO tpy	VOC pph	VOC tpy	SO <sub>2</sub> pph	SO <sub>2</sub> tpy	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy	Change allowable emissions for Unit TA-33-G-1P to the lower emission rates shown on Permit Form UA2 2-E Requested Allowable Emissions. The lower rates reflect the operating conditions of this unit which replaced a larger generator in an NSR technical revision.
TA-33-G-1P	40.3	18.1	33.7	15.2	0.7	0.3	5.5	2.5	1.4	0.6	1.4	0.6	
TA-33-G-2	0.83	0.21	0.2	0.1	0.1	-- <sup>1</sup>	--	--	--	--	--	--	
TA-33-G-3	0.83	0.21	0.2	0.1	0.1	-- <sup>1</sup>	--	--	--	--	--	--	
TA-33-G-4	9.33	2.33	5.7	1.4	0.75	0.2	0.6	0.16	--	--	--	--	
<sup>1</sup> The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in condition A106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined HAPs.													

Existing P100-R2M3 Permit Conditions – Internal Combustion Sources			Proposed Changes																										
<p><b>A1103 Applicable Requirements – Internal Combustion</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 1103.A</p> <p><b>Table 1103.A: Applicable Requirements</b></p> <table border="1"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>NSR Permit 2195F-R4</td> <td>X</td> <td>TA-33-G-1P</td> </tr> <tr> <td>NSR Permit 2195P and 2195-P3, 2195P-R1 and 2195P-R3</td> <td>X</td> <td>TA-33-G-2 through -4</td> </tr> <tr> <td>NSR Permit 2195N-R1</td> <td>X</td> <td>RLUOB-GEN-1 through -3</td> </tr> <tr> <td>20.2.61 NMAC Smoke and Visible Emissions</td> <td>X</td> <td>All Internal Combustion Sources</td> </tr> <tr> <td>20.2.77 New Source Performance Standards</td> <td>X</td> <td>Applicable to RLUOB-GEN-1 through-3, TA-48-GEN-1, TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3</td> </tr> <tr> <td>40 CFR 60, Subpart A, General Provisions</td> <td>X</td> <td rowspan="2">Applicable to RLUOB-GEN-1 through-3, TA-48-GEN-1, TA-48-GEN-1, TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3</td> </tr> <tr> <td>40 CFR 60 Subpart IIII, Stationary CI-RICE</td> <td>X</td> </tr> <tr> <td>40 CFR 89, Control of Emissions from New and In-Use Nonroad Compression Ignition Engines</td> <td>X</td> <td>TA-33-G-2 through -4</td> </tr> </tbody> </table>			Applicable Requirements	Federally Enforceable	Unit No.	NSR Permit 2195F-R4	X	TA-33-G-1P	NSR Permit 2195P and 2195-P3, 2195P-R1 and 2195P-R3	X	TA-33-G-2 through -4	NSR Permit 2195N-R1	X	RLUOB-GEN-1 through -3	20.2.61 NMAC Smoke and Visible Emissions	X	All Internal Combustion Sources	20.2.77 New Source Performance Standards	X	Applicable to RLUOB-GEN-1 through-3, TA-48-GEN-1, TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3	40 CFR 60, Subpart A, General Provisions	X	Applicable to RLUOB-GEN-1 through-3, TA-48-GEN-1, TA-48-GEN-1, TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3	40 CFR 60 Subpart IIII, Stationary CI-RICE	X	40 CFR 89, Control of Emissions from New and In-Use Nonroad Compression Ignition Engines	X	TA-33-G-2 through -4	<p>Add new generators TA-50-GEN-184, TA-55-GEN-474, TA-55-GEN-475, and TA-63-GEN-TRU to 20.2.77 NSPS Subpart IIII.</p>
Applicable Requirements	Federally Enforceable	Unit No.																											
NSR Permit 2195F-R4	X	TA-33-G-1P																											
NSR Permit 2195P and 2195-P3, 2195P-R1 and 2195P-R3	X	TA-33-G-2 through -4																											
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40 CFR 60 Subpart IIII, Stationary CI-RICE	X																												
40 CFR 89, Control of Emissions from New and In-Use Nonroad Compression Ignition Engines	X	TA-33-G-2 through -4																											



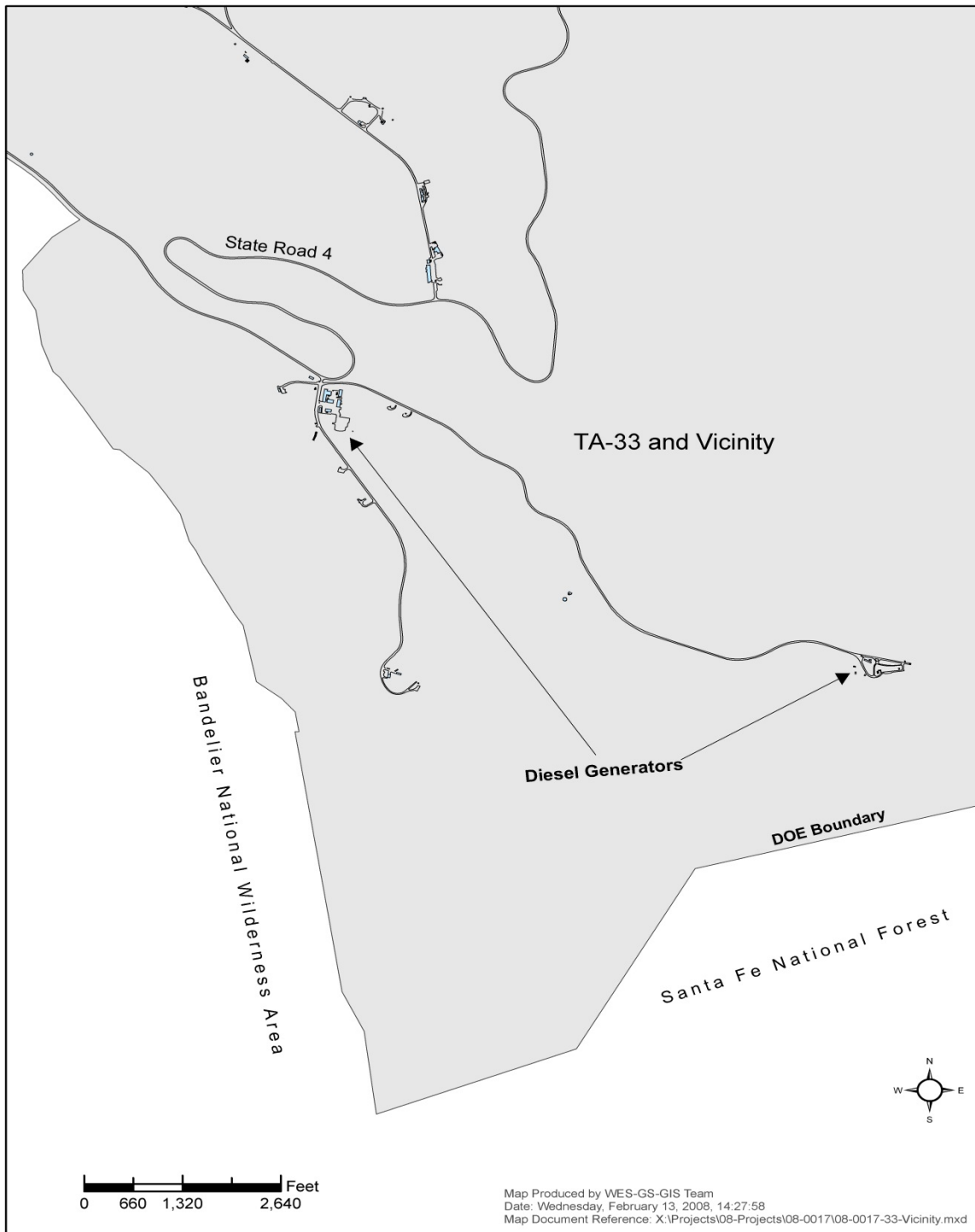
Existing P100-R2M3 Permit Conditions – Internal Combustion Sources	Proposed Changes				
<p><b>A1104 Operational Limitations – Internal Combustion</b></p> <p>A. Hours of Operation and Emission Limits for Unit TA-33-G-1P</p> <table border="1" data-bbox="312 337 1600 1027"> <tr> <td data-bbox="312 337 1600 540"> <p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1) Unit TA-33-G-1P is limited to eight (8) hours of daily operation at full capacity. Operation shall occur between the hours of 7:00 AM and 5:00 PM. (NSR Permit 2195F-R4, Condition A1104.A)</li> <li>2) Unit TA-33-G-1P is limited to the emissions limits stated in Table 1102.A. (NSR Permit 2195F-R4, Condition A1104.A)</li> </ol> </td> </tr> <tr> <td data-bbox="312 540 1600 699"> <p><b>Monitoring:</b> The permittee shall monitor the time(s) of operation each day, and the daily and monthly rolling 12-month total hours of operation for Unit TA-33-G-1P using a non-resettable hour meter. Hours that do not represent hours the unit is operated at the TA-33 site may be monitored separately for subsequent subtraction from the daily and monthly rolling 12-month totals</p> </td> </tr> <tr> <td data-bbox="312 699 1600 980"> <p><b>Recordkeeping:</b> The permittee shall maintain the following records and in accordance with Section B109:</p> <ol style="list-style-type: none"> <li>1) The permittee shall keep records of the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset listed above, as indicated on the non-resettable hour meter. The permittee may record and subtract hours of operation that do not represent operating hours at the TA-33 site.</li> <li>2) The permittee shall calculate the annual emissions of all criteria and hazardous air pollutants from Unit TA-33-G-1P. The permittee may subtract emissions that are not the result of operations at TA-33.</li> </ol> </td> </tr> <tr> <td data-bbox="312 980 1600 1027"> <p><b>Reporting:</b> The permittee shall submit reports in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1) Unit TA-33-G-1P is limited to eight (8) hours of daily operation at full capacity. Operation shall occur between the hours of 7:00 AM and 5:00 PM. (NSR Permit 2195F-R4, Condition A1104.A)</li> <li>2) Unit TA-33-G-1P is limited to the emissions limits stated in Table 1102.A. (NSR Permit 2195F-R4, Condition A1104.A)</li> </ol>	<p><b>Monitoring:</b> The permittee shall monitor the time(s) of operation each day, and the daily and monthly rolling 12-month total hours of operation for Unit TA-33-G-1P using a non-resettable hour meter. Hours that do not represent hours the unit is operated at the TA-33 site may be monitored separately for subsequent subtraction from the daily and monthly rolling 12-month totals</p>	<p><b>Recordkeeping:</b> The permittee shall maintain the following records and in accordance with Section B109:</p> <ol style="list-style-type: none"> <li>1) The permittee shall keep records of the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset listed above, as indicated on the non-resettable hour meter. The permittee may record and subtract hours of operation that do not represent operating hours at the TA-33 site.</li> <li>2) The permittee shall calculate the annual emissions of all criteria and hazardous air pollutants from Unit TA-33-G-1P. The permittee may subtract emissions that are not the result of operations at TA-33.</li> </ol>	<p><b>Reporting:</b> The permittee shall submit reports in accordance with Section B110.</p>	<p>Request the addition of an operational limitation of an average of 100 annual hours for diesel engines and 500 annual hours for natural gas engines for units in the standby generator pool.</p>
<p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1) Unit TA-33-G-1P is limited to eight (8) hours of daily operation at full capacity. Operation shall occur between the hours of 7:00 AM and 5:00 PM. (NSR Permit 2195F-R4, Condition A1104.A)</li> <li>2) Unit TA-33-G-1P is limited to the emissions limits stated in Table 1102.A. (NSR Permit 2195F-R4, Condition A1104.A)</li> </ol>					
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<p><b>Recordkeeping:</b> The permittee shall maintain the following records and in accordance with Section B109:</p> <ol style="list-style-type: none"> <li>1) The permittee shall keep records of the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset listed above, as indicated on the non-resettable hour meter. The permittee may record and subtract hours of operation that do not represent operating hours at the TA-33 site.</li> <li>2) The permittee shall calculate the annual emissions of all criteria and hazardous air pollutants from Unit TA-33-G-1P. The permittee may subtract emissions that are not the result of operations at TA-33.</li> </ol>					
<p><b>Reporting:</b> The permittee shall submit reports in accordance with Section B110.</p>					

Existing P100-R2M3 Permit Conditions – Internal Combustion Sources	Proposed Changes				
<p>B. Hours of Operation and Emission Limits for Units TA-33-G-2 through -4</p> <table border="1" data-bbox="312 285 1600 889"> <tr> <td data-bbox="312 285 1600 477"> <p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1) Units TA-33-G-2 through -4 are authorized to operate 500 hours per generator per calendar year. (NSR Permit 2195P, Specific Condition 1.b.)</li> <li>2) Units TA-33-G-2 through -4 shall each be certified to be in compliance with applicable non-road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 1.c.)</li> </ol> </td> </tr> <tr> <td data-bbox="312 480 1600 561"> <p><b>Monitoring:</b> The permittee shall monitor the total hours of operation for each genset, Units TA-33-G-2 through -4, using a non-resettable hour meter.</p> </td> </tr> <tr> <td data-bbox="312 565 1600 841"> <p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total hours operation of the gensets listed above, as indicated on the non-resettable hour meter. (NSR Permit 2195P, Specific Condition 4.a., revised)</li> <li>2) Calculate and record the semi-annual emissions of criteria and hazardous air pollutants from each genset, Units TA-33-G-2 through -4.</li> <li>3) Maintain a copy of the engine certification to the applicable non road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 4.c.)</li> </ol> </td> </tr> <tr> <td data-bbox="312 844 1600 889"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1) Units TA-33-G-2 through -4 are authorized to operate 500 hours per generator per calendar year. (NSR Permit 2195P, Specific Condition 1.b.)</li> <li>2) Units TA-33-G-2 through -4 shall each be certified to be in compliance with applicable non-road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 1.c.)</li> </ol>	<p><b>Monitoring:</b> The permittee shall monitor the total hours of operation for each genset, Units TA-33-G-2 through -4, using a non-resettable hour meter.</p>	<p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total hours operation of the gensets listed above, as indicated on the non-resettable hour meter. (NSR Permit 2195P, Specific Condition 4.a., revised)</li> <li>2) Calculate and record the semi-annual emissions of criteria and hazardous air pollutants from each genset, Units TA-33-G-2 through -4.</li> <li>3) Maintain a copy of the engine certification to the applicable non road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 4.c.)</li> </ol>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirements:</b></p> <ol style="list-style-type: none"> <li>1) Units TA-33-G-2 through -4 are authorized to operate 500 hours per generator per calendar year. (NSR Permit 2195P, Specific Condition 1.b.)</li> <li>2) Units TA-33-G-2 through -4 shall each be certified to be in compliance with applicable non-road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 1.c.)</li> </ol>					
<p><b>Monitoring:</b> The permittee shall monitor the total hours of operation for each genset, Units TA-33-G-2 through -4, using a non-resettable hour meter.</p>					
<p><b>Recordkeeping:</b> The permittee shall:</p> <ol style="list-style-type: none"> <li>1) Record the total hours operation of the gensets listed above, as indicated on the non-resettable hour meter. (NSR Permit 2195P, Specific Condition 4.a., revised)</li> <li>2) Calculate and record the semi-annual emissions of criteria and hazardous air pollutants from each genset, Units TA-33-G-2 through -4.</li> <li>3) Maintain a copy of the engine certification to the applicable non road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 4.c.)</li> </ol>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

Existing P100-R2M3 Permit Conditions – Internal Combustion Sources	Proposed Changes				
<p><b>A1105 Fuel Sulfur Requirements – Internal Combustion</b></p> <p>A. Fuel Sulfur Requirement for Unit TA-33-G-1P</p> <table border="1" data-bbox="312 337 1602 751"> <tr> <td data-bbox="312 337 1602 423"> <p><b>Requirement:</b> Unit TA-33-G-1P while in use at TA-33 shall combust only diesel fuel containing no more than 500 ppmw total sulfur.</p> </td> </tr> <tr> <td data-bbox="312 423 1602 472"> <p><b>Monitoring:</b> None.</p> </td> </tr> <tr> <td data-bbox="312 472 1602 704"> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p> </td> </tr> <tr> <td data-bbox="312 704 1602 751"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> Unit TA-33-G-1P while in use at TA-33 shall combust only diesel fuel containing no more than 500 ppmw total sulfur.</p>	<p><b>Monitoring:</b> None.</p>	<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirement:</b> Unit TA-33-G-1P while in use at TA-33 shall combust only diesel fuel containing no more than 500 ppmw total sulfur.</p>					
<p><b>Monitoring:</b> None.</p>					
<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p><b>A1106 20.2.61 NMAC Opacity – Internal Combustion</b></p> <p>A. CI-RICE – TA-33-G-1P, TA-33-G-2, TA-33-G-3, TA-33-G-4, RLUOB-GEN-1, RLUOB-GEN-2, RLUOB-GEN-3, TA-48-GEN-1, TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3</p> <table border="1" data-bbox="312 919 1602 1333"> <tr> <td data-bbox="312 919 1602 1005"> <p><b>Requirement:</b> Visible emissions from the stacks of the above listed sources shall not equal or exceed an opacity of 20 percent.</p> </td> </tr> <tr> <td data-bbox="312 1005 1602 1162"> <p><b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year as qualified by the Section B108.D monitoring provisions. This requirement excludes Insignificant and Trivial Activities.</p> </td> </tr> <tr> <td data-bbox="312 1162 1602 1248"> <p><b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="312 1248 1602 1333"> <p><b>Reporting:</b> The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> Visible emissions from the stacks of the above listed sources shall not equal or exceed an opacity of 20 percent.</p>	<p><b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year as qualified by the Section B108.D monitoring provisions. This requirement excludes Insignificant and Trivial Activities.</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Add new emergency generators TA-50-GEN-184, TA-55-GEN-474, TA-55-GEN-475, and TA-63-GEN-TRU to A1106.A.</p>
<p><b>Requirement:</b> Visible emissions from the stacks of the above listed sources shall not equal or exceed an opacity of 20 percent.</p>					
<p><b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year as qualified by the Section B108.D monitoring provisions. This requirement excludes Insignificant and Trivial Activities.</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

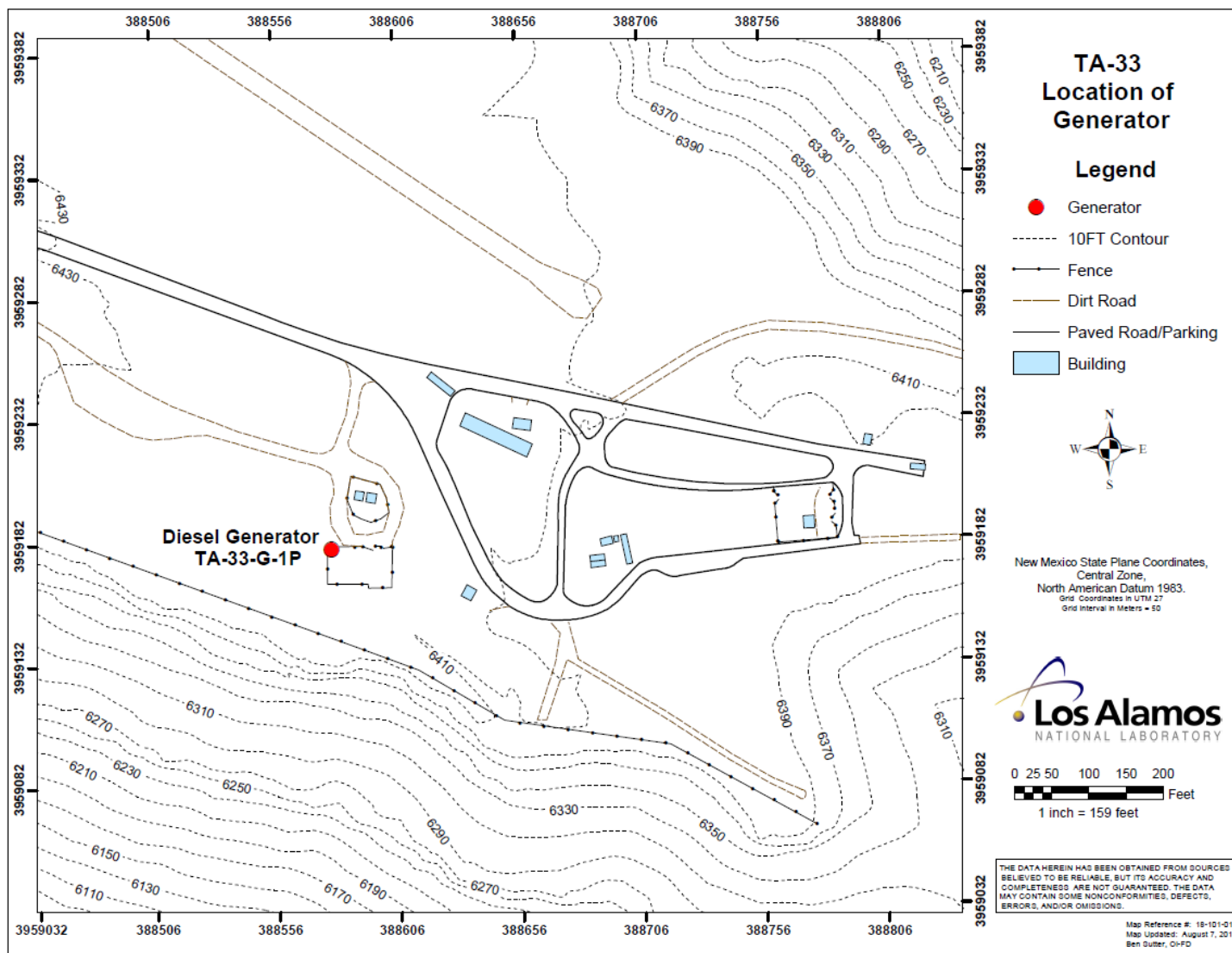
Existing P100-R2M3 Permit Conditions – Internal Combustion Sources	Proposed Changes				
<p><b>A1107 Other – Internal Combustion</b></p> <p>A. 40 CFR 60, Subpart IIII (Emergency Generators Units RLUOB-GEN-1 through -3)</p> <table border="1" data-bbox="315 337 1602 662"> <tr> <td data-bbox="323 344 1593 493"> <p><b>Requirements:</b> The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(a), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211(a, b, and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.</p> </td> </tr> <tr> <td data-bbox="323 496 1593 537"> <p><b>Monitoring:</b> None.</p> </td> </tr> <tr> <td data-bbox="323 540 1593 581"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="323 584 1593 656"> <p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirements:</b> The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(a), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211(a, b, and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.</p>	<p><b>Monitoring:</b> None.</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p>	<p>In order to clarify the slight difference in A1107.A and A1107.B with respect to NSPS emission standards, insert “for pre-2007 model year engines” at the end of the first sentence under Requirements.</p> <p>Remove reference to Table 1102.B in A1107.A. Table 1102.B does not exist in the Title V permit.</p>
<p><b>Requirements:</b> The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(a), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211(a, b, and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.</p>					
<p><b>Monitoring:</b> None.</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p>					

Existing P100-R2M3 Permit Conditions – Internal Combustion Sources	Proposed Changes				
<p>B. NSPS 40 CFR 60 Subpart IIII (Emergency Generator Unit TA-48-GEN-1, TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3).</p> <table border="1" data-bbox="312 285 1600 625"> <tr> <td data-bbox="312 285 1600 444"> <p><b>Requirement:</b> The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(b), §60.4202(a)(2), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211 (a, c and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.</p> </td> </tr> <tr> <td data-bbox="312 448 1600 493"> <p><b>Monitoring:</b> None.</p> </td> </tr> <tr> <td data-bbox="312 496 1600 542"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="312 545 1600 625"> <p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(b), §60.4202(a)(2), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211 (a, c and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.</p>	<p><b>Monitoring:</b> None.</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p>	<p>Remove the citation to §60.4202 which is applicable to engine manufacturers, not owners/operators. Owners/operators maintain a record of the certification.</p> <p>Add new generators TA-50-GEN-184, TA-55-GEN-474, TA-55-GEN-475, and TA-63-GEN-TRU to this condition.</p> <p>Remove reference to Table 1102.B in A1107.B. Table 1102.B does not exist in the Title V permit.</p>
<p><b>Requirement:</b> The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(b), §60.4202(a)(2), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211 (a, c and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.</p>					
<p><b>Monitoring:</b> None.</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p>					



Location of Diesel Generators at TA-33.

**Figure 2.6-2 Location of Diesel Generators at TA-33**



Emission Units: TA-33-G-1P, TA-33-G-2, TA-33-G-3, TA-33-G-4 are mobile.

**Figure 2.6-3 Plot Plan for Emission Unit TA-33-G-1P (TA-33-G-2, TA-33-G-3, TA-33-G-4 are portable)**

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

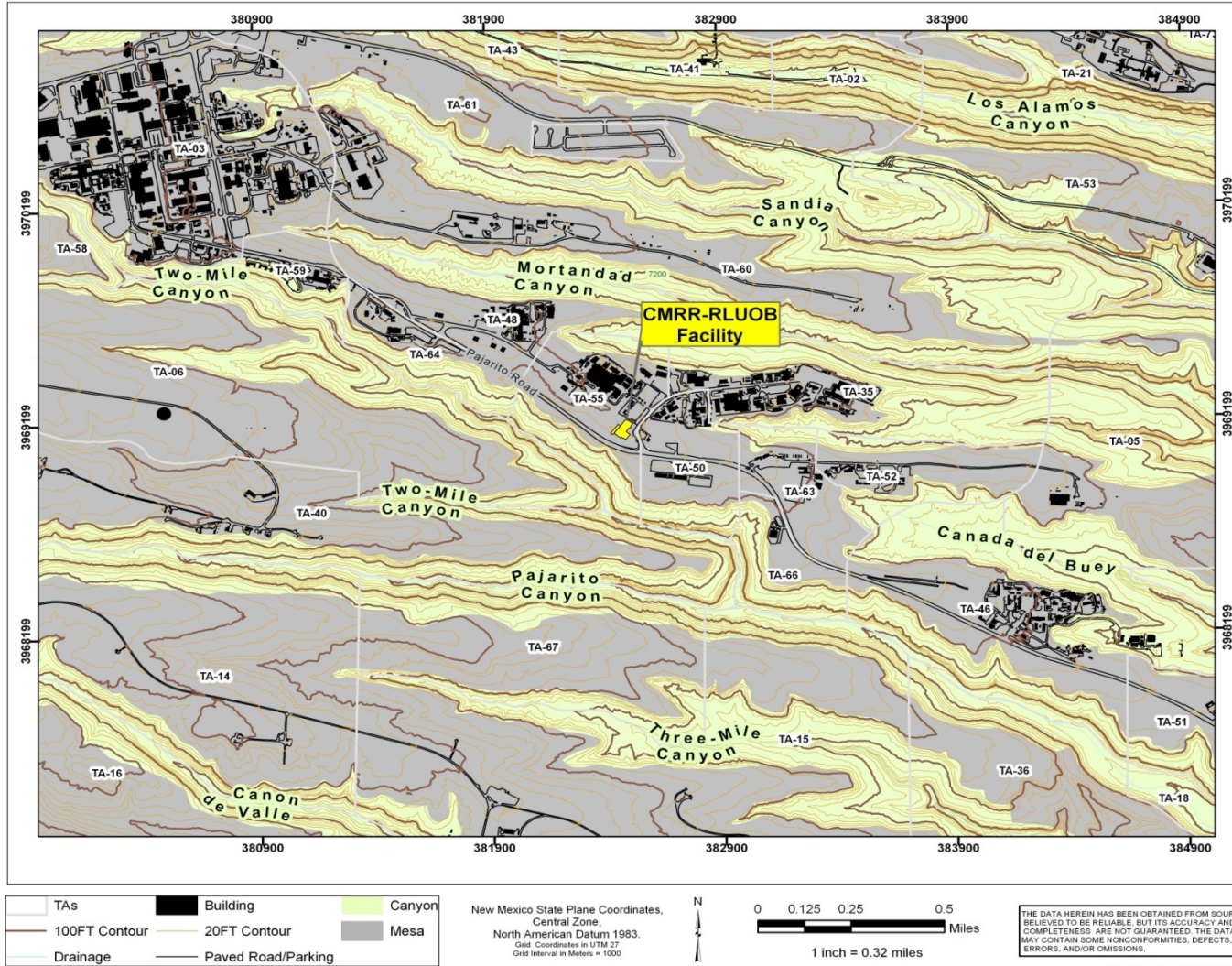


Figure 2.6-4 Location of Generators at CMRR-RLUOB



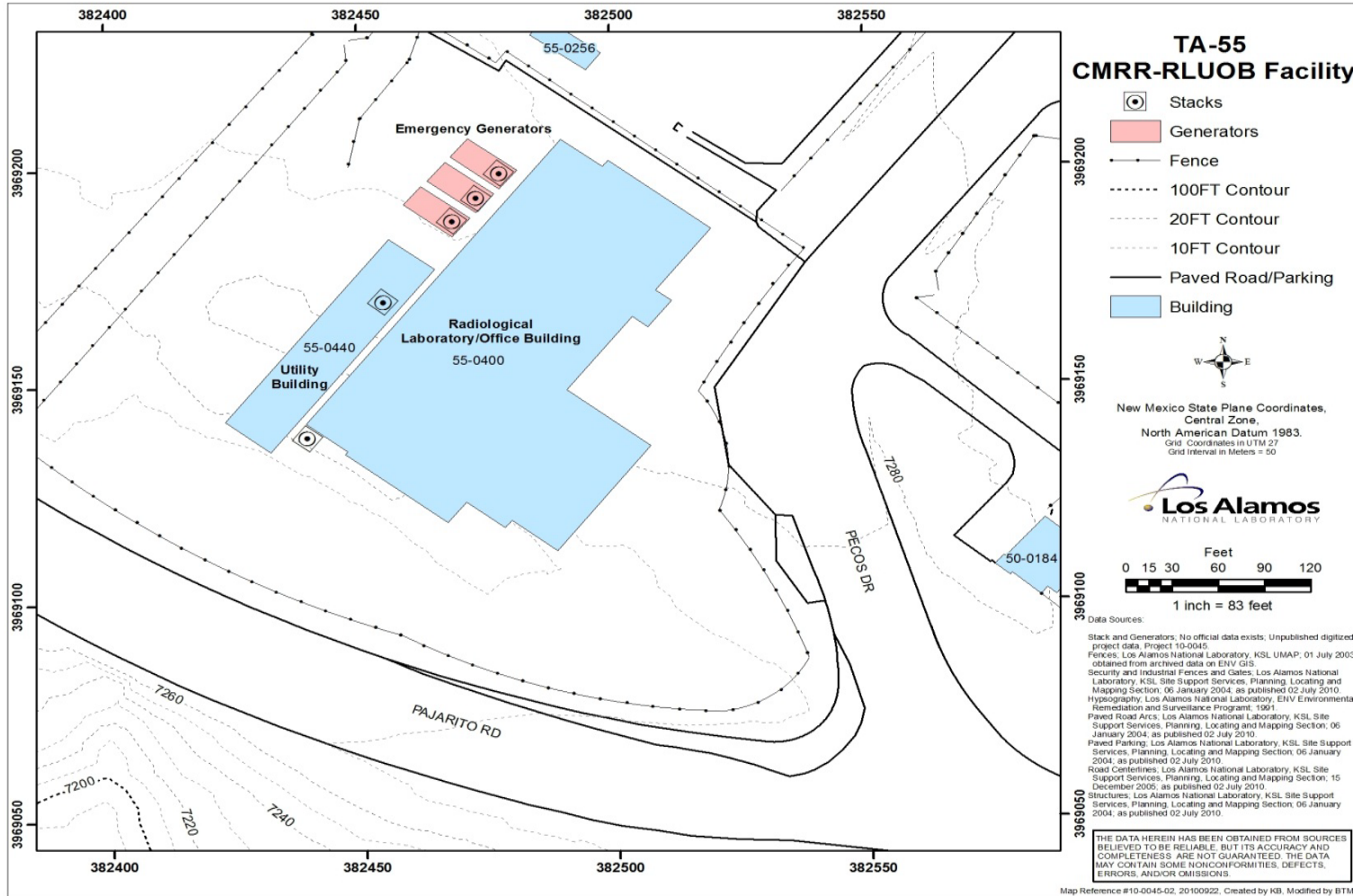
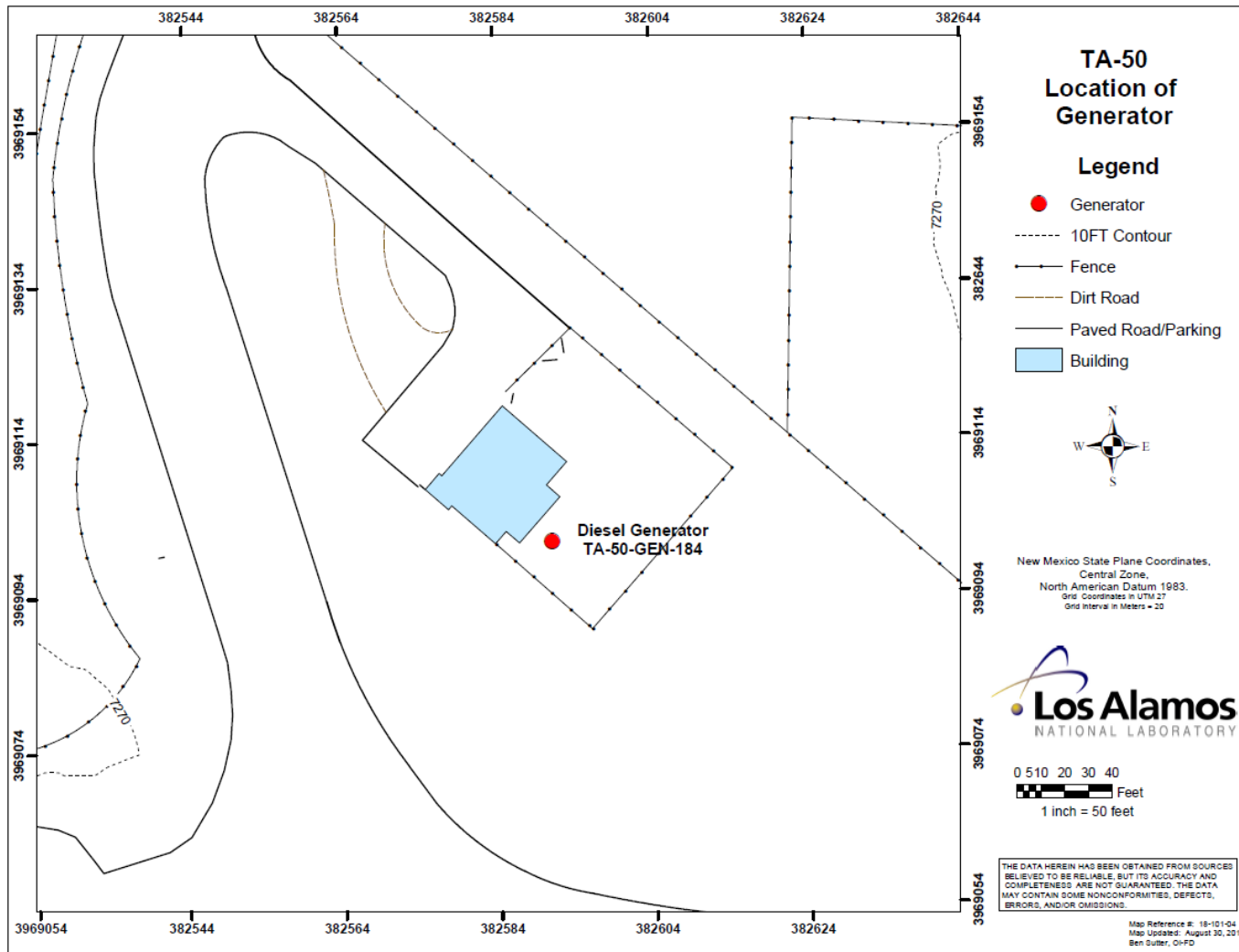
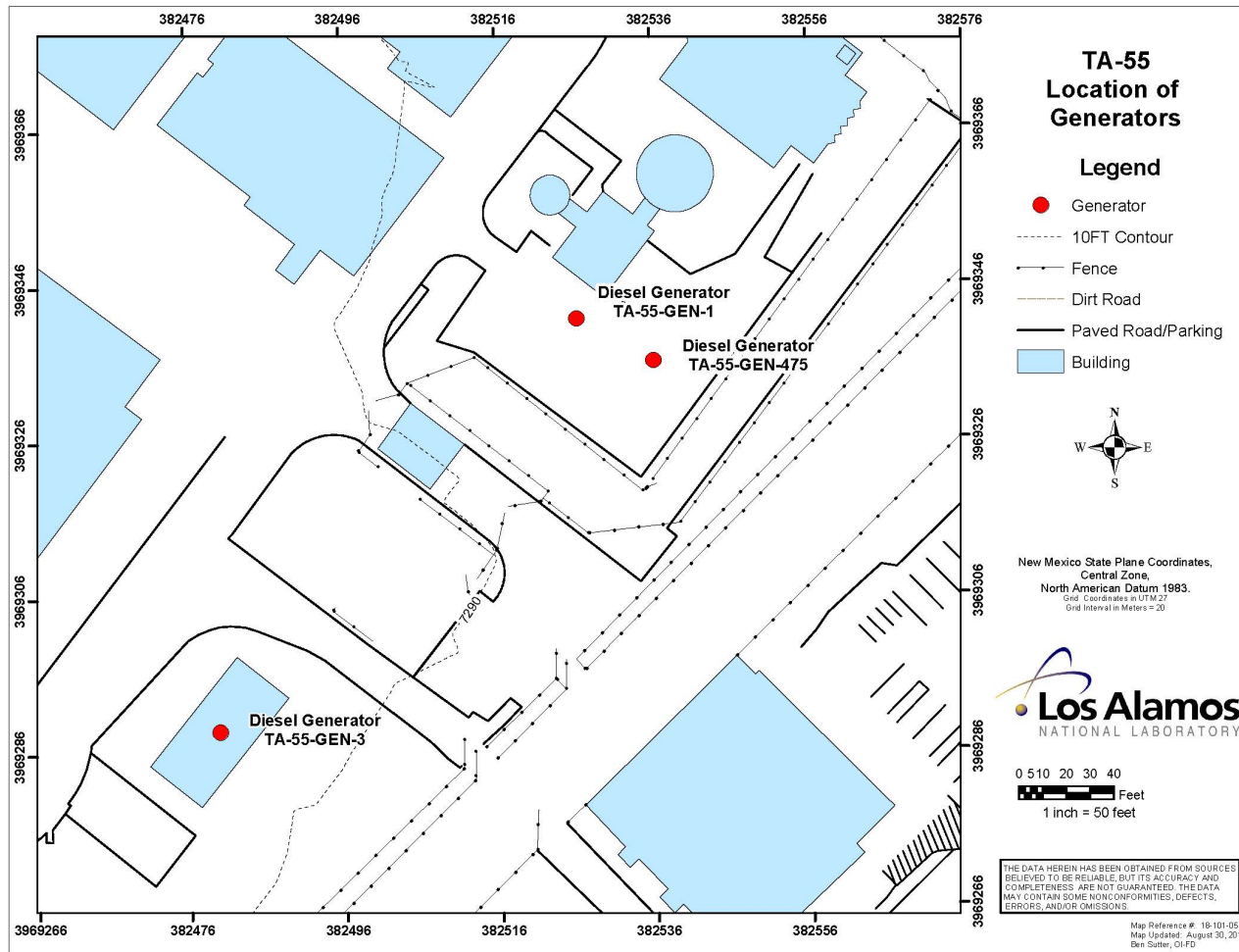


Figure 2.6-5 Plot Plan for Generators RLUOB-GEN 1 through 3



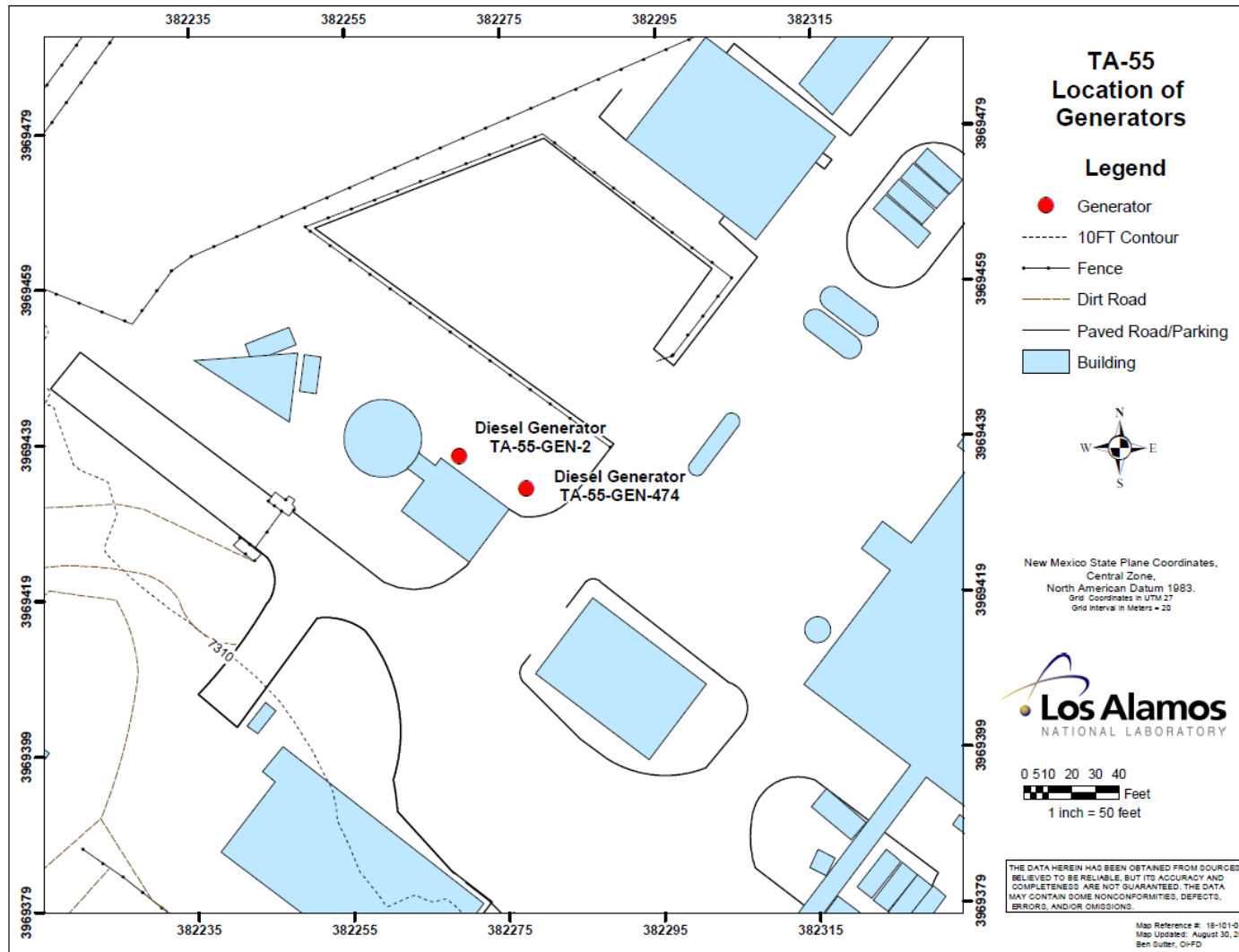
Emission Unit: TA-50-GEN-184, Diesel Generator.

**Figure 2.6-6 Plot Plan for Generator TA-50-GEN-184**



Emission Units: TA-55-GEN-1, TA-55-GEN-3, TA-55-GEN-475, Diesel Generators.

**Figure 2.6-7 Plot Plan for Generators TA-55-GEN-1, TA-55-GEN-3, TA-55-GEN-475**



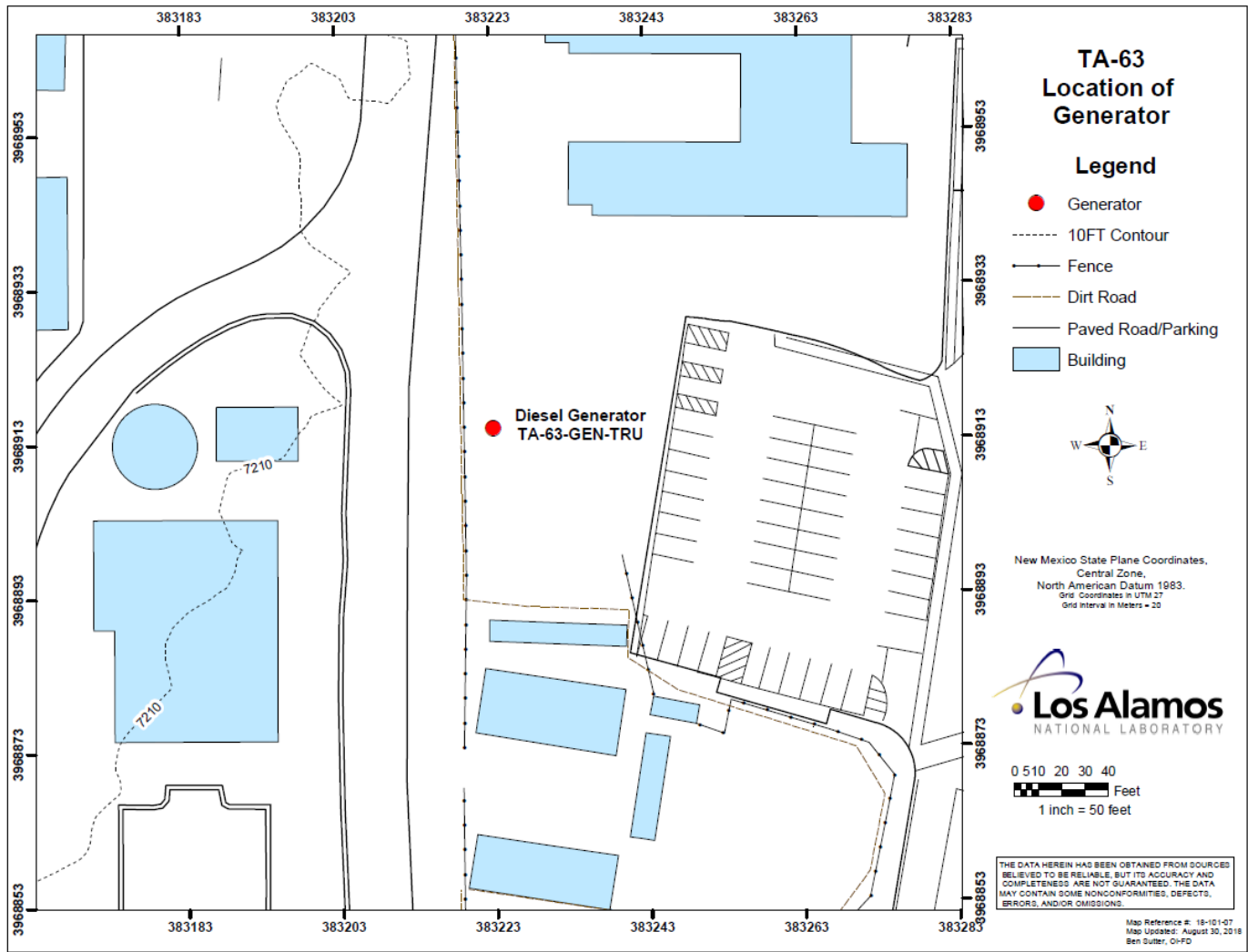
Emission Units: TA-55-GEN-2, TA-55-GEN-474, Diesel Generators.

**Figure 2.6-8 Plot Plan for Generators TA-55-GEN-2 and TA-55-GEN-474**



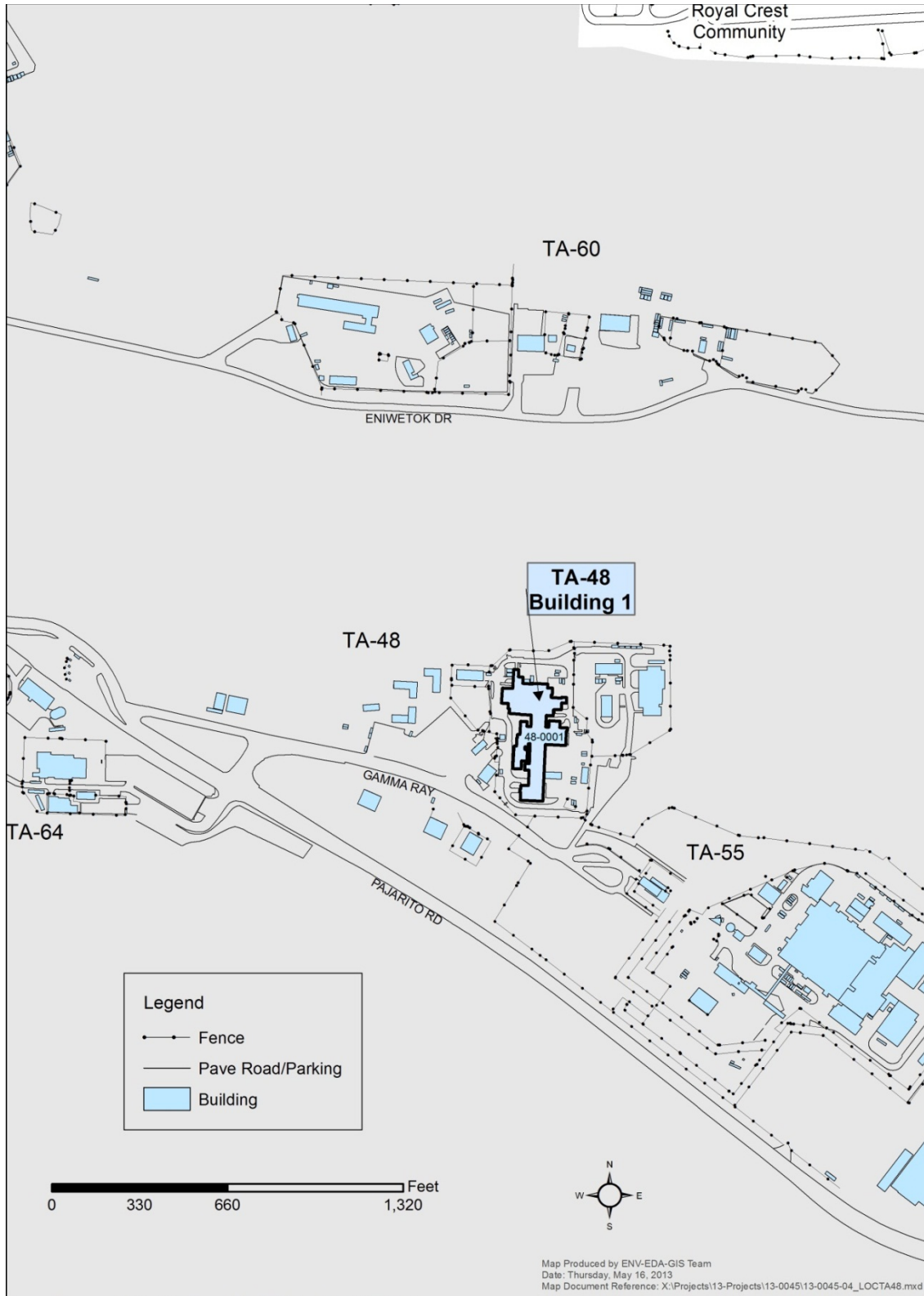
Location of Diesel Generator at TA-63.

Figure 2.6-9 Location of Generators at TA-63



Emission Unit: TA-63-GEN-TRU, Diesel Generator.

**Figure 2.6-10 Location of Generator TA-63-GEN-TRU**



Location of Emission Unit TA-48-GEN-1.

**Figure 2.6-11 Location of Generator TA-48-GEN-1**

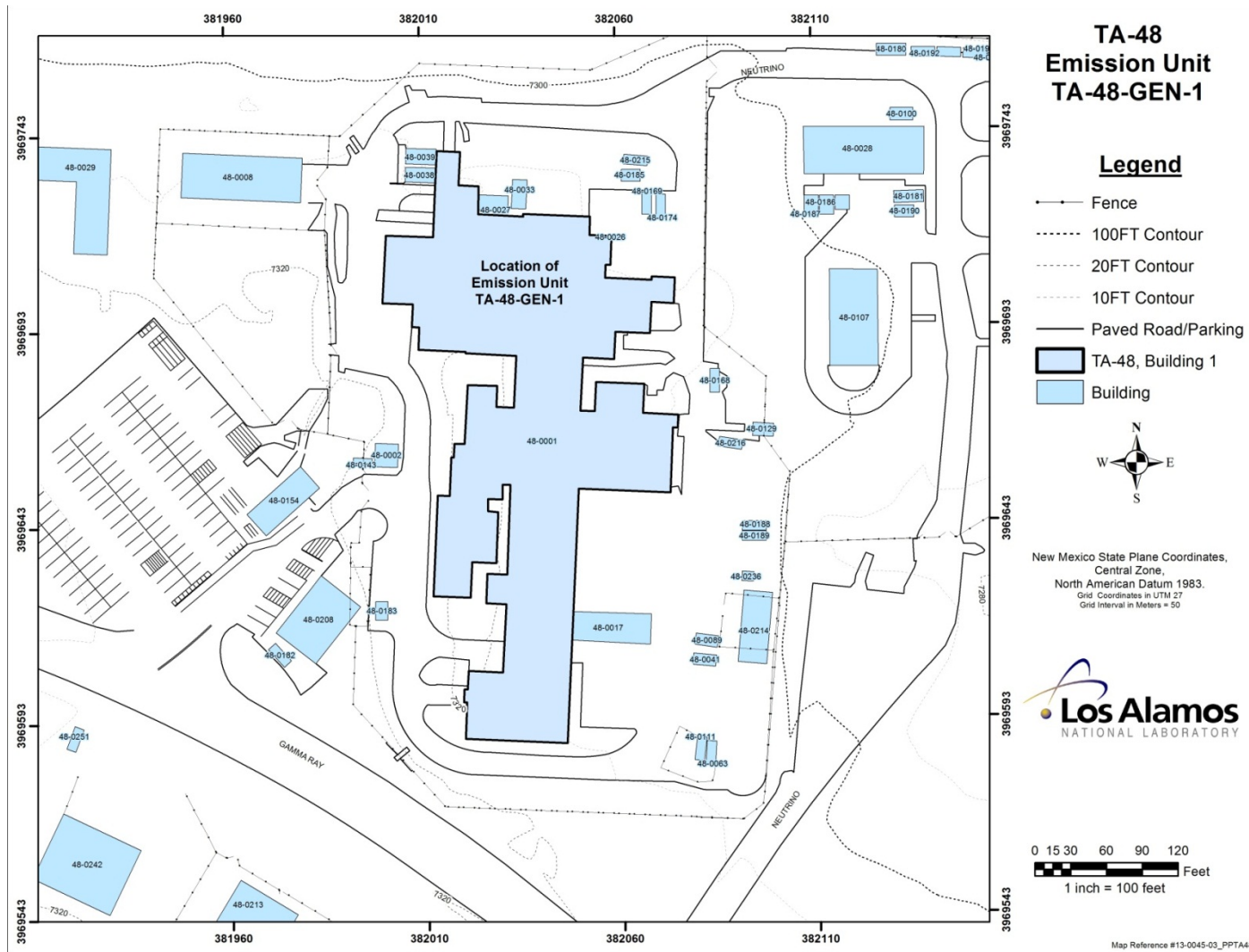


Figure 2.6-12 Plot Plan for Generator TA-48-GEN-1



## 2.7 Data Disintegrator

### 2.7.1 General Description of Source Category

The data disintegrator was installed at TA-52-11 in July of 2004. This unit was permitted for installation under NSR Air Quality Permit No. 2195-H issued by NMED on October 22, 2003. The data disintegrator is capable of data destruction of paper, microfiche, film, plastic magnetic tape, and compact discs.

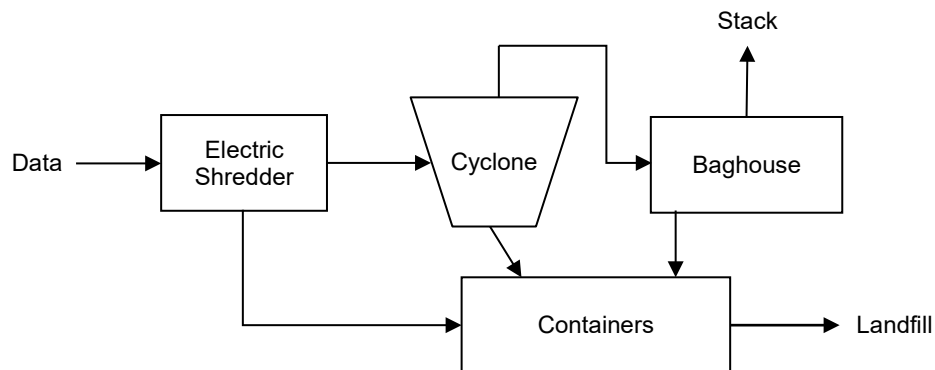
Paper materials suspended in the exhaust are processed through a cyclone separator and cloth tube filters. The paper particles captured by the cyclone separator and cloth tube filters are collected in containers located outside of the facility. The containers are then sent to the county regional landfill for disposal of the material. Film, plastic magnetic tape, and compact disc material do not enter the external exhaust system and are instead captured in a separate collection system contained inside the building. This material is sent out for metals recycling and disposal.

### 2.7.2 Operating Schedule

The disintegrator is permitted to run 8,760 hours per year. However, the actual operating hours are more accurately characterized by a schedule of seven hours per day, and five days per week.

### 2.7.3 Process Flow Diagram

A process flow diagram for the data disintegrator is provided in Figure 2.7-1.



**Figure 2.7-1 Process Flow Diagram for Data Disintegrator**

### 2.7.4 Emissions

Data disintegrator operation is a source of particulate air emissions only. Emission estimates are based on manufacturer's data regarding particle size produced by the data disintegrator and efficiencies of the pollution control devices. The cyclone provides 75% control efficiency and the cloth tube filters provide 95% efficiency for a combined total removal efficiency of 98.75%. Emission estimates assume 15% of the material processed will remain suspended in the exhaust system prior to the control system. All calculations for emission estimates are shown in the Data Disintegrator worksheet within the calculations section. Emission estimates are shown below in Table 2.7-1.

**Table 2.7-1 Emissions Estimates from the Data Disintegrator**

	Particulate Matter (TSP, PM <sub>10</sub> and PM <sub>2.5</sub> )	
	lb/hr	tpy
Controlled <sup>1</sup>	2.3	9.9

<sup>1</sup> Allowable emission rates from Permit P100-R2M3 and NSR Permit 2195H.

The controlled emissions, 2.3 pounds per hour (9.9 tpy), of PM are based on continuous operations (8,760 hrs/yr) and maximum capacity. Actual emissions are less than these values. PM<sub>10</sub> and PM<sub>2.5</sub> estimates are assumed to be equal to TSP which results in an over-estimate for these particle size ranges.

### 2.7.5 Emissions Control Equipment

The data disintegrator exhaust system is equipped with both a 10-horsepower cyclone separator and cloth tube filters to control particulate emissions. The vendor estimates the cyclone to provide 75% control efficiency and the cloth tube filters to provide 95% efficiency both of which are in the normal range for this type of control equipment.

### 2.7.6 Operational Plan

Emissions at startup and shutdown are not expected to differ from those during normal operations. Particulate matter emissions from operations having collection systems equipped with filters could be increased by a malfunction of the collection system (e.g., a tear in the filter). If there is any indication that the control systems are not functioning properly, the operation will be discontinued and the cause of the indication investigated.

### **2.7.7 Applicable Requirements**

All existing applicable requirements within Permit P100-R2M3 are shown in Table 2.7-2 together with one minor requested change.

### **2.7.8 Location and Plot Plan for Data Disintegrator**

A map showing the location and a plot plan for the data disintegrator are shown in Figures 2.7-2 and 2.7-3.

**Table 2.7-2 Existing Permit Conditions for the Data Disintegrator and Proposed Changes**

Existing P100-R2-M2 Permit Conditions – Data Disintegrator						Proposed Changes												
<p><b>A1200 Regulated Sources – Data Disintegrator</b></p> <p>A. Table 1200.A lists all of the process equipment authorized for this source category.</p> <p><b>Table 1200.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Source Description</th> <th>Manufacturer</th> <th>Model No./ Serial No.</th> <th>Manufacture Date</th> <th>Capacity</th> </tr> </thead> <tbody> <tr> <td>TA-52-11</td> <td>Data Disintegrator/ Industrial Shredder</td> <td>Security Engineered Machinery</td> <td>1424/ 11892</td> <td>9/2002</td> <td>1200 lb/hr</td> </tr> </tbody> </table>						Unit No.	Source Description	Manufacturer	Model No./ Serial No.	Manufacture Date	Capacity	TA-52-11	Data Disintegrator/ Industrial Shredder	Security Engineered Machinery	1424/ 11892	9/2002	1200 lb/hr	No changes.
Unit No.	Source Description	Manufacturer	Model No./ Serial No.	Manufacture Date	Capacity													
TA-52-11	Data Disintegrator/ Industrial Shredder	Security Engineered Machinery	1424/ 11892	9/2002	1200 lb/hr													
<p><b>A1201 Control Equipment – Data Disintegrator</b></p> <p>A. Table 1201.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category. Each emission point is identified by the same number that was assigned to it in the permit application.</p> <p><b>Table 1201.A: Control Equipment List</b></p> <table border="1"> <thead> <tr> <th>Control Equipment Unit No./Location<sup>1</sup></th> <th>Control Description</th> <th>Efficiency</th> <th>Pollutant being controlled</th> </tr> </thead> <tbody> <tr> <td>TA-52-11</td> <td>Cyclone and cloth tube filters</td> <td>98.75%</td> <td>TSP/PM10</td> </tr> </tbody> </table> <p><sup>1</sup>Control for unit number refers to a unit number from the Regulated Sources List</p>						Control Equipment Unit No./Location <sup>1</sup>	Control Description	Efficiency	Pollutant being controlled	TA-52-11	Cyclone and cloth tube filters	98.75%	TSP/PM10	No changes.				
Control Equipment Unit No./Location <sup>1</sup>	Control Description	Efficiency	Pollutant being controlled															
TA-52-11	Cyclone and cloth tube filters	98.75%	TSP/PM10															
<p><b>A1202 Emission Limits – Data Disintegrator</b></p> <p>A. Table 1202.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; NSR Permit 2195H).</p> <p><b>Table 1202.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>TSP pph</th> <th>TSP tpy</th> <th>PM<sub>10</sub> pph</th> <th>PM<sub>10</sub> tpy</th> </tr> </thead> <tbody> <tr> <td>TA-52-11</td> <td>2.3</td> <td>9.9</td> <td>2.3</td> <td>9.9</td> </tr> </tbody> </table> <p><sup>1</sup>PM10 and TSP emissions limits are after controls.</p>						Unit No.	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy	TA-52-11	2.3	9.9	2.3	9.9	No changes.		
Unit No.	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy														
TA-52-11	2.3	9.9	2.3	9.9														

Existing P100-R2-M2 Permit Conditions – Data Disintegrator	Proposed Changes						
<p><b>A1203 Applicable Requirements – Data Disintegrator</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 1203.A.</p> <p><b>Table 1203.A: Applicable Requirements</b></p> <table border="1" data-bbox="312 375 1602 466"> <thead> <tr> <th data-bbox="312 375 999 418">Applicable Requirements</th> <th data-bbox="999 375 1306 418">Federally Enforceable</th> <th data-bbox="1306 375 1602 418">Unit No.</th> </tr> </thead> <tbody> <tr> <td data-bbox="312 418 999 466">NSR Permit No: 2195H</td> <td data-bbox="999 418 1306 466">X</td> <td data-bbox="1306 418 1602 466">TA-52-11</td> </tr> </tbody> </table>	Applicable Requirements	Federally Enforceable	Unit No.	NSR Permit No: 2195H	X	TA-52-11	<p>No changes</p>
Applicable Requirements	Federally Enforceable	Unit No.					
NSR Permit No: 2195H	X	TA-52-11					
<p><b>A1204 Operational Limitations – Data Disintegrator</b></p> <p>A. Operational Throughput Limitation (Unit Data Disintegrator)</p> <table border="1" data-bbox="296 625 1596 906"> <tbody> <tr> <td data-bbox="296 625 1596 776"> <p><b>Requirement:</b> The Unit Data Disintegrator is limited processing no more than 25,000 boxes or 565 tons per year media. To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the Data Disintegrator shall limit uncontrolled potential PM emissions by limiting media processing no more than 25,000 boxes or 565 tons per year.</p> </td> </tr> <tr> <td data-bbox="296 776 1596 820"> <p><b>Monitoring:</b> The permittee shall perform the monitoring required in Condition A1207.A.</p> </td> </tr> <tr> <td data-bbox="296 820 1596 863"> <p><b>Recordkeeping:</b> The permittee shall perform the recordkeeping required in Condition A1207.A.</p> </td> </tr> <tr> <td data-bbox="296 863 1596 906"> <p><b>Reporting:</b> The permittee shall perform the reporting required in Condition A1207.A.</p> </td> </tr> </tbody> </table>	<p><b>Requirement:</b> The Unit Data Disintegrator is limited processing no more than 25,000 boxes or 565 tons per year media. To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the Data Disintegrator shall limit uncontrolled potential PM emissions by limiting media processing no more than 25,000 boxes or 565 tons per year.</p>	<p><b>Monitoring:</b> The permittee shall perform the monitoring required in Condition A1207.A.</p>	<p><b>Recordkeeping:</b> The permittee shall perform the recordkeeping required in Condition A1207.A.</p>	<p><b>Reporting:</b> The permittee shall perform the reporting required in Condition A1207.A.</p>	<p>Edit this sentence to say: The Unit Data Disintegrator is limited to processing no more than 25,000 boxes or 565 tons per year of media.</p>		
<p><b>Requirement:</b> The Unit Data Disintegrator is limited processing no more than 25,000 boxes or 565 tons per year media. To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the Data Disintegrator shall limit uncontrolled potential PM emissions by limiting media processing no more than 25,000 boxes or 565 tons per year.</p>							
<p><b>Monitoring:</b> The permittee shall perform the monitoring required in Condition A1207.A.</p>							
<p><b>Recordkeeping:</b> The permittee shall perform the recordkeeping required in Condition A1207.A.</p>							
<p><b>Reporting:</b> The permittee shall perform the reporting required in Condition A1207.A.</p>							

Existing P100-R2-M2 Permit Conditions – Data Disintegrator	Proposed Changes				
<p><b>A1207 Other – Data Disintegrator</b></p> <p>A. Emission calculations (Data Disintegrator)</p> <table border="1" data-bbox="312 339 1602 753"> <tr> <td data-bbox="312 339 1602 427"><b>Requirement:</b> The permittee shall calculate Data Disintegrator emissions based on the records of the number of boxes of media that are destroyed.</td> </tr> <tr> <td data-bbox="312 427 1602 548"><b>Monitoring:</b> The permittee shall monitor the quantity of media destroyed on a monthly basis. The total weight shall be based on a previously determined average box weight. This average weight determination shall be maintained as part of the records for this facility.</td> </tr> <tr> <td data-bbox="312 548 1602 708"><b>Recordkeeping:</b> The permittee shall calculate the actual emissions rate (tons per reporting period) for the emission units listed in Table 1200.A on a semi-annual basis. The emission rate in tons per year shall be calculated by summing the emissions from the previous reporting period with the current period. Records shall be maintained in accordance with Section B109.</td> </tr> <tr> <td data-bbox="312 708 1602 753"><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</td> </tr> </table>	<b>Requirement:</b> The permittee shall calculate Data Disintegrator emissions based on the records of the number of boxes of media that are destroyed.	<b>Monitoring:</b> The permittee shall monitor the quantity of media destroyed on a monthly basis. The total weight shall be based on a previously determined average box weight. This average weight determination shall be maintained as part of the records for this facility.	<b>Recordkeeping:</b> The permittee shall calculate the actual emissions rate (tons per reporting period) for the emission units listed in Table 1200.A on a semi-annual basis. The emission rate in tons per year shall be calculated by summing the emissions from the previous reporting period with the current period. Records shall be maintained in accordance with Section B109.	<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	<p>No changes.</p>
<b>Requirement:</b> The permittee shall calculate Data Disintegrator emissions based on the records of the number of boxes of media that are destroyed.					
<b>Monitoring:</b> The permittee shall monitor the quantity of media destroyed on a monthly basis. The total weight shall be based on a previously determined average box weight. This average weight determination shall be maintained as part of the records for this facility.					
<b>Recordkeeping:</b> The permittee shall calculate the actual emissions rate (tons per reporting period) for the emission units listed in Table 1200.A on a semi-annual basis. The emission rate in tons per year shall be calculated by summing the emissions from the previous reporting period with the current period. Records shall be maintained in accordance with Section B109.					
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.					
<p>B. Cyclone/Cloth Tube Filters (Data Disintegrator)</p> <table border="1" data-bbox="312 860 1602 1162"> <tr> <td data-bbox="312 860 1602 948"><b>Requirement:</b> The permittee shall perform regular maintenance and repair on the cyclone and cloth tube filter(s) per manufacturer’s recommendations. (NSR Permit 2195H, Specific Condition 1.d.)</td> </tr> <tr> <td data-bbox="312 948 1602 993"><b>Monitoring:</b> N/A</td> </tr> <tr> <td data-bbox="312 993 1602 1115"><b>Recordkeeping:</b> The permittee shall maintain adequate records on site to demonstrate compliance with manufacturer’s recommended repair and maintenance schedules for the cyclone and the cloth tube filter(s). (NSR Permit 2195H, Specific Condition 4.a.) Records shall be maintained in accordance with Section B109.</td> </tr> <tr> <td data-bbox="312 1115 1602 1162"><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</td> </tr> </table>	<b>Requirement:</b> The permittee shall perform regular maintenance and repair on the cyclone and cloth tube filter(s) per manufacturer’s recommendations. (NSR Permit 2195H, Specific Condition 1.d.)	<b>Monitoring:</b> N/A	<b>Recordkeeping:</b> The permittee shall maintain adequate records on site to demonstrate compliance with manufacturer’s recommended repair and maintenance schedules for the cyclone and the cloth tube filter(s). (NSR Permit 2195H, Specific Condition 4.a.) Records shall be maintained in accordance with Section B109.	<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	<p>No changes.</p>
<b>Requirement:</b> The permittee shall perform regular maintenance and repair on the cyclone and cloth tube filter(s) per manufacturer’s recommendations. (NSR Permit 2195H, Specific Condition 1.d.)					
<b>Monitoring:</b> N/A					
<b>Recordkeeping:</b> The permittee shall maintain adequate records on site to demonstrate compliance with manufacturer’s recommended repair and maintenance schedules for the cyclone and the cloth tube filter(s). (NSR Permit 2195H, Specific Condition 4.a.) Records shall be maintained in accordance with Section B109.					
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.					

Existing P100-R2-M2 Permit Conditions – Data Disintegrator	Proposed Changes				
<p>C. Compliance Testing (Data Disintegrator)</p> <table border="1" data-bbox="312 297 1602 634"> <tr> <td data-bbox="312 297 1602 493"> <p><b>Requirement:</b> If upon notification by the Department compliance testing is required, it shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 5 for TSP, and conducted in accordance with 450 CFR 60, Appendix A. 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. (NSR Permit 2195H, Specific Condition 6.b., revised)</p> </td> </tr> <tr> <td data-bbox="312 493 1602 540"> <p><b>Monitoring:</b> N/A</p> </td> </tr> <tr> <td data-bbox="312 540 1602 587"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="312 587 1602 634"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> If upon notification by the Department compliance testing is required, it shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 5 for TSP, and conducted in accordance with 450 CFR 60, Appendix A. 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. (NSR Permit 2195H, Specific Condition 6.b., revised)</p>	<p><b>Monitoring:</b> N/A</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirement:</b> If upon notification by the Department compliance testing is required, it shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 5 for TSP, and conducted in accordance with 450 CFR 60, Appendix A. 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. (NSR Permit 2195H, Specific Condition 6.b., revised)</p>					
<p><b>Monitoring:</b> N/A</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					



Location of Data Disintegrator at TA-52.

**Figure 2.7-2 Location of Data Disintegrator at TA-52**





Emission Unit: TA-52-11, Data Disintegrator.

**Figure 2.7-3 Plot Plan for Emission Unit TA-52-11, Data Disintegrator**

## 2.8 Power Plant at TA-3 (TA-3-22)

### 2.8.1 General Description of Source Category

The TA-3 Power Plant provides space heating to most of the buildings at TA-3. Steam produced is also used for process needs and to produce electricity in one 17-MW and two 5-MW steam turbine generators. The plant consists of three dual-fuel boilers with natural gas being the primary fuel and No. 2 fuel oil available for use as a standby fuel. Each boiler has a nameplate maximum heat input capacity of 210 MMBtu/hr. Because LANL is located at a high elevation, the boilers do not operate at nameplate capacity. The maximum heat input capacity, derated for altitude, is calculated to be 178.5 MMBtu/hr. This reflects a 15% decrease in input rating. Two of the boilers were manufactured by Edgemoor Iron Works and installed in 1950. The third boiler was manufactured by Union Iron Works and installed in 1951.

In July 2004, a NSR permit for a 32-MW simple-cycle natural gas combustion turbine was issued by the NMED. The turbine, which runs solely on natural gas, has a design capacity of 27 MW at the average temperature and altitude for LANL. The turbine was manufactured by Rolls-Royce and started operation in September 2007.

In July 2018, a NSR permit was issued to remove all three of the existing boilers (TA-3-22-1 through -3) and replace them with two, smaller boilers (TA-3-22-4 and TA-3-22-5) each rated at 72.3 MMBtu/hr. As part of this project, a new heat recovery steam generator (HRSG) will be installed on the exhaust of the existing natural gas combustion turbine to create a combined cycle plant capable of producing both electricity and additional steam.

This proposed project will occur in three phases. Phase 1 will involve removing existing boilers TA-3-22-1 and TA-3-22-2 and replacing them with the two smaller boilers. TA-3-22-3 will remain temporarily as a hot standby. Phase 2 will involve repairing existing steam and condensate lines around the site. There are no expected air emissions from Phase 2. Phase 3 will involve the installation of the HRSG and the removal of TA-3-22-3.

This project has yet to commence and will take several years to complete. The existing boilers and combustion turbine remain subject to the emission limits and other requirements in this Title V permit until such time as they are decommissioned. This renewal application does not reflect any change in the 2018 Power Plant NSR permit regarding this project. Instead, LANL intends to submit a

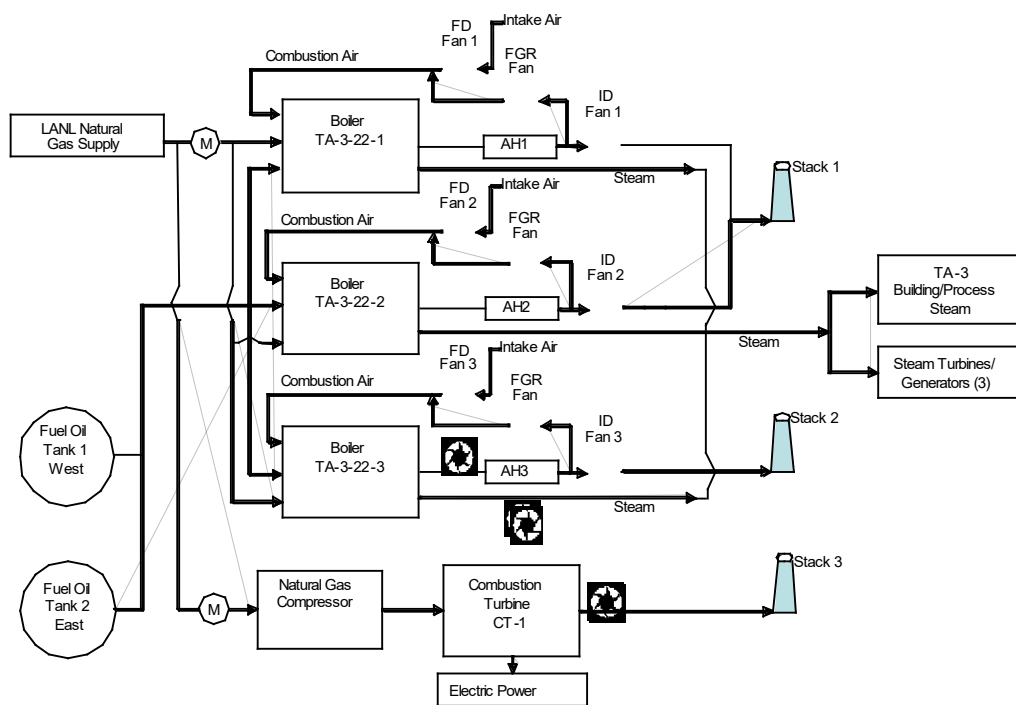
Title V permit modification within one year of the start of operation of Phase 1 of this project as required by 20.2.70 NMAC.

**2.8.2 Operating Schedule**

The plant operates 24 hours per day and 7 days per week. Normally, only two boilers are operated simultaneously, one of which is on hot standby and the other is running at partial capacity. Under maximum operating conditions, such as during peak generation of electricity, the third boiler can be brought on-line. The simple-cycle combustion turbine is also used to ensure that electric power is available to LANL during periods of peak demand. When in operation, the turbine operates at 80 to 100% load except for minimal time during startup and shutdown.

**2.8.3 Process Flow Diagram**

A process flow diagram for the existing TA-3 Power Plant is presented in Figure 2.8-1.



**Figure 2.8-1 Process flow diagram for TA-3 Power Plant**

**2.8.4 Emissions**

Combustion of natural gas and fuel oil at the plant results in emissions of criteria pollutants (NO<sub>x</sub>, CO, SO<sub>x</sub>, PM, VOCs) and small quantities of HAPs. The three boilers as a group and the combustion

turbine have annual fuel restrictions in Permit P100-R2M3 which limit emissions. Annual emission estimates for criteria pollutants and HAPs are shown below in Tables 2.8-1, and 2.8-2. All calculations are shown within the calculations section.

**Table 2.8-1 Criteria Pollutant Emission Estimates for the Existing TA-3 Power Plant<sup>1</sup>**

Unit	PM (tpy)	PM <sub>10</sub> (tpy)	PM <sub>2.5</sub> (tpy)	NO <sub>x</sub> (tpy)	CO (tpy)	VOC (tpy)	SO <sub>x</sub> (tpy)
Combined Boilers (TA3-22-1, -2, and -3)	4.7	4.4	4.2	31.5	21.5	2.8	2.2
Combustion Turbine TA-3-22 CT-1	4.8	4.8	4.8	59.4	72.3	1.5	4.2

<sup>1</sup> Emission estimates assume 100% of allowable natural gas and fuel are combusted.

HAP emission estimates for the existing TA-3 Power Plant are shown in Table 2.8-2. Estimated emissions were calculated based on the maximum fuel usage allowed under Permit P100-R2M3.

**Table 2.8-2 HAP Emission Estimates for the Existing TA-3 Power Plant**

Fuel Type	Total HAP (tpy)
Boilers - Natural Gas	0.9
Boilers - Fuel Oil	0.015
Combustion Turbine – Natural Gas	0.7
Total	1.7

### 2.8.5 Emissions Control Equipment

The primary air pollutant emitted from the TA-3 Power Plant is NO<sub>x</sub>. The FGR system was installed in 2002 to reduce the amount of NO<sub>x</sub> emitted from the boilers. Approximately 64% of NO<sub>x</sub> emissions are reduced by the FGR control system. In the FGR system, a portion of exhaust flue gas is recycled and mixed with combustion air before being fed to a burner. Combustion products in the recycled flue gas act as inerts or diluents during combustion of the fuel/air mixture and suppress NO<sub>x</sub> formation primarily by reducing combustion temperatures.

NO<sub>x</sub> emissions from the combustion turbine are controlled by a pre-mix, lean-burn series staged combustion system. This dry low-NO<sub>x</sub> control technology, called Dry Low Emission (DLE), lowers the combustion turbine NO<sub>x</sub> emissions by approximately 70%. Lean combustion involves increasing the air-to-fuel ratio of the mixture so that the peak and average temperatures within the combustor will be less than that of the stoichiometric mixture, thus suppressing thermal NO<sub>x</sub> formation.

### 2.8.6 Operational Plan

The power plant boilers are controlled by both manual and automated systems. All systems are continually monitored, 24 hours a day, in the plant control center. Since the plant is continually

monitored, routine startup and shutdown emissions are not expected to differ substantially from regular operating emissions. The units have a “dual fuel” capability, using both natural gas and No. 2 fuel oil. The primary fuel is natural gas and fuel oil is used as a back-up fuel in case the natural gas supply is unavailable. The boilers are periodically tested using fuel oil to demonstrate their operational readiness and to train operators on the fuel oil use procedure. When fuel oil is used during a calendar quarter, opacity is measured during steady state operation over a 10-minute period by an EPA Method 9 certified opacity reader. If visible emissions do not decline over a short period of time, the boiler operation will be aborted and contributing factor identified. Routine and preventive maintenance are regularly performed on the boilers.

Emissions from the startup and shutdown of the combustion turbine generator are expected to be less than or equal to those during normal operations. The turbine uses natural gas as a fuel and has a system incorporated into its design to reduce emissions. The system is called Dry Low Emission (DLE) technology. Because this technology is an integral part of the system, there is no expectation of malfunction or increased emissions. If a malfunction of the turbine is identified, the plant operator will take whatever actions are required to remedy the issue. The cause, along with all actions taken to resolve it, will be recorded and reported as required. Routine and preventive maintenance are performed as recommended by the equipment manufacturer.

### **2.8.7 Applicable Requirements**

The existing applicable requirements within Permit P100-R2M3 that apply to the TA-3 Power Plant, together with recommended changes, are listed in Table 2.8-3.

### **2.8.8 Location and Plot Plan for the Power Plant at TA-3**

The location and plot plan for the Power Plant at TA-3 can be found in Figures 2.8-2 and 2.8-3.

**Table 2.8-3 Existing Permit Conditions for the TA-3 Power Plant and Proposed Changes**

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant						Proposed Changes																														
<p><b>A1300 Regulated Sources – TA-3 Power Plant</b></p> <p>A. Table 1300.A lists all of the process equipment authorized for this source category.</p> <p><b>Table 1300.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Source Description</th> <th>Manufacturer</th> <th>Model No./ Serial No.</th> <th>Year of Manufacture</th> <th>Capacity</th> </tr> </thead> <tbody> <tr> <td>TA-3-22-1</td> <td>Boiler</td> <td>Edgemoor Iron Works</td> <td>4008</td> <td>1950</td> <td>178.5 MMBtu/hr</td> </tr> <tr> <td>TA-3-22-2</td> <td>Boiler</td> <td>Edgemoor Iron Works</td> <td>4009</td> <td>1950</td> <td>178.5 MMBtu/hr</td> </tr> <tr> <td>TA-3-22-3</td> <td>Boiler</td> <td>Union Iron Works</td> <td>11804</td> <td>1952</td> <td>178.5 MMBtu/hr</td> </tr> <tr> <td>TA-3-22-CT-1</td> <td>Combustion Turbine</td> <td>Rolls Royce</td> <td>RB211-6761DLE/</td> <td>2003</td> <td>27 MW</td> </tr> </tbody> </table>						Unit No.	Source Description	Manufacturer	Model No./ Serial No.	Year of Manufacture	Capacity	TA-3-22-1	Boiler	Edgemoor Iron Works	4008	1950	178.5 MMBtu/hr	TA-3-22-2	Boiler	Edgemoor Iron Works	4009	1950	178.5 MMBtu/hr	TA-3-22-3	Boiler	Union Iron Works	11804	1952	178.5 MMBtu/hr	TA-3-22-CT-1	Combustion Turbine	Rolls Royce	RB211-6761DLE/	2003	27 MW	No changes.
Unit No.	Source Description	Manufacturer	Model No./ Serial No.	Year of Manufacture	Capacity																															
TA-3-22-1	Boiler	Edgemoor Iron Works	4008	1950	178.5 MMBtu/hr																															
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TA-3-22-CT-1	Combustion Turbine	Rolls Royce	RB211-6761DLE/	2003	27 MW																															
<p><b>A1301 Control Equipment – TA-3 Power Plant</b></p> <p>A. Table 1301.A lists all the pollution control equipment required for this source category. Each emission point is identified by the same number that was assigned to it in the permit application.</p> <p><b>Table 1301.A: Control Equipment List:</b></p> <table border="1"> <thead> <tr> <th>Control Equipment Unit No.</th> <th>Control Description</th> <th>Manufacturer</th> <th>Year of Manufacture</th> <th>Pollutant being controlled</th> <th>Control for Unit No.1</th> </tr> </thead> <tbody> <tr> <td>F-1</td> <td>Flue Gas Recirculation Fan, 1800 rpm</td> <td>Robinson Industries</td> <td>2001</td> <td>NOx</td> <td>TA-3-22-1</td> </tr> <tr> <td>F-2</td> <td>Flue Gas Recirculation Fan, 1800 rpm</td> <td>Robinson Industries</td> <td>2001</td> <td>NOx</td> <td>TA-3-22-2</td> </tr> <tr> <td>F-3</td> <td>Flue Gas Recirculation Fan, 1800 rpm</td> <td>Robinson Industries</td> <td>2001</td> <td>NOx</td> <td>TA-3-22-3</td> </tr> <tr> <td>TA-3-22-CT-1</td> <td>Rolls-Royce DLE System</td> <td>Rolls-Royce</td> <td>2003</td> <td>NOx</td> <td>TA-3-22-CT-1</td> </tr> </tbody> </table> <p>1 Control for unit number refers to a unit number from the Regulated Equipment List</p>						Control Equipment Unit No.	Control Description	Manufacturer	Year of Manufacture	Pollutant being controlled	Control for Unit No.1	F-1	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-1	F-2	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-2	F-3	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-3	TA-3-22-CT-1	Rolls-Royce DLE System	Rolls-Royce	2003	NOx	TA-3-22-CT-1	No changes.
Control Equipment Unit No.	Control Description	Manufacturer	Year of Manufacture	Pollutant being controlled	Control for Unit No.1																															
F-1	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-1																															
F-2	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-2																															
F-3	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-3																															
TA-3-22-CT-1	Rolls-Royce DLE System	Rolls-Royce	2003	NOx	TA-3-22-CT-1																															

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant														Proposed Changes	
<b>A1302 Emission Limits – TA-3 Power Plant</b>															
A. Table 1302.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 40 CFR 60, Subparts A and GG; NSR Permit 2195B-M2).															
<b>Table 1302.A: Allowable Emissions</b>															
Unit No.	NOx <sup>1</sup>		CO		VOC		Sox		TSP		PM10		PM2.5		
	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	
TA-3-22-1 (lb/hr)	10.2	11.3	7.0	6.5	1.0	0.3	1.1	9.6	1.3	4.3	1.3	3.0	1.3	2.0	
TA-3-22-2 (lb/hr)	10.2	11.3	7.0	6.5	1.0	0.3	1.1	9.6	1.3	4.3	1.3	3.0	1.3	2.0	
TA-3-22-3 (lb/hr)	10.2	11.3	7.0	6.5	1.0	0.3	1.1	9.6	1.3	4.3	1.3	3.0	1.3	2.0	
Boilers Combined (tpy)	31.5		21.5		2.8		4.9		4.7		4.4		4.2		
TA-3-22-CT-1 (lb/hr)	23.8		29.0		0.6		1.7		1.9		1.9		1.9		
TA-3-22-CT-1 (tpy)	59.4		72.3		1.5		4.2		4.8		4.8		4.8		
TA-3-22-CT-1 (ppm)	25 ppmvd @ 15% O <sub>2</sub>		N/A		N/A		N/A		N/A		N/A		N/A		
No changes.															



Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes
<p>B. NO<sub>x</sub> emissions (all oxides of nitrogen expressed as NO<sub>2</sub>) from the boilers (Units TA-3-22-1 through -3) shall not exceed 0.3 lb/MMBtu of heat input when burning natural gas or oil as required by 20.2.33 and 20.2.34 NMAC. (NSR Permit 2195B-M2, Specific Condition A106.B)</p> <p>C. For the Combustion Turbine (Unit TA-3-22-CT-1), the permittee shall comply with the NSPS Subpart GG NO<sub>x</sub> emissions limitation of 110.4 ppmv at 15% O<sub>2</sub>, dry basis (40 CFR 63.332(a)(1) and NSR Permit 2195B-M2, Specific Condition A106.C)</p> <p>D. For the Combustion Turbine (Unit TA-3-22-CT-1), the permittee shall comply with the NSPS Subpart GG SO<sub>2</sub> emissions limitation of 0.015% by volume at 15% O<sub>2</sub> dry basis or through use of any fuel not exceeding 8000 ppmw total sulfur. (40 CFR 60.333 and NSR Permit 2195B-M2, Specific Condition A106.D)</p>	

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes																					
<p><b>A1303 Applicable Requirements – TA-3 Power Plant</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 1303.A.</p> <p><b>Table 1303.A: Applicable Requirements</b></p> <table border="1" data-bbox="310 375 1585 719"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>20.2.33 NMAC Gas Burning Equipment – Nitrogen Dioxide</td> <td>X</td> <td>TA-3-22-1 through -3</td> </tr> <tr> <td>20.2.34 NMAC Oil Burning Equipment – Nitrogen Dioxide</td> <td>X</td> <td>TA-3-22-1 through -3</td> </tr> <tr> <td>20.2.61 Smoke and Visible Emissions</td> <td>X</td> <td>All combustion sources</td> </tr> <tr> <td>40 CFR 60, Subpart A</td> <td>X</td> <td>TA-3-22-CT-1</td> </tr> <tr> <td>40 CFR 60, Subpart GG</td> <td>X</td> <td>TA-3-22-CT-1</td> </tr> <tr> <td>NSR Permit No: 2195B-M2</td> <td>X</td> <td>All Power Plant sources</td> </tr> </tbody> </table>	Applicable Requirements	Federally Enforceable	Unit No.	20.2.33 NMAC Gas Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1 through -3	20.2.34 NMAC Oil Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1 through -3	20.2.61 Smoke and Visible Emissions	X	All combustion sources	40 CFR 60, Subpart A	X	TA-3-22-CT-1	40 CFR 60, Subpart GG	X	TA-3-22-CT-1	NSR Permit No: 2195B-M2	X	All Power Plant sources	<p>No changes.</p>
Applicable Requirements	Federally Enforceable	Unit No.																				
20.2.33 NMAC Gas Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1 through -3																				
20.2.34 NMAC Oil Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1 through -3																				
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40 CFR 60, Subpart GG	X	TA-3-22-CT-1																				
NSR Permit No: 2195B-M2	X	All Power Plant sources																				
<p><b>A1304 Operational Limitations – TA-3 Power Plant</b></p> <p>A. This source category is authorized to operate at any time of the day or night on any day of the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with continuous hours of operation.</p> <p>B. Units TA-3-22-1 through -3 shall be operated on fuel oil for no more than 48 hours per year per boiler for non-emergency maintenance and readiness testing. This condition establishes exemption from 40 CFR 63, Subpart JJJJJ.</p>	<p>No changes.</p>																					

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes				
<p><b>A1305 Fuel Sulfur Requirements – TA-3 Power Plant</b></p> <p>A. Boilers (Units TA-3-22-1 through -3)</p> <table border="1" data-bbox="310 324 1600 776"> <tr> <td data-bbox="310 324 1600 446"> <p><b>Requirement:</b> External combustion sources at the TA-3 Power Plant shall combust only natural gas containing no more than 2 gr/100 scf total sulfur or No. 2 fuel oil containing no more than 0.05 wt% total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.A)</p> </td> </tr> <tr> <td data-bbox="310 446 1600 495"> <p><b>Monitoring:</b> N/A</p> </td> </tr> <tr> <td data-bbox="310 495 1600 727"> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p> </td> </tr> <tr> <td data-bbox="310 727 1600 776"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> External combustion sources at the TA-3 Power Plant shall combust only natural gas containing no more than 2 gr/100 scf total sulfur or No. 2 fuel oil containing no more than 0.05 wt% total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.A)</p>	<p><b>Monitoring:</b> N/A</p>	<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirement:</b> External combustion sources at the TA-3 Power Plant shall combust only natural gas containing no more than 2 gr/100 scf total sulfur or No. 2 fuel oil containing no more than 0.05 wt% total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.A)</p>					
<p><b>Monitoring:</b> N/A</p>					
<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p>B. Combustion Turbine (Unit TA-3-22-CT-1)</p> <table border="1" data-bbox="310 868 1600 1206"> <tr> <td data-bbox="310 868 1600 954"> <p><b>Requirement:</b> The combustion turbine at the TA-3 Power Plant shall combust only natural gas containing no greater than 2 gr/100 scf total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.B)</p> </td> </tr> <tr> <td data-bbox="310 954 1600 1003"> <p><b>Monitoring:</b> N/A</p> </td> </tr> <tr> <td data-bbox="310 1003 1600 1161"> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195B-M2, Specific Condition A110.B and 40 CFR 60.334(h))</p> </td> </tr> <tr> <td data-bbox="310 1161 1600 1206"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The combustion turbine at the TA-3 Power Plant shall combust only natural gas containing no greater than 2 gr/100 scf total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.B)</p>	<p><b>Monitoring:</b> N/A</p>	<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195B-M2, Specific Condition A110.B and 40 CFR 60.334(h))</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirement:</b> The combustion turbine at the TA-3 Power Plant shall combust only natural gas containing no greater than 2 gr/100 scf total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.B)</p>					
<p><b>Monitoring:</b> N/A</p>					
<p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195B-M2, Specific Condition A110.B and 40 CFR 60.334(h))</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes				
<p><b>A1306 20.2.61 NMAC Opacity – TA-3 Power Plant</b></p> <p>A. Sources Combusting Natural Gas</p> <table border="1" data-bbox="300 326 1587 695"> <tr> <td><b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.A)</td> </tr> <tr> <td><b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A1305.A or B constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.</td> </tr> <tr> <td><b>Recordkeeping:</b> The permittee shall record dates of any opacity measures and the corresponding opacity readings.</td> </tr> <tr> <td><b>Reporting:</b> The permittee shall report dates of any opacity measures and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</td> </tr> </table>	<b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.A)	<b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A1305.A or B constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.	<b>Recordkeeping:</b> The permittee shall record dates of any opacity measures and the corresponding opacity readings.	<b>Reporting:</b> The permittee shall report dates of any opacity measures and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	<p>No changes.</p>
<b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.A)					
<b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A1305.A or B constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.					
<b>Recordkeeping:</b> The permittee shall record dates of any opacity measures and the corresponding opacity readings.					
<b>Reporting:</b> The permittee shall report dates of any opacity measures and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.					
<p>B. Boilers Combusting No. 2 Fuel Oil</p> <table border="1" data-bbox="310 792 1598 1177"> <tr> <td><b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.B)</td> </tr> <tr> <td><b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year whenever the boiler(s) are operational during the monitoring period. This requirement is subject to the monitoring provisions of Condition B108.D.</td> </tr> <tr> <td><b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.</td> </tr> <tr> <td><b>Reporting:</b> The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</td> </tr> </table>	<b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.B)	<b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year whenever the boiler(s) are operational during the monitoring period. This requirement is subject to the monitoring provisions of Condition B108.D.	<b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.	<b>Reporting:</b> The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	<p>No changes</p>
<b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.B)					
<b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year whenever the boiler(s) are operational during the monitoring period. This requirement is subject to the monitoring provisions of Condition B108.D.					
<b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.					
<b>Reporting:</b> The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.					

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes				
<p><b>A1307 Other – TA-3 Power Plant</b></p> <p>A. Emission calculations (TA-3 Power Plant)</p> <table border="1" data-bbox="310 326 1598 826"> <tr> <td data-bbox="310 326 1598 448"> <p><b>Requirement:</b> The permittee shall comply with the hourly and annual emission limits at Table 1302.A. and Conditions A1302.B, C, and D for the combustion turbine and boilers. The boiler annual emission limit shall be expressed as the combined emissions from all 3 boilers. (NSR Permit 2195B-M2, Specific Condition A801.A)</p> </td> </tr> <tr> <td data-bbox="310 448 1598 732"> <p><b>Monitoring:</b> The permittee shall perform the following calculations on a monthly basis:</p> <ol style="list-style-type: none"> <li>1) Calculate the average hourly emissions rates (pph) for each emissions unit based on the monthly total fuel consumption and monthly actual hours of operation.</li> <li>2) Calculate the actual annual emissions rates (tpy) for all emissions units based on the monthly rolling 12-month total fuel consumption and the monthly rolling 12-month total hours of operation.</li> <li>3) All NOx emission rates for the boilers shall also be calculated in terms of lb/MMBtu heat input.</li> </ol> <p>(NSR Permit 2195B-M2, Specific Condition A801.A)</p> </td> </tr> <tr> <td data-bbox="310 732 1598 781"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p> </td> </tr> <tr> <td data-bbox="310 781 1598 826"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The permittee shall comply with the hourly and annual emission limits at Table 1302.A. and Conditions A1302.B, C, and D for the combustion turbine and boilers. The boiler annual emission limit shall be expressed as the combined emissions from all 3 boilers. (NSR Permit 2195B-M2, Specific Condition A801.A)</p>	<p><b>Monitoring:</b> The permittee shall perform the following calculations on a monthly basis:</p> <ol style="list-style-type: none"> <li>1) Calculate the average hourly emissions rates (pph) for each emissions unit based on the monthly total fuel consumption and monthly actual hours of operation.</li> <li>2) Calculate the actual annual emissions rates (tpy) for all emissions units based on the monthly rolling 12-month total fuel consumption and the monthly rolling 12-month total hours of operation.</li> <li>3) All NOx emission rates for the boilers shall also be calculated in terms of lb/MMBtu heat input.</li> </ol> <p>(NSR Permit 2195B-M2, Specific Condition A801.A)</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirement:</b> The permittee shall comply with the hourly and annual emission limits at Table 1302.A. and Conditions A1302.B, C, and D for the combustion turbine and boilers. The boiler annual emission limit shall be expressed as the combined emissions from all 3 boilers. (NSR Permit 2195B-M2, Specific Condition A801.A)</p>					
<p><b>Monitoring:</b> The permittee shall perform the following calculations on a monthly basis:</p> <ol style="list-style-type: none"> <li>1) Calculate the average hourly emissions rates (pph) for each emissions unit based on the monthly total fuel consumption and monthly actual hours of operation.</li> <li>2) Calculate the actual annual emissions rates (tpy) for all emissions units based on the monthly rolling 12-month total fuel consumption and the monthly rolling 12-month total hours of operation.</li> <li>3) All NOx emission rates for the boilers shall also be calculated in terms of lb/MMBtu heat input.</li> </ol> <p>(NSR Permit 2195B-M2, Specific Condition A801.A)</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes
<p>B. Fuel Usage (Boilers, Units TA-3-22-1 through -3)</p> <p><b>Requirement:</b> Combined boiler operation shall not consume more than 1000 MMscf of natural gas and no more than 500,000 gallons of No. 2 fuel oil in any 12-month period. Volumetric flow shall be measured using liquid or gas fuel flowmeters installed on the natural gas fuel inlet to each respective unit (3 separate gas flowmeters). Fuel oil usage shall be measured using a single inventory meter located at a storage tank that is dedicated for use by the TA-3 power plant boilers. (NSR Permit 2195B-M2, Specific Conditions A803.A, revised)</p> <p><b>Monitoring:</b> The liquid fuel flow rate shall be continuously monitored whenever liquid fuel is combusted. The natural gas fuel flow rate for each boiler shall be continuously monitored whenever natural gas is combusted. The hours of operation of each boiler shall be continuously monitored. (NSR Permit 2195B-M2, Specific Condition A803.A, revised)</p> <p><b>Recordkeeping:</b> The permittee shall record the daily total of liquid fuel (gallons) for all boilers combined and gaseous fuel (scf) for each boiler on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the daily hours of operation of each boiler on a monthly basis, to include a monthly total. The record shall include the monthly rolling 12-month total hours of operation for all 3 boilers combined. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A803.A, revised)</p> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes</p>

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes				
<p>C. Fuel Usage (Combustion Turbine, Unit TA-2-22-CT-1)</p> <table border="1" data-bbox="310 282 1600 769"> <tr> <td data-bbox="310 282 1600 404"> <p><b>Requirement:</b> The combustion turbine shall not consume more than 1400 MMscf of natural gas in any 12-month period. Volumetric flow shall be measured using a gas fuel flowmeter installed on the fuel inlet of the combustion turbine. (NSR Permit 2195B-M2, Specific Condition A802.A)</p> </td> </tr> <tr> <td data-bbox="310 404 1600 490"> <p><b>Monitoring:</b> The natural gas fuel flow rate for the combustion turbine shall be continuously monitored whenever natural gas is combusted. (NSR Permit 2195B-M2, Specific Condition A802.A)</p> </td> </tr> <tr> <td data-bbox="310 490 1600 722"> <p><b>Recordkeeping:</b> The permittee shall record the daily total of gaseous fuel (scf) for the turbine on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the daily hours of operation of the combustion turbine on a monthly basis, to include a monthly total. The record shall include the monthly total hours and monthly rolling 12-month total hours of operation. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.A)</p> </td> </tr> <tr> <td data-bbox="310 722 1600 769"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The combustion turbine shall not consume more than 1400 MMscf of natural gas in any 12-month period. Volumetric flow shall be measured using a gas fuel flowmeter installed on the fuel inlet of the combustion turbine. (NSR Permit 2195B-M2, Specific Condition A802.A)</p>	<p><b>Monitoring:</b> The natural gas fuel flow rate for the combustion turbine shall be continuously monitored whenever natural gas is combusted. (NSR Permit 2195B-M2, Specific Condition A802.A)</p>	<p><b>Recordkeeping:</b> The permittee shall record the daily total of gaseous fuel (scf) for the turbine on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the daily hours of operation of the combustion turbine on a monthly basis, to include a monthly total. The record shall include the monthly total hours and monthly rolling 12-month total hours of operation. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.A)</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes</p>
<p><b>Requirement:</b> The combustion turbine shall not consume more than 1400 MMscf of natural gas in any 12-month period. Volumetric flow shall be measured using a gas fuel flowmeter installed on the fuel inlet of the combustion turbine. (NSR Permit 2195B-M2, Specific Condition A802.A)</p>					
<p><b>Monitoring:</b> The natural gas fuel flow rate for the combustion turbine shall be continuously monitored whenever natural gas is combusted. (NSR Permit 2195B-M2, Specific Condition A802.A)</p>					
<p><b>Recordkeeping:</b> The permittee shall record the daily total of gaseous fuel (scf) for the turbine on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the daily hours of operation of the combustion turbine on a monthly basis, to include a monthly total. The record shall include the monthly total hours and monthly rolling 12-month total hours of operation. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.A)</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

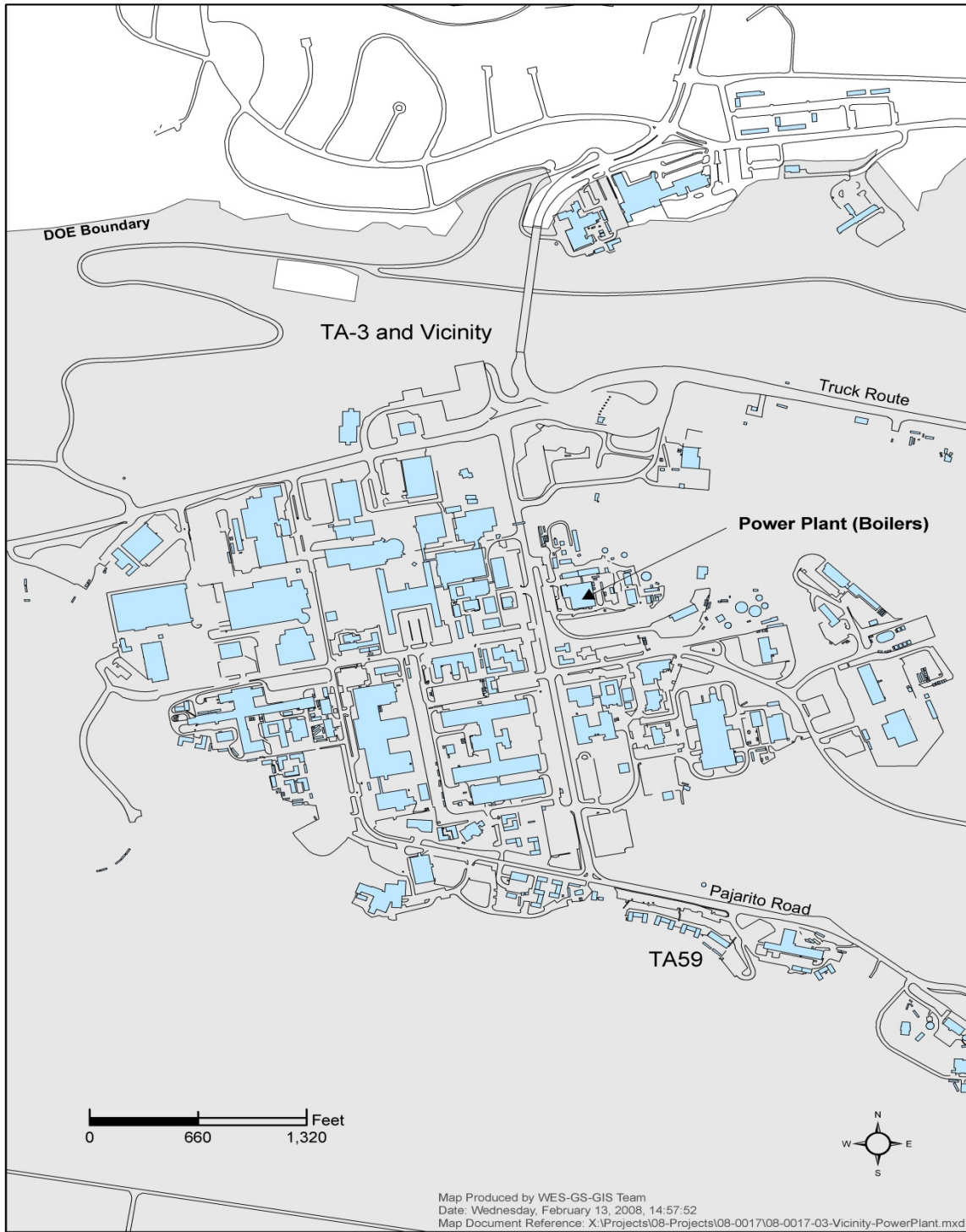
Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes
<p>D. Load Requirement (Combustion Turbine, Unit TA-3-22-CT-1)</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Requirement:</b> The combustion turbine shall be operated at no less than 80% and no greater than 100% load as determined by the manufacturer’s supplied algorithm, except for minimal periods during startup and shutdown conditions. The permittee shall follow the manufacturer’s recommended startup/shutdown procedures in order to minimize the duration of these events. (NSR Permit 2195B-M2, Specific Condition A802.B)</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Monitoring:</b> The operating load of the combustion turbine shall be monitored once daily during normal operations of that unit. (NSR Permit 2195B-M2, Specific Condition A802.B)</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Recordkeeping:</b> The permittee shall record the daily monitored operating load for the combustion turbine. The permittee shall maintain a record of the manufacturer’s recommended startup/shutdown procedure and the manufacturer’s criteria for the determination of turbine load. The permittee shall maintain a record for each startup/shutdown or malfunction event for the combustion turbine. The record shall include the date, the start/end time and duration for each event, which is defined as the length of time the combustion turbine is operating at less than 80% or greater than 100% load. For any malfunction event, the record shall also include the nature of the malfunction and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.B)</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </div>	<p>No changes</p>



Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes				
<p>E. Control Device Operation (Boilers, Units TA-3-22-1 through -3)</p> <table border="1" data-bbox="310 285 1600 773"> <tr> <td data-bbox="310 285 1600 444"> <p><b>Requirement:</b> Each boiler (Units TA-3-22-1 through -3) shall only be operated with a properly operating flue gas recirculation fan (Units F-1 through -3, respectively). Any malfunction of the flue gas recirculation system during boiler operation may be subject to the excess emissions requirements of 20.2.7 NMAC. (NSR Permit 2195B-M2, Specific Condition A803.B)</p> </td> </tr> <tr> <td data-bbox="310 444 1600 529"> <p><b>Monitoring:</b> The flue gas recirculating fans shall be inspected for proper operation and maintenance once during each calendar month that the unit was operating. (NSR Permit 2195B-M2, Specific Condition A803.B)</p> </td> </tr> <tr> <td data-bbox="310 529 1600 727"> <p><b>Recordkeeping:</b> The permittee shall record all inspections of the flue gas recirculating fans and any event during which a fan malfunctions. The record shall include the date, time, name of operator conducting the inspection, and any discrepancies noted. For malfunction events, the record shall also include the nature and duration of the malfunction, and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A803.B)</p> </td> </tr> <tr> <td data-bbox="310 727 1600 773"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> Each boiler (Units TA-3-22-1 through -3) shall only be operated with a properly operating flue gas recirculation fan (Units F-1 through -3, respectively). Any malfunction of the flue gas recirculation system during boiler operation may be subject to the excess emissions requirements of 20.2.7 NMAC. (NSR Permit 2195B-M2, Specific Condition A803.B)</p>	<p><b>Monitoring:</b> The flue gas recirculating fans shall be inspected for proper operation and maintenance once during each calendar month that the unit was operating. (NSR Permit 2195B-M2, Specific Condition A803.B)</p>	<p><b>Recordkeeping:</b> The permittee shall record all inspections of the flue gas recirculating fans and any event during which a fan malfunctions. The record shall include the date, time, name of operator conducting the inspection, and any discrepancies noted. For malfunction events, the record shall also include the nature and duration of the malfunction, and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A803.B)</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes.</p>
<p><b>Requirement:</b> Each boiler (Units TA-3-22-1 through -3) shall only be operated with a properly operating flue gas recirculation fan (Units F-1 through -3, respectively). Any malfunction of the flue gas recirculation system during boiler operation may be subject to the excess emissions requirements of 20.2.7 NMAC. (NSR Permit 2195B-M2, Specific Condition A803.B)</p>					
<p><b>Monitoring:</b> The flue gas recirculating fans shall be inspected for proper operation and maintenance once during each calendar month that the unit was operating. (NSR Permit 2195B-M2, Specific Condition A803.B)</p>					
<p><b>Recordkeeping:</b> The permittee shall record all inspections of the flue gas recirculating fans and any event during which a fan malfunctions. The record shall include the date, time, name of operator conducting the inspection, and any discrepancies noted. For malfunction events, the record shall also include the nature and duration of the malfunction, and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A803.B)</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					
<p>F. Control Device Operation (Combustion Turbine, Unit TA-3-22-CT-1)</p> <table border="1" data-bbox="310 867 1600 1214"> <tr> <td data-bbox="310 867 1600 990"> <p><b>Requirement:</b> The combustion turbine shall be equipped with Rolls-Royce Dry Low Emissions (DLE) control technology (pre-mix, lean-burn series staged combustion system) to control NOx emissions. (NSR Permit 2195B-M2, Specific Condition A802.C)</p> </td> </tr> <tr> <td data-bbox="310 990 1600 1042"> <p><b>Monitoring:</b> N/A</p> </td> </tr> <tr> <td data-bbox="310 1042 1600 1166"> <p><b>Recordkeeping:</b> The permittee shall maintain a record of the DLE system associated with the combustion turbine. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.C)</p> </td> </tr> <tr> <td data-bbox="310 1166 1600 1214"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p> </td> </tr> </table>	<p><b>Requirement:</b> The combustion turbine shall be equipped with Rolls-Royce Dry Low Emissions (DLE) control technology (pre-mix, lean-burn series staged combustion system) to control NOx emissions. (NSR Permit 2195B-M2, Specific Condition A802.C)</p>	<p><b>Monitoring:</b> N/A</p>	<p><b>Recordkeeping:</b> The permittee shall maintain a record of the DLE system associated with the combustion turbine. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.C)</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>No changes</p>
<p><b>Requirement:</b> The combustion turbine shall be equipped with Rolls-Royce Dry Low Emissions (DLE) control technology (pre-mix, lean-burn series staged combustion system) to control NOx emissions. (NSR Permit 2195B-M2, Specific Condition A802.C)</p>					
<p><b>Monitoring:</b> N/A</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain a record of the DLE system associated with the combustion turbine. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.C)</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>					

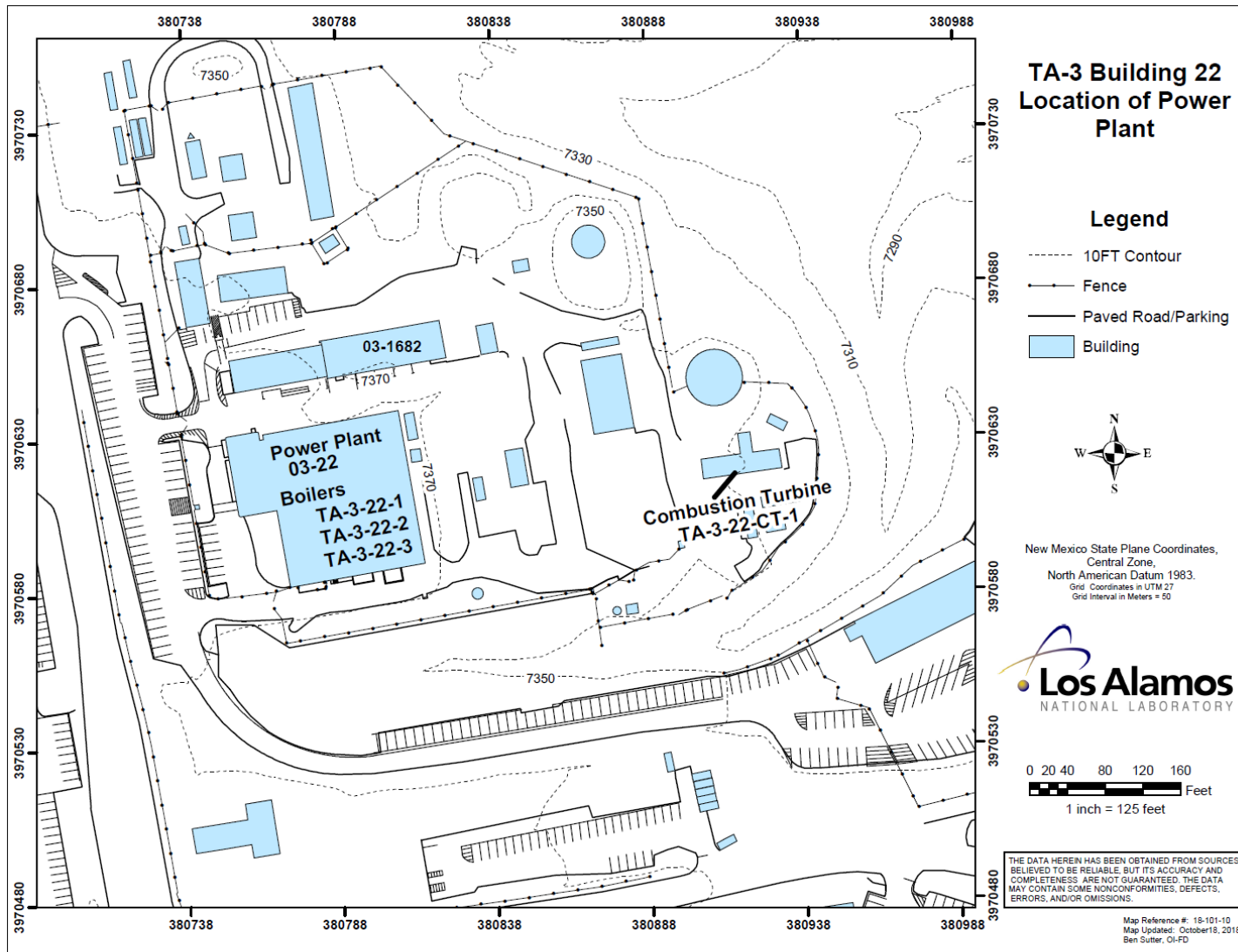
Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes				
<p>G. 40 CFR 60, Subparts A and GG (Combustion Turbine, Unit TA-3-22-CT-1)</p> <table border="1" data-bbox="310 282 1598 631"> <tr> <td data-bbox="310 282 1598 370"> <p><b>Requirement:</b> The combustion turbine is subject to 40 CFR 60, Subpart GG and the permittee shall comply with the applicable requirements of 40 CFR 60, Subpart A and Subpart GG. (NSR Permit 2195B-M2, Specific Condition A802.D)</p> </td> </tr> <tr> <td data-bbox="310 370 1598 457"> <p><b>Monitoring:</b> The permittee shall comply with the monitoring and testing requirements of 40 CFR 60.334 and 60.335. (NSR Permit 2195B-M2, Specific Condition A802.D)</p> </td> </tr> <tr> <td data-bbox="310 457 1598 545"> <p><b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40 CFR 60.334 and 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)</p> </td> </tr> <tr> <td data-bbox="310 545 1598 631"> <p><b>Reporting:</b> The permittee shall comply with the reporting requirements of 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)</p> </td> </tr> </table>	<p><b>Requirement:</b> The combustion turbine is subject to 40 CFR 60, Subpart GG and the permittee shall comply with the applicable requirements of 40 CFR 60, Subpart A and Subpart GG. (NSR Permit 2195B-M2, Specific Condition A802.D)</p>	<p><b>Monitoring:</b> The permittee shall comply with the monitoring and testing requirements of 40 CFR 60.334 and 60.335. (NSR Permit 2195B-M2, Specific Condition A802.D)</p>	<p><b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40 CFR 60.334 and 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)</p>	<p><b>Reporting:</b> The permittee shall comply with the reporting requirements of 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)</p>	<p>No changes</p>
<p><b>Requirement:</b> The combustion turbine is subject to 40 CFR 60, Subpart GG and the permittee shall comply with the applicable requirements of 40 CFR 60, Subpart A and Subpart GG. (NSR Permit 2195B-M2, Specific Condition A802.D)</p>					
<p><b>Monitoring:</b> The permittee shall comply with the monitoring and testing requirements of 40 CFR 60.334 and 60.335. (NSR Permit 2195B-M2, Specific Condition A802.D)</p>					
<p><b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40 CFR 60.334 and 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)</p>					
<p><b>Reporting:</b> The permittee shall comply with the reporting requirements of 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)</p>					

Existing Permit P100-R2M3 Conditions – TA-3 Power Plant	Proposed Changes
<p>H. Periodic Emission Tests (Combustion Turbine, Unit TA-3-22-CT-1)</p> <p><b>Requirement:</b> The permittee shall comply with the allowable emission limits at Table A1302.A, including the NOx ppmv limitation. (NSR Permit 2195B-M2, Specific Condition A802.E)</p> <p><b>Monitoring:</b> The permittee shall test using a portable analyzer or EPA Reference Methods subject to the requirements and limitations of Section B108, General Monitoring Requirements. Periodic testing for NOx and CO shall be carried out as described below.</p> <p>Test results that demonstrate compliance with the NOx and CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.</p> <ol style="list-style-type: none"> <li>(1) The test period shall be annually, based on a calendar year.</li> <li>(2) The tests shall continue based on the existing testing schedule.</li> <li>(3) All subsequent monitoring shall occur in each succeeding monitoring period. No two monitoring events shall occur closer together in time than 25% of a monitoring period.</li> <li>(4) The permittee shall follow the General Testing Procedure of Section B111.</li> <li>(5) Performance testing required by 40 CFR 60, Subpart GG or 40 CFR 60, Subpart KKKK may be used to satisfy these periodic testing requirements if they meet the requirements of this condition and are completed during the specified monitoring period.</li> </ol> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109. The permittee shall also record the results of the periodic emissions tests, including the turbine's fuel flow rate and horsepower at the time of the test, and the type of fuel fired (natural gas, field gas, etc.).</p> <p>If a combustion analyzer is used to measure excess air in the exhaust gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results.</p> <p>The permittee shall also keep records of all raw data used to determine exhaust gas flow and of all calculations used to determine flow rates and mass emissions rates.</p> <p><b>Reporting:</b> The permittee shall report in accordance with Section B109, B110 and B111.</p>	<p>Change A1307.H., Monitoring Section, number 1, to read the following,</p> <p>“(1) The testing shall be conducted as follows:</p> <ol style="list-style-type: none"> <li>(a) Testing frequency shall be once per year subject to the frequency of testing requirements outlined in Section B.108.D.</li> <li>(b) The monitoring period is defined as a calendar year.</li> </ol> <p>Remove reference to 40 CFR 60, Subpart KKKK in the Monitoring Section. The unit is subject to Subpart GG only.</p> <p>Insert space between Section and B109 in Reporting section.</p>



Location of Power Plant at TA-3.

**Figure 2.8-2 Location of Power Plant at TA-3**



Emission Units: TA-3-22-1, 2, 3, Boilers and TA-3-22-CT-1, Combustion Turbine.

Figure 2.8-3 Plot Plan for Emission Units TA-3-22-1 through 3 and TA-3-22-CT-1

## **2.9 Open and Prescribed Burning**

### **2.9.1 General Description of Source Category**

This emission source category includes any open burning which could be conducted under NMED open burning or smoke management regulations. NMED no longer issues permits for open burning rather this activity is controlled under the applicable regulations 20.2.60 NMAC Open Burning and 20.2.65 NMAC Smoke Management. In general, the open burning regulation regulates smaller burns of vegetative material and has limited exclusions for other types of burning including firefighter training, emergency situations, and RCRA regulated hazardous waste. The smoke management regulation regulates the burning of vegetative material in larger prescribed burns land managers initiate primarily to aid fire protection efforts.

Since issuance of the first Title V renewal permit in August 2009, LANL has not conducted any burning of vegetative material that is regulated under NMED burn regulations or the open burning conditions of Permit P100-R2-M3. Any future prescribed or open burning of vegetative material conducted would fall under either 20.2.60 NMAC or 20.2.65 NMAC and the enhanced requirements for vegetative burning in Permit P100-R2-M3 for this category.

### **2.9.2 Operating Schedule**

The hours during which any open burning would occur would be determined for each specific burn and would vary accordingly.

### **2.9.3 Process Flow Diagram**

Open or prescribed burning of vegetative material cannot be described in a process flow diagram.

### **2.9.4 Emissions**

Open or prescribed burning of vegetative material will emit primarily particulate matter, carbon monoxide, and volatile organic hydrocarbons. Small quantities of nitrogen oxides and sulfur oxides can also be emitted. Many of the organic compounds emitted are designated hazardous air pollutants. There are many variables which determine the quantity of air emissions from a given burn. These include the type of fuel, the quantity of fuel, the moisture content of the material, and weather conditions. Particulate matter size ranges can vary widely depending on the rate of energy release from a given fire.

Air emissions will be estimated for any planned open burn regulated under Permit P100-R2M3. Estimated hazardous air pollutant emissions from open burning must be reported and counted towards the LANL facility-wide emission limits in the Title V permit. Any air emission from open burning is considered a fugitive emission; i.e. is not emitted from a stack or vent. Only fugitive hazardous air pollutant emissions count towards facility-wide emissions contained within the LANL Title V permit.

#### **2.9.5 Emissions Control Equipment**

Due to the nature of this activity, emissions control equipment is not present.

#### **2.9.6 Operational Plan**

An operational plan to limit air emissions during startups, shutdowns or malfunctions is not applicable to open burning as opposed to process equipment which has these types of operational time periods.

#### **2.9.7 Applicable Requirements**

Table 2.9-1 shows the existing permit conditions for this source type in Permit P100-R2M3 together with any proposed changes.

#### **2.9.8 Location of Open and Prescribed Burning**

There are currently no planned locations for future open or prescribed burning activities.

**Table 2.9-1 Existing Permit Conditions for Open or Prescribed Burning and Proposed Changes**

Existing Permit P100-R2M3 Conditions – Open Burning	Proposed Changes						
<p><b>A1400 Regulated Sources – Open Burning</b></p> <p>A. Table 1400.A lists all of the process equipment authorized for this source category.</p> <p><b>Table 1400.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No./Location</th> <th>Source Description</th> </tr> </thead> <tbody> <tr> <td>Facility-Wide Open Burning</td> <td>All open lands within LANL property boundary</td> </tr> </tbody> </table>	Unit No./Location	Source Description	Facility-Wide Open Burning	All open lands within LANL property boundary	<p>Request change to section title and Condition A1400 to “Open and Prescribed Burning”. The purpose is to clarify this section regulates both open burning under 20.2.60 NMAC and prescribed burning for land management purposes under 20.2.65 NMAC.</p>		
Unit No./Location	Source Description						
Facility-Wide Open Burning	All open lands within LANL property boundary						
<p><b>A1402 Emission Limits – Open Burning</b></p> <p>A. Table 1402.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 20.2.60 NMAC; 20.2.65 NMAC).</p> <p><b>Table 1402.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Individual HAP<sup>1</sup> (tpy)</th> <th>Total HAPs<sup>1</sup> (tpy)</th> </tr> </thead> <tbody> <tr> <td>Facility-Wide Open Burning</td> <td style="text-align: center;">8.0</td> <td style="text-align: center;">24.0</td> </tr> </tbody> </table> <p><sup>1</sup> Individual and Total HAPs emitted by Open Burning are included in the facility-wide HAP emission limits at Table 106.B.</p>	Unit No.	Individual HAP <sup>1</sup> (tpy)	Total HAPs <sup>1</sup> (tpy)	Facility-Wide Open Burning	8.0	24.0	<p>Request change to Condition A1402 title to “Open and Prescribed Burning”.</p>
Unit No.	Individual HAP <sup>1</sup> (tpy)	Total HAPs <sup>1</sup> (tpy)					
Facility-Wide Open Burning	8.0	24.0					



Existing Permit P100-R2M3 Conditions – Open Burning	Proposed Changes									
<p><b>A1403 Applicable Requirements – Open Burning</b></p> <p>The permittee shall comply with all applicable sections of the requirements listed in Table 1403.A.</p> <p><b>Table 1503.A: Applicable Requirements</b></p> <table border="1" data-bbox="310 370 1369 581"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>20.2.60 NMAC Open Burning</td> <td>X</td> <td>Facility-Wide Open Burning</td> </tr> <tr> <td>20.2.65 NMAC Smoke Management</td> <td>X</td> <td>Facility-Wide Open Burning</td> </tr> </tbody> </table>	Applicable Requirements	Federally Enforceable	Unit No.	20.2.60 NMAC Open Burning	X	Facility-Wide Open Burning	20.2.65 NMAC Smoke Management	X	Facility-Wide Open Burning	<p>Request change to Condition A1403 title to “Open and Prescribed Burning”.</p>
Applicable Requirements	Federally Enforceable	Unit No.								
20.2.60 NMAC Open Burning	X	Facility-Wide Open Burning								
20.2.65 NMAC Smoke Management	X	Facility-Wide Open Burning								
<p><b>A1404 Operational Limitations – Open Burning</b></p> <p>A. This source category is authorized to operate at any time of the day or night on any day of the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with continuous hours of operation.</p>	<p>Request change to Condition A1404 title “Open and Prescribed Burning”.</p>									

Existing Permit P100-R2M3 Conditions – Open Burning	Proposed Changes
<p><b>A1407 Other – Open Burning</b></p> <p>A. Operational</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Requirement:</b> The permittee shall comply with the applicable requirements of 20.2.60 NMAC and 20.2.65 NMAC, including, but not limited to:</p> <ol style="list-style-type: none"> <li>1) Prior to initiating a burn consisting of vegetative material, the permittee shall submit to the Department a sampling and analysis plan and upon approval conduct representative sampling of the intended burn material and analyze samples for radionuclides, target analyte list (TAL) inorganic elements, polychlorinated biphenyls (PCBs), and high explosives (HE); and</li> <li>2) The permittee shall submit to the Department a background concentration report for the contaminants listed in Condition A1407.A, Requirement (1). The report shall indicate locations where background concentrations were taken and compare sample results with background concentrations of the constituents; and</li> <li>3) The permittee shall not burn vegetative material which includes any contaminant above the relevant background concentration; and</li> <li>4) Upon receiving Department approval, the permittee shall conduct public notification in a display ad in at least four newspapers: Los Alamos Monitor, Rio Grande Sun, Santa Fe New Mexican, and the Albuquerque Journal, no less than 21 days in advance of a planned burn.</li> </ol> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p><b>Monitoring:</b> The permittee shall monitor all open burning as required by Department regulation or burn approval.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p><b>Recordkeeping:</b> The permittee shall maintain records of all sampling and analysis plans and any representative sampling conducted. Records shall be kept in accordance with Section B109.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p><b>Reporting:</b> The permittee shall submit reports as outlined in the Condition 1407.A Requirements, as described in Section A109, and in accordance with Section B110.</p> </div>	<p>Request change to Condition A1407 title to “Open and Prescribed Burning”.</p>

## 2.10 Evaporative Sprayers

### 2.10.1 General Description of Source Category

The purpose of the five spray evaporators is to reduce water volume in the existing Sigma Mesa evaporation basins. These synthetically-lined evaporation basins are located within Technical Area 60. The basins are intended for use to evaporate a specific treated waste water discharge from the LANL Sanitary Effluent Treatment Facility or SERF.

### 2.10.2 Operating Schedule

The evaporators are authorized to operate 24 hours per day and 7 days per week.

### 2.10.3 Process Flow Diagram

A process flow diagram for the evaporative sprayers is presented in Figure 2.10-1.

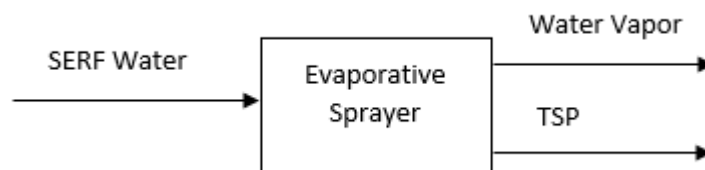


Figure 2.10-1 Process Flow Diagram for Evaporative Sprayers

### 2.10.4 Emissions Control Equipment

There is no emissions control equipment associated with the spray evaporators. All emissions are fugitive in nature due to the inherent sprayer design and operation.

### 2.10.5 Operational Plan

The evaporators are controlled by manual and automated systems. All systems are monitored using controls located near the evaporation ponds. Routine startup and shutdown emissions are not expected to differ substantially from regular operating emissions. Routine and preventive maintenance are regularly performed on the evaporators.

Emissions from the startup and shutdown of the evaporators are expected to be less than or equal to those during normal operations.

**Table 2.10-1 Existing Permit Conditions for Evaporative Sprayers and Proposed Changes**

Existing Permit P100-R2M3 Conditions – Evaporative Sprayers							Proposed Changes																																										
<p><b>A1500 Regulated Sources – Evaporative Sprayers</b></p> <p>A. Table A1500.A lists all of the process equipment authorized for this source category.</p> <p><b>Table A1500.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th>Unit No.</th> <th>Source Description</th> <th>Make Model</th> <th>Serial No.</th> <th>Maximum Capacity/Permitted Capacity</th> <th>Manufacture Date</th> <th>Construction Date</th> </tr> </thead> <tbody> <tr> <td>TA-60-EVAP-1</td> <td>Water spray evaporator</td> <td>SMI Evaporative Solutions SMI 120</td> <td>0053</td> <td>9 gal per min/7.51 gal per min</td> <td>2016</td> <td>July 2016</td> </tr> <tr> <td>TA-60-EVAP-2</td> <td>Water spray evaporator</td> <td>SMI Evaporative Solutions SMI 120</td> <td>0054</td> <td>9 gal per min/7.51 gal per min</td> <td>2016</td> <td>July 2016</td> </tr> <tr> <td>TA-60-EVAP-3</td> <td>Water spray evaporator</td> <td>SMI Evaporative Solutions SMI 120</td> <td>0055</td> <td>9 gal per min/7.51 gal per min</td> <td>2016</td> <td>July 2016</td> </tr> <tr> <td>TA-60-EVAP-4</td> <td>Water spray evaporator</td> <td>SMI Evaporative Solutions SMI 120</td> <td>TBD</td> <td>9 gal per min/7.51 gal per min</td> <td>TBD</td> <td>TBD</td> </tr> <tr> <td>TA-60-EVAP-5</td> <td>Water spray evaporator</td> <td>SMI Evaporative Solutions SMI 120</td> <td>TBD</td> <td>9 gal per min/7.51 gal per min</td> <td>TBD</td> <td>TBD</td> </tr> </tbody> </table>							Unit No.	Source Description	Make Model	Serial No.	Maximum Capacity/Permitted Capacity	Manufacture Date	Construction Date	TA-60-EVAP-1	Water spray evaporator	SMI Evaporative Solutions SMI 120	0053	9 gal per min/7.51 gal per min	2016	July 2016	TA-60-EVAP-2	Water spray evaporator	SMI Evaporative Solutions SMI 120	0054	9 gal per min/7.51 gal per min	2016	July 2016	TA-60-EVAP-3	Water spray evaporator	SMI Evaporative Solutions SMI 120	0055	9 gal per min/7.51 gal per min	2016	July 2016	TA-60-EVAP-4	Water spray evaporator	SMI Evaporative Solutions SMI 120	TBD	9 gal per min/7.51 gal per min	TBD	TBD	TA-60-EVAP-5	Water spray evaporator	SMI Evaporative Solutions SMI 120	TBD	9 gal per min/7.51 gal per min	TBD	TBD	<p>Update “Serial No.”, “Manufacture Date” and “Construction Date” columns in Table A1500.A for TA-60-EVAP-4 and TA-60-EVAP-5. These two spray evaporators have been installed and are currently operating. The Serial numbers for these units are 0056 and 0057. The dates to be added are 2016 and July 2018.</p>
Unit No.	Source Description	Make Model	Serial No.	Maximum Capacity/Permitted Capacity	Manufacture Date	Construction Date																																											
TA-60-EVAP-1	Water spray evaporator	SMI Evaporative Solutions SMI 120	0053	9 gal per min/7.51 gal per min	2016	July 2016																																											
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TA-60-EVAP-5	Water spray evaporator	SMI Evaporative Solutions SMI 120	TBD	9 gal per min/7.51 gal per min	TBD	TBD																																											
<p><b>A1502 Emission Limits – Evaporative Sprayers</b></p> <p>A. The federally enforceable work practice standards in Conditions A1507.A and B establish the emissions allowable under the permit (20.2.70.7.H and 1 NMAC) since separate numerical pph and tpy emission limits for TSP, PM10, VOCs, and HAPs from the evaporators are not appropriate for this operating scenario. Hazardous air pollutants (HAPs) from the evaporative coolers are included in and subject to the individual and total HAP facility-wide emission limits in Table 106.B.</p>							No changes.																																										
<p><b>A1503 Applicable Requirements – Evaporative Sprayers</b></p> <p>A. There are no additional applicable requirements other than those listed for the entire facility in Table 103.A.</p>							No changes.																																										
<p><b>A1504 Operational Limitations – Evaporative Sprayers</b></p> <p>A. This equipment is authorized for continuous operation.</p>							No changes.																																										

<p><b>A1505 Fuel Sulfur Requirements –Evaporative Sprayers – Not Required</b></p>	<p>No changes.</p>				
<p><b>A1506 20.2.61 NMAC Opacity –Evaporative Sprayers – Not Required</b></p>	<p>No changes.</p>				
<p><b>A1507 Evaporative Sprayers – Work Practice Standards</b></p> <p>A. Operational Requirements (Evaporative Sprayers)</p> <table border="1" data-bbox="289 394 1528 854"> <tr> <td data-bbox="289 394 1528 493"> <p><b>Requirement:</b> Compliance with the allowable emission limits in Table 106.B shall be demonstrated by calculating the annual total HAPs emissions in tons per year. The emissions shall be calculated based on the most recent water analysis and hours of operation for the evaporative sprayers.</p> </td> </tr> <tr> <td data-bbox="289 493 1528 625"> <p><b>Monitoring:</b> The permittee shall conduct an analysis of the basin water, including analytical results (water concentrations) for all HAPs and TAPs, at the Sanitary Effluent Reclamation Facility (SERF) every two years beginning no later than calendar year 2018. The permittee shall monitor the hours of operation for each sprayer.</p> </td> </tr> <tr> <td data-bbox="289 625 1528 724"> <p><b>Recordkeeping:</b> The permittee shall record a monthly rolling, 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors for the HAPs shall be based on the values from the most recent water analysis.</p> </td> </tr> <tr> <td data-bbox="289 724 1528 854"> <p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. An electronic copy of the required water analysis including analytical results (water concentrations) for all HAPs, TAPs, and the total dissolved solids (TDS) shall be sent to AQB with the Semi-annual Monitoring Report specified in A109.A for any year in which the water sampling is conducted.</p> </td> </tr> </table>	<p><b>Requirement:</b> Compliance with the allowable emission limits in Table 106.B shall be demonstrated by calculating the annual total HAPs emissions in tons per year. The emissions shall be calculated based on the most recent water analysis and hours of operation for the evaporative sprayers.</p>	<p><b>Monitoring:</b> The permittee shall conduct an analysis of the basin water, including analytical results (water concentrations) for all HAPs and TAPs, at the Sanitary Effluent Reclamation Facility (SERF) every two years beginning no later than calendar year 2018. The permittee shall monitor the hours of operation for each sprayer.</p>	<p><b>Recordkeeping:</b> The permittee shall record a monthly rolling, 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors for the HAPs shall be based on the values from the most recent water analysis.</p>	<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. An electronic copy of the required water analysis including analytical results (water concentrations) for all HAPs, TAPs, and the total dissolved solids (TDS) shall be sent to AQB with the Semi-annual Monitoring Report specified in A109.A for any year in which the water sampling is conducted.</p>	<p>No changes.</p>
<p><b>Requirement:</b> Compliance with the allowable emission limits in Table 106.B shall be demonstrated by calculating the annual total HAPs emissions in tons per year. The emissions shall be calculated based on the most recent water analysis and hours of operation for the evaporative sprayers.</p>					
<p><b>Monitoring:</b> The permittee shall conduct an analysis of the basin water, including analytical results (water concentrations) for all HAPs and TAPs, at the Sanitary Effluent Reclamation Facility (SERF) every two years beginning no later than calendar year 2018. The permittee shall monitor the hours of operation for each sprayer.</p>					
<p><b>Recordkeeping:</b> The permittee shall record a monthly rolling, 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors for the HAPs shall be based on the values from the most recent water analysis.</p>					
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. An electronic copy of the required water analysis including analytical results (water concentrations) for all HAPs, TAPs, and the total dissolved solids (TDS) shall be sent to AQB with the Semi-annual Monitoring Report specified in A109.A for any year in which the water sampling is conducted.</p>					
<p>B. Maintenance and Repair Requirements</p> <table border="1" data-bbox="289 930 1528 1325"> <tr> <td data-bbox="289 930 1528 997"> <p><b>Requirement:</b> Compliance with the allowable emission limits in Table 106.A shall be demonstrated by properly maintaining and repairing the units.</p> </td> </tr> <tr> <td data-bbox="289 997 1528 1128"> <p><b>Monitoring:</b> Maintenance and repair shall meet the minimum manufacturer’s or permittee’s recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur.</p> </td> </tr> <tr> <td data-bbox="289 1128 1528 1227"> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repair activities and a copy of the manufacturer’s or permittee’s recommended maintenance schedule.</p> </td> </tr> <tr> <td data-bbox="289 1227 1528 1325"> <p><b>Reporting:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer’s or permittee’s recommended maintenance schedule.</p> </td> </tr> </table>	<p><b>Requirement:</b> Compliance with the allowable emission limits in Table 106.A shall be demonstrated by properly maintaining and repairing the units.</p>	<p><b>Monitoring:</b> Maintenance and repair shall meet the minimum manufacturer’s or permittee’s recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur.</p>	<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repair activities and a copy of the manufacturer’s or permittee’s recommended maintenance schedule.</p>	<p><b>Reporting:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer’s or permittee’s recommended maintenance schedule.</p>	<p>No changes.</p>
<p><b>Requirement:</b> Compliance with the allowable emission limits in Table 106.A shall be demonstrated by properly maintaining and repairing the units.</p>					
<p><b>Monitoring:</b> Maintenance and repair shall meet the minimum manufacturer’s or permittee’s recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur.</p>					
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repair activities and a copy of the manufacturer’s or permittee’s recommended maintenance schedule.</p>					
<p><b>Reporting:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer’s or permittee’s recommended maintenance schedule.</p>					

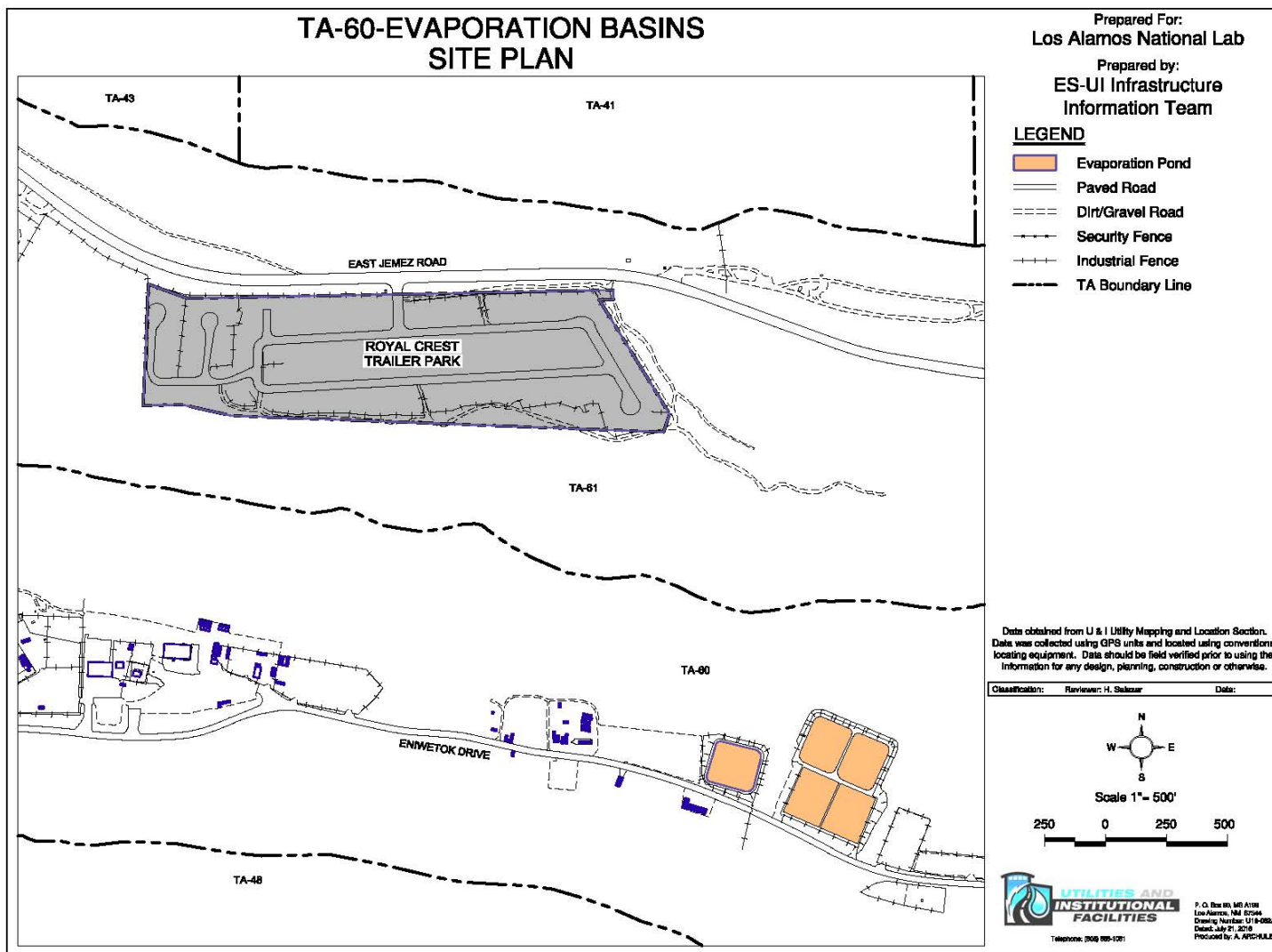


Figure 2.10-2 Location of Evaporative Sprayers

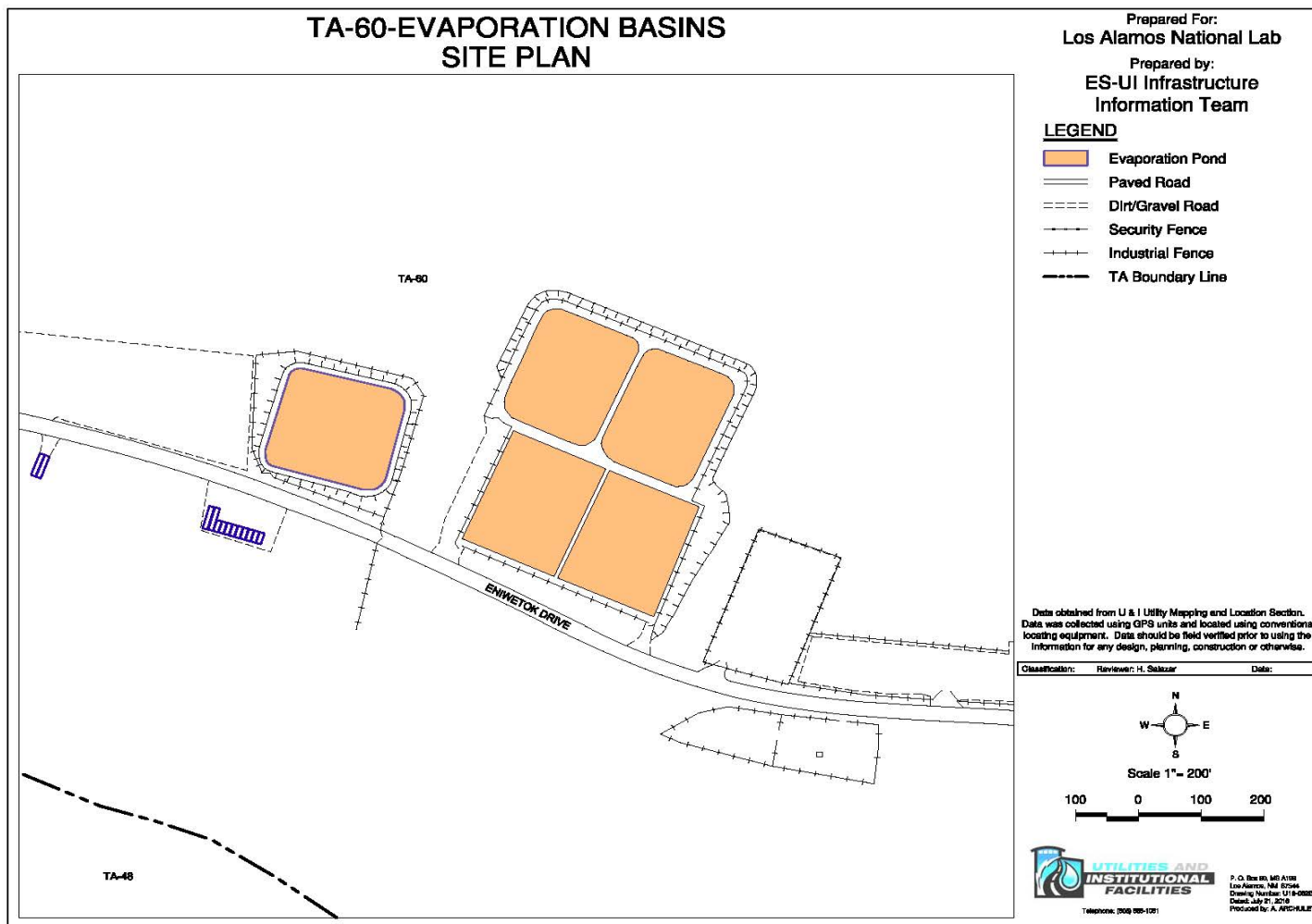


Figure 2.10-3 Plot Plan for Evaporative Sprayers

# **Appendix A**

## **Application Forms**



<p><b>Mail Application To:</b></p> <p>New Mexico Environment Department          Air Quality Bureau          Permits Section          525 Camino de los Marquez, Suite 1          Santa Fe, New Mexico, 87505</p> <p>Phone: (505) 476-4300          Fax: (505) 476-4375          www.env.nm.gov/aqb</p>		<p><b>For Department use only:</b></p>           <p>AIRS No.:</p>
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## 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, 9 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. For NOI applications, submit the entire UA1, UA2, and UA3 applications on a single CD (no copies are needed). For NOIs, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required.

**This application is 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 or 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.  Title V Operating, Title IV Acid Rain, and NPR applications have no fees.  
 \$500 NSR application Filing Fee enclosed **OR**  The full permit fee associated with 10 fee points (required w/ streamline applications).  
 Check No.: \_\_\_\_\_ in the amount of \$500  
 I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.  
 This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the normal application and permit fees. Enclosed is a check for 50% of the normal application fee which will be verified with the Small Business Certification Form for your company.  
 This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the normal application and permit fees. To see if you qualify for SBEAP assistance and for the small business certification form go to [https://www.env.nm.gov/aqb/sbap/small\\_business\\_criteria.html](https://www.env.nm.gov/aqb/sbap/small_business_criteria.html) ).

**Citation:** Please provide the **low level citation** under which this application is being submitted: **20.2.70.300.B.2 NMAC** (e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

## Section 1 – Facility Information

### Section 1-A: Company Information

		AI # if known (see 1 <sup>st</sup> 3 to 5 #s of permit IDEA ID No.): 856	Updating Permit/NOI #: P100-R2M3
1	Facility Name: <b>U.S. Department of Energy(DOE)/Los Alamos National Laboratory</b>	Plant primary SIC Code (4 digits): <b>9711</b>	
		Plant NAIC code (6 digits): <b>928110</b>	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): <b>Laboratory is bounded by towns of Los Alamos and White Rock, NM</b>		
2	Plant Operator Company Name: <b>Triad National Security, LLC/Newport News Nuclear BWXT – Los Alamos, LLC</b>	Phone: <b>505-667-4218 and 505-661-5918</b>	

a	Plant Operator Address: <b>P.O. Box 1663, MS K491, Los Alamos, NM 87545; 600 Sixth Street, Los Alamos, NM 87544</b>	
b	Plant Operator's New Mexico Corporate ID or Tax ID: <b>5684544/5595886</b>	
3	Plant Owner(s) name(s): <b>U.S. Department of Energy, National Nuclear Security Administration</b>	Phone/Fax: <b>(505) 667-6691</b>
a	Plant Owner(s) Mailing Address(s): <b>3747 West Jemez Road, Los Alamos, NM 87544</b>	
4	Bill To (Company): <b>N/A</b>	Phone: <b>(505) 667-4218 and 505-661-5918</b>
a	Mailing Address: <b>P.O. Box 1663, MS K491, Los Alamos, NM 87545</b>	E-mail: <b>mhazen@lanl.gov</b>
5	<input checked="" type="checkbox"/> Preparer: <input type="checkbox"/> Consultant: <b>Bill Blankenship</b>	Phone/Fax: <b>(505) 667-8724</b>
a	Mailing Address: <b>P.O. Box 1663, MS J978, Los Alamos, NM, 87545</b>	E-mail: <b>blankenship@lanl.gov</b>
6	Plant Operator Contact: <b>Taunia Van Valkenburg</b>	Phone/Fax: <b>(505) 665-9827</b>
a	Address: <b>P.O. Box 1663, MS K490, Los Alamos, NM, 87545</b>	E-mail: <b>tauniav@lanl.gov</b>
7	Air Permit Contact: <b>Margie Stockton</b>	Title: <b>Acting AQC Team Leader, EPC-CP</b>
a	E-mail: <b>mstockton@lanl.gov</b>	Phone: <b>(505) 665-3289</b>
b	Mailing Address: <b>P.O. Box 1663, MS J978, Los Alamos, NM, 87545</b>	

### Section 1-B: Current Facility Status

1.a	Has this facility already been constructed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.b If yes to question 1.a, is it currently operating in New Mexico? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2	If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, give month and year of shut down (MM/YY): <b>N/A</b>
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5	If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: <b>P100-R2M3</b>
7	Has this facility been issued a No Permit Required (NPR)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the NPR No. is: <b>2195A, 2195Q, 2195S, 2195T, 2195U, 2195V, 2195L, 2195X, 2195R75, 2195R77</b>
8	Has this facility been issued a Notice of Intent (NOI)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the NOI No. is: <b>2597</b>
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the permit No. is: <b>632, 634-M2, 1081-M1-R6, 2195, 2195B-M3, 2195F-R4, 2195H, 2195N-R2, 2195P-R2</b>
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, the register No. is: <b>GCP-3-2195G</b>

### 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: <b>N/A</b>	Daily: <b>N/A</b>	Annually: <b>N/A</b>
b	Proposed	Hourly: <b>N/A</b>	Daily: <b>N/A</b>	Annually: <b>N/A</b>
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: <b>17</b>	Range: <b>6E</b>	Township: <b>19N</b>	County: <b>Los Alamos</b>	Elevation (ft): <b>7350</b>
2	UTM Zone: <input type="checkbox"/> 12 or <input checked="" type="checkbox"/> 13			Datum: <input type="checkbox"/> NAD 27 <input checked="" type="checkbox"/> NAD 83 <input type="checkbox"/> WGS 84	
a	UTM E (in meters, to nearest 10 meters): <b>380790</b>			UTM N (in meters, to nearest 10 meters): <b>3970800</b>	
b	AND Latitude (deg., min., sec.): <b>35° 52' 27"</b>			Longitude (deg., min., sec.): <b>106° 19' 13"</b>	
3	Name and zip code of nearest New Mexico town: <b>Los Alamos 87545</b>				
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): <b>Southern border of Los Alamos, NM</b>				
5	The facility is <b>1</b> (distance) miles <b>south</b> (direction) of <b>Los Alamos</b> (nearest town).				
6	Status of land at facility (check one): <input type="checkbox"/> Private <input type="checkbox"/> Indian/Pueblo <input type="checkbox"/> Federal BLM <input type="checkbox"/> Federal Forest Service <input checked="" type="checkbox"/> Other (specify) <b>Federal Department of Energy</b>				
7	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: <b>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</b>				
8	<b>20.2.72 NMAC applications only:</b> 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 <a href="http://www.env.nm.gov/aqb/modeling/classIareas.html">www.env.nm.gov/aqb/modeling/classIareas.html</a> )? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: <b>N/A</b>				
9	Name nearest Class I area: <b>Bandelier Wilderness Area (the wilderness portion of Bandelier National Monument)</b>				
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): <b>0.1 km</b>				
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: <b>N/A</b>				
12	Method(s) used to delineate the Restricted Area: <b>N/A</b>  <b>"Restricted Area"</b> is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area.				
13	Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites.				
14	Will this facility operate in conjunction with other air regulated parties on the same property? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, what is the name and permit number (if known) of the other facility?				

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

1	Facility <b>maximum</b> operating ( $\frac{\text{hours}}{\text{day}}$ ): <b>24</b>	( $\frac{\text{days}}{\text{week}}$ ): <b>7</b>	( $\frac{\text{weeks}}{\text{year}}$ ): <b>52</b>	( $\frac{\text{hours}}{\text{year}}$ ): <b>8760</b>
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$ )? Start: <b>N/A</b>		<input type="checkbox"/> AM <input type="checkbox"/> PM	End: <b>N/A</b> <input type="checkbox"/> AM <input type="checkbox"/> PM
3	Month and year of anticipated start of construction: <b>N/A</b>			
4	Month and year of anticipated construction completion: <b>N/A</b>			
5	Month and year of anticipated startup of new or modified facility: <b>N/A</b>			

6	Will this facility operate at this site for more than one year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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### 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 or modeling waiver being submitted with this application?    Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
a	If Yes, what type of source? <input type="checkbox"/> Major ( <input type="checkbox"/> ≥10 tpy of any single HAP <b>OR</b> <input type="checkbox"/> ≥25 tpy of any combination of HAPS) <b>OR</b> <input checked="" type="checkbox"/> Minor ( <input type="checkbox"/> <10 tpy of any single HAP <b>AND</b> <input checked="" type="checkbox"/> <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
a	If yes, include the name of company providing commercial electric power to the facility: <u>Los Alamos Power Pool</u> Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user.		

### Section 1-G: Streamline Application

(This section applies to 20.2.72.300 NMAC Streamline applications only)

1	<input type="checkbox"/> I have filled out Section 18, "Addendum for Streamline Applications." <input checked="" type="checkbox"/> N/A (This is not a Streamline application.)
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### Section 1-H: Current Title V Information - Required for all applications from TV Sources

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

1	Responsible Official (R.O.) <b>William S. Goodrum</b> (20.2.70.300.D.2 NMAC):	Phone: <b>505-667-5105</b>
a	R.O. Title: <b>DOE Field Office Manager</b>	R.O. e-mail: <b>steve.goodrum@nnsa.doe.gov</b>
b	R. O. Address: <b>P.O. Box 1663, MS A316, Los Alamos, NM 87545</b>	
2	Alternate Responsible Official <b>Mark Miera (Acting)</b> (20.2.70.300.D.2 NMAC):	Phone: <b>505-667-5105</b>
a	A. R.O. Title: <b>Deputy Manager, Los Alamos Field Office</b>	A. R.O. e-mail: <b>mark.miera@nnsa.doe.gov</b>
b	A. R. O. Address: <b>P.O. Box 1663, MS A316, Los Alamos, NM 87545</b>	
3	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): <b>N/A</b>	
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): <b>N/A</b>	
a	Address of Parent Company: <b>N/A</b>	
5	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.): <b>N/A</b>	
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: <b>Triad National Security, LLC – Michael Hazen – (505) 667-4218; N3B – Thomas Lombardo – (505) 661-5918</b>	

7	<p>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: <b>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).</b></p>
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## Section 1-I – Submittal Requirements

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

### Hard Copy Submittal Requirements:

- 1) One hard copy **original signed and notarized application package printed double sided 'head-to-toe' 2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be **head-to-head**. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. **Please include a copy of the check on a separate page.**
- 2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This **copy** does not need to be 2-hole punched, but **must be double sided**. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 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). For permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal.
- 4) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver OR** 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) or NNSR under 20.2.79 NMC include,
  - a. one additional CD copy for US EPA,
  - b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
  - c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

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

- 1) All required electronic documents shall be submitted in duplicate (2 separate CDs). A single PDF document of the entire application as submitted and the individual documents comprising the application.
- 2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas 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. We must be able to review the formulas and inputs that calculated the emissions.
- 3) 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.
- 4) 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 an 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: Regulated 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 <sup>1</sup>	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) <sup>4</sup>	Replacing Unit No.
							Date of Construction/Reconstruction <sup>2</sup>	Emissions vented to Stack #				
TA-60-BDM	Hot Mix Asphalt Plant	BDM Engineering	TM2000	unknown	60 tph	60 tph	2002	TA-60-BDM		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
TA-16-1484-BS-1	Boiler	Sellers	183 H.P.-SHLN390	100848-B	7.47	7.47	1995	see 2-C		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							1995	N/A				
TA-16-1484-BS-2	Boiler	Sellers	183 H.P.-SHLN390	100848-A	7.47	7.47	1995	see 2-C		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							1995	N/A				
TA-53-365-BHW-1	Boiler	Sellers	15 Seniors-2200w	99031-1	8.37	8.37	1988	none		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							1988	N/A				
TA-53-365-BHW-2	Boiler	Sellers	15 Seniors-2200w	99031-2	8.37	8.37	1988	none		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							1988	N/A				
TA-55-6-BHW-1	Boiler	Sellers	350 H.P.W-LN490	101319-B	14.6	14.6	2001	see 2-C		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2001	N/A				
TA-55-6-BHW-2	Boiler	Sellers	350 H.P.W-LN490	101319-A	14.6	14.6	1998	see 2-C		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							1998	N/A				
RLUOB-BHW-1	Boiler	Unilux	ZF1100 W	A1874	11.0	11.0	2009	see 2-C		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2009	RLUOB_BHW				
RLUOB-BHW-2	Boiler	Unilux	ZF1100 W	A1875	11.0	11.0	2009	see 2-C		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2009	RLUOB_BHW				
RLUOB-BHW-3	Boiler	Unilux	ZF1100 W	A1876	11.0	11.0	2009	see 2-C		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							2009	RLUOB_BHW				
RLUOB-BHW-4	Boiler	TBD	TBD	TBD	11.0	11.0	TBD	TBD		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							TBD	RLUOB_BHW				
LANL-FW-CHEM	Chemical Usage	N/A	N/A	N/A	N/A	N/A	N/A	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				
RLUOB-CHEM	Chemical Usage	N/A	N/A	N/A	N/A	N/A	N/A	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A
							N/A	N/A				



Unit Number <sup>1</sup>	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity <sup>3</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>		Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CL, SL, 4SLB, 4SRB, 2SLB) <sup>4</sup>	Replacing Unit No.
							Date of Construction/Reconstruction <sup>2</sup>	Emissions vented to Stack #					
TA-55-DG-1	Degreaser	N/A	N/A	N/A	N/A	N/A	N/A	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							N/A	N/A					
TA-33-G-1P	Diesel Generator	Cummins	DFHD	H010276941	1490 hp (engine)	1000 kW (gen output)	2001	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2004	TA33_G1P					
TA-33-G-2	Diesel Generator	Kohler	20EORZ	2025460	36 hp (engine)	20 kW (gen output)	2003	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2007	TA33_G2					
TA-33-G-3	Diesel Generator	Kohler	20EORZ	2025461	36 hp (engine)	20 kW (gen output)	2003	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2007	TA33_G3					
TA-33-G-4	Diesel Generator	Caterpillar	SR4B	6PK01065	316 hp (engine)	225 kW (gen output)	1999	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2007	TA33_G4					
RLUOB-GEN-1	Diesel Generator	Cummins	DFLE-5754172	I06970810	2220 hp (engine)	1500 kW (gen output)	2006	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2009	N/A					
RLUOB-GEN-2	Diesel Generator	Cummins	DFLE-5754172	I06970811	2220 hp (engine)	1500 kW (gen output)	2006	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2009	N/A					
RLUOB-GEN-3	Diesel Generator	Cummins	DFLE-5754172	I06970812	2220 hp (engine)	1500 kW (gen output)	2006	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2009	N/A					
TA-48-GEN-1	Diesel Generator	Cummins	150DSG AC	L100178636	250 hp (engine)	150 kW (gen output)	2010	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2013	N/A					
TA-52-11	Data Disintegrator	SEM	1424	11892	1200 lb/hr	1200 lb/hr	2002	TA-52-11		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2004	TA52_11					
TA-3-22-1	Boiler	Edgemoor Iron Works	N/A	4008	210 MMBtu/hr	178.5 MMBtu/hr	1950	F-1		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							1950	TA3_S1					
TA-3-22-2	Boiler	Edgemoor Iron Works	N/A	4009	210 MMBtu/hr	178.5 MMBtu/hr	1950	F-1		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							1950	TA3_S1					
TA-3-22-3	Boiler	Edgemoor Iron Works	N/A	11804	210 MMBtu/hr	178.5 MMBtu/hr	1952	F-1		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							1952	TA3_S2					
TA-3-22-CT-1	Combustion Turbine	Rolls-Royce	RB211-6761DLE	2011	32 MW	27 MW	2003	DLE		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced	N/A	N/A	
							2005	TA3_CT					

Unit Number <sup>1</sup>	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity <sup>2</sup> (Specify Units)	Requested Permitted Capacity <sup>3</sup> (Specify Units)	Date of Manufacture <sup>2</sup>	Controlled by Unit #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) <sup>4</sup>	Replacing Unit No.
							Date of Construction/Reconstruction <sup>2</sup>	Emissions vented to Stack #				
TA-3-66	Beryllium Activity	N/A	N/A	N/A	N/A	N/A	1950s	TA-3-66		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							1950s	N/A				
TA-3-141	Beryllium Activity	N/A	N/A	N/A	N/A	N/A	1998	TA-3-141		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							1998	N/A				
TA-35-213	Beryllium Activity	N/A	N/A	N/A	N/A	N/A	1985	TA-35-213		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							1985	N/A				
TA-55-PF-4 Machining	Beryllium Activity	N/A	N/A	N/A	N/A	N/A	1992	TA-55-PF4		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							1992	N/A				
TA-55-PF-4 Foundry	Beryllium Activity	N/A	N/A	N/A	N/A	N/A	1999	TA-55-PF4		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							1999	N/A				
TA-50-GEN-184	Diesel Generator	Cummins	DFEJ-1798846	J170270398	765 hp (engine)	450 kW (gen output)	2017	N/A		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2018	N/A				
TA-55-GEN-1	Diesel Generator	Whisper Watt	DCA25S SiU4FDF 027012	7150008	40.2 hp (engine)	20 kW (gen output)	2014	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2014	N/A				
TA-55-GEN-2	Diesel Generator	Whisper Watt	DCA25S SiU4FDF 027012	7150066	40.2 hp (engine)	20 kW (gen output)	2014	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2014	N/A				
TA-55-GEN-474	Diesel Generator	Cummins	DFEJ-A056Y4 34	B170157959	680 hp (engine)	450 kW (gen output)	2017	N/A		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2018	N/A				
TA-55-GEN-475	Diesel Generator	Cummins	QSX15-G9	B170157958	680 hp (engine)	450 kW (gen output)	2017	N/A		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2018	N/A				
TA-63-GEN-TRU	Diesel Generator	Cummins	DSGAD	F150838701	324 hp (engine)	175 kW (gen output)	2015	N/A		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2016	N/A				
TA-55-GEN-3	Diesel Generator	Caterpillar	SR4B-6D	G5C03702	1,135 hp (engine)	900 kW (gen output)	N/A	N/A		<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2010	N/A				
TA-60-EVAP-1	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0053	9 gal/min	7.51 gal/min	2016	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2016	N/A				
TA-60-EVAP-2	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0054	9 gal/min	7.51 gal/min	2016	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2016	N/A				
TA-60-EVAP-3	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0055	9 gal/min	7.51 gal/min	2016	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2016	N/A				
TA-60-EVAP-4	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0056	9 gal/min	7.51 gal/min	2016	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2016	N/A				
TA-60-EVAP-5	Water Spray Evaporator	SMI Evaporative Solutions	SMI 120	0057	9 gal/min	7.51 gal/min	2016	N/A		<input checked="" type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A
							2016	N/A				
										<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To Be Replaced	N/A	N/A

<sup>1</sup> 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.

<sup>2</sup> Specify dates required to determine regulatory applicability.

<sup>3</sup> 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.

<sup>4</sup> "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

<sup>5</sup> TBD = To Be Determined, information regarding the make, model, serial number and dates of manufacture will be provided at a later date under separate cover.

**Table 2-B: Insignificant Activities<sup>1</sup> (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.env.nm.gov/aqb/permit/aqb\\_pol.html](http://www.env.nm.gov/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 20.2.72.301.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.env.nm.gov/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.	Max Capacity	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5)	Date of Manufacture /Reconstruction <sup>2</sup>	For Each Piece of Equipment, Check One
			Serial No.	Capacity Units	Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Installation /Construction <sup>2</sup>	
Insignificant activities are discussed and listed in Section 1.6 of this application.							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced
							<input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced

<sup>1</sup> 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 September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

<sup>2</sup> 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. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s) <sup>1</sup>	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
TA-60-BDM	Cyclone and Baghouse	2002	Particulate Matter	TA-60-BDM	99.97	Vendor
TA-3-66	HEPA filtration or aqueous solution/lubricant bath	1995	Beryllium	TA-3-66	99.95	Filter tests
TA-3-141	HEPA filtration and cartridge filtration or lubricant bath	1997	Beryllium	TA-3-141	99.95	Filter tests
TA-35-213	HEPA filtration	1985	Beryllium	TA-35-213	99.95	Filter tests
TA-55-PF4	HEPA filtration	1978	Beryllium	TA-55-PF4	99.95	Filter tests
TA-16-1484-BS-1	Low-NOx burner	1995	Nitrogen oxides	TA-16-1484-BS-1	60	AP-42
TA-16-1484-BS-2	Low-NOx burner	1995	Nitrogen oxides	TA-16-1484-BS-2	60	AP-42
TA-55-6-BHW-1	Low-NOx burner	2001	Nitrogen oxides	TA-55-6-BHW-1	60	AP-42
TA-55-6-BHW-2	Low-NOx burner	1998	Nitrogen oxides	TA-55-6-BHW-2	60	AP-42
RLUOB-BHW-1	Low-NOx burner	2009	Nitrogen oxides	RLUOB-BHW-1	67	Vendor
RLUOB-BHW-2	Low-NOx burner	2009	Nitrogen oxides	RLUOB-BHW-2	67	Vendor
RLUOB-BHW-3	Low-NOx burner	2009	Nitrogen oxides	RLUOB-BHW-3	67	Vendor
RLUOB-BHW-4	Low-NOx burner	2009	Nitrogen oxides	RLUOB-BHW-4	67	Vendor
TA-52-11	Cyclone and Baghouse	2004	Particulate Matter	TA-52-11	98.75 (combined)	Vendor
F-1	Flue Gas Recirculation Fan	2001	Nitrogen Oxides	TA-3-22-1	64	Source Test
F-2	Flue Gas Recirculation Fan	2001	Nitrogen Oxides	TA-3-22-2	64	Source Test
F-3	Flue Gas Recirculation Fan	2001	Nitrogen Oxides	TA-3-22-3	64	Source Test
DLE	Dry Low Emissions (DLE) (pre-mix lean burn staged combustion)	2005	Nitrogen Oxides	TA-3-22-CT-1	70	AP-42

<sup>1</sup> 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 Emissions** (under normal operating conditions)

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

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. 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. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP <sup>2</sup>		PM10 <sup>2</sup>		PM2.5 <sup>2</sup>		H <sub>2</sub> S		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
TA-60-BDM	0.62	0.04	21.48	1.30	0.41	0.02	0.23	0.01	1584.00	96.00	222.75	13.50	222.75	13.50	-	-	-	-
TA16-1484-BS1	0.73	3.18	0.61	2.67	0.04	0.17	4.35E-03	1.91E-02	0.06	0.24	0.06	0.24	0.06	0.24	-	-	-	-
TA16-1484-BS2	0.73	3.18	0.61	2.67	0.04	0.17	4.35E-03	1.91E-02	0.06	0.24	0.06	0.24	0.06	0.24	-	-	-	-
TA53-365-BHW1	0.81	3.56	0.68	2.99	0.04	0.20	4.88E-03	2.14E-02	0.06	0.27	0.06	0.27	0.06	0.27	-	-	-	-
TA53-365-BHW2	0.81	3.56	0.68	2.99	0.04	0.20	4.88E-03	2.14E-02	0.06	0.27	0.06	0.27	0.06	0.27	-	-	-	-
TA55-6-BHW-1	1.42	6.21	1.19	5.22	0.08	0.34	8.50E-03	3.73E-02	0.11	0.47	0.11	0.47	0.11	0.47	-	-	-	-
TA55-6-BHW-2	1.42	6.21	1.19	5.22	0.08	0.34	8.50E-03	3.73E-02	0.11	0.47	0.11	0.47	0.11	0.47	-	-	-	-
RLUOB-BHW-1	1.39	4.23	0.41	1.78	0.42	1.20	0.58	0.27	0.16	0.23	0.16	0.23	0.16	0.23	-	-	-	-
RLUOB-BHW-2	1.39	4.23	0.41	1.78	0.42	1.20	0.58	0.27	0.16	0.23	0.16	0.23	0.16	0.23	-	-	-	-
RLUOB-BHW-3	1.39	4.23	0.41	1.78	0.42	1.20	0.58	0.27	0.16	0.23	0.16	0.23	0.16	0.23	-	-	-	-
RLUOB-BHW-4	1.39	4.23	0.41	1.78	0.42	1.20	0.58	0.27	0.16	0.23	0.16	0.23	0.16	0.23	-	-	-	-
TA-33-G-1P	20.92	9.41	2.15	0.97	1.62	0.73	0.57	0.26	0.66	0.30	0.66	0.30	0.66	0.30	-	-	-	-
TA-33-G-2	0.83	0.21	0.24	0.06	0.07	0.02	0.06	0.01	0.06	0.01	0.06	0.01	0.06	0.01	-	-	-	-
TA-33-G-3	0.83	0.21	0.24	0.06	0.07	0.02	0.06	0.01	0.06	0.01	0.06	0.01	0.06	0.01	-	-	-	-
TA-33-G-4	9.35	2.34	5.65	1.41	0.75	0.33	0.62	0.16	0.66	0.17	0.66	0.17	0.66	0.17	-	-	-	-
RLUOB-GEN-1	33.59	1.68	41.62	2.08	4.75	0.24	0.90	0.04	1.97	0.10	1.66	0.08	1.66	0.08	-	-	-	-
RLUOB-GEN-2	33.59	1.68	41.62	2.08	4.75	0.24	0.90	0.04	1.97	0.10	1.66	0.08	1.66	0.08	-	-	-	-
RLUOB-GEN-3	33.59	1.68	41.62	2.08	4.75	0.24	0.90	0.04	1.97	0.10	1.66	0.08	1.66	0.08	-	-	-	-
TA-48-GEN-1	1.64	0.08	1.44	0.07	1.64	0.08	5.60E-01	2.80E-02	0.08	4.11E-03	8.22E-02	4.11E-03	8.22E-02	4.11E-03	-	-	-	-
TA-52-11	-	-	-	-	-	-	-	-	180.00	788.40	180.00	788.40	180.00	788.40	-	-	-	-
TA-3-22-1	31.27	81.36	7.00	20.20	0.96	2.78	9.64	0.30	4.30	3.84	3.00	3.84	2.02	3.84	-	-	-	-
TA-3-22-2	31.27	81.36	7.00	20.20	0.96	2.78	9.64	0.30	4.30	3.84	3.00	3.84	2.02	3.84	-	-	-	-
TA-3-22-3	31.27	81.36	7.00	20.20	0.96	2.78	9.64	0.30	4.30	3.84	3.00	3.84	2.02	3.84	-	-	-	-
TA-3-22-CT-1	79.50	348.20	29.03	127.17	0.61	2.66	1.69	7.39	1.91	8.37	1.91	8.37	1.91	8.37	-	-	-	-
TA-50-GEN-184	0.50	0.03	4.40	0.22	0.24	0.01	5.71E-01	2.85E-02	0.03	1.26E-03	2.52E-02	1.26E-03	2.52E-02	1.26E-03	-	-	-	-
TA-55-GEN-474	0.45	0.02	3.91	0.20	0.21	0.01	5.07E-01	2.54E-02	0.02	1.12E-03	2.24E-02	1.12E-03	2.24E-02	1.12E-03	-	-	-	-
TA-55-GEN-475	0.45	0.02	3.91	0.20	0.21	0.01	5.07E-01	2.54E-02	0.02	1.12E-03	2.24E-02	1.12E-03	2.24E-02	1.12E-03	-	-	-	-
TA-63-GEN-TRU	0.21	0.01	1.87	0.09	0.10	0.01	7.25E-01	3.63E-02	0.01	5.33E-04	1.07E-02	5.33E-04	1.07E-02	5.33E-04	-	-	-	-
TA-55-GEN-3	14.05	0.70	7.68	0.38	14.05	0.70	9.96E-01	4.98E-02	0.44	0.02	4.39E-01	2.20E-02	4.39E-01	2.20E-02	-	-	-	-
TA-55-GEN-1	0.31	0.02	0.36	0.02	0.31	0.02	9.00E-02	4.50E-03	2.0E-03	9.92E-05	1.98E-03	9.92E-05	1.98E-03	9.92E-05	-	-	-	-
TA-55-GEN-2	0.31	0.02	0.36	0.02	0.31	0.02	9.00E-02	4.50E-03	2.0E-03	9.92E-05	1.98E-03	9.92E-05	1.98E-03	9.92E-05	-	-	-	-
TA-60-EVAP-1	-	-	-	-	-	-	-	-	10.28	45.03	0.00	0.00	0.00	0.00	-	-	-	-

Unit No.	NOx		CO		VOC		SOx		TSP <sup>2</sup>		PM10 <sup>2</sup>		PM2.5 <sup>2</sup>		H <sub>2</sub> S		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
TA-60-EVAP2	-	-	-	-	-	-	-	-	10.28	45.03	0.00	0.00	0.00	0.00	-	-	-	-
TA-60-EVAP-3	-	-	-	-	-	-	-	-	10.28	45.03	0.00	0.00	0.00	0.00	-	-	-	-
TA-60-EVAP-4	-	-	-	-	-	-	-	-	10.28	45.03	0.00	0.00	0.00	0.00	-	-	-	-
TA-60EVAP-5	-	-	-	-	-	-	-	-	10.28	45.03	0.00	0.00	0.00	0.00	-	-	-	-

<sup>1</sup> **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

**Table 2-E: Requested Allowable Emissions**

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E<sup>4</sup>).

Unit No.	NOx		CO		VOC		SOx		TSP <sup>1</sup>		PM10 <sup>1</sup>		PM2.5 <sup>1</sup>		H <sub>2</sub> S		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
TA-60- BDM	-	20.00	-	10.00	-	20.00	-	20.00	33.80	20.00	33.80	20.00	33.80	20.00	-	-	-	-
All boilers	-	80.00	-	80.00	-	50.00	-	50.00	-	50.00	-	50.00	-	50.00	-	-	-	-
RLUOB-BHW-1	0.70	2.90	1.10	4.80	0.10	-	0.10	0.30	0.10	0.40	0.10	0.40	0.10	0.40	-	-	-	-
RLUOB-BHW-2	0.70	2.90	1.10	4.80	0.10	-	0.10	0.30	0.10	0.40	0.10	0.40	0.10	0.40	-	-	-	-
RLUOB-BHW-3	0.70	2.90	1.10	4.80	0.10	-	0.10	0.30	0.10	0.40	0.10	0.40	0.10	0.40	-	-	-	-
RLUOB-BHW-4	0.70	2.90	1.10	4.80	0.10	-	0.10	0.30	0.10	0.40	0.10	0.40	0.10	0.40	-	-	-	-
RLUOB - oil	-	2.90	-	0.90	-	-	-	10.40	-	0.50	-	0.30	-	0.30	-	-	-	-
RLUOB-CHEM	-	-	-	-	-	3.75	-	-	-	-	-	-	-	-	-	-	-	-
TA-33-G-1P	20.92	9.41	2.15	0.97	1.62	0.73	0.57	0.26	0.66	0.30	0.66	0.30	0.66	0.30	-	-	-	-
TA-33-G-2	0.83	0.21	0.20	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TA-33-G-3	0.83	0.21	0.20	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TA-33-G-4	9.33	2.33	5.70	1.40	0.75	0.20	0.62	0.16	-	-	-	-	-	-	-	-	-	-
TA-52-11	-	-	-	-	-	-	-	-	2.30	9.90	2.30	9.90	2.30	9.90	-	-	-	-
TA-3-22-1																		
gas	10.15	-	7.00	-	0.96	-	0.11	-	1.33	-	1.33	-	1.33	-	-	-	-	-
oil	11.26	-	6.51	-	0.26	-	9.64	-	4.30	-	3.00	-	2.02	-	-	-	-	-
TA-3-22-2																		
gas	10.15	-	7.00	-	0.96	-	0.11	-	1.33	-	1.33	-	1.33	-	-	-	-	-
oil	11.26	-	6.51	-	0.26	-	9.64	-	4.30	-	3.00	-	2.02	-	-	-	-	-
TA-3-22-3																		
gas	10.15	-	7.00	-	0.96	-	0.11	-	1.33	-	1.33	-	1.33	-	-	-	-	-
oil	11.26	-	6.51	-	0.26	-	9.64	-	4.30	-	3.00	-	2.02	-	-	-	-	-
TA-3-22-1,2,3	-	31.45	-	21.45	-	2.83	-	2.153	-	4.66	-	4.41	-	4.23	-	-	-	-
TA-3-22-CT-1	23.85	59.37	29.03	72.28	0.61	1.51	1.69	4.20	1.91	4.76	1.91	4.76	1.91	4.76	-	-	-	-

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

✕ This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or scheduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanation of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine or predictable startup, shutdown or scheduled maintenance (SSM)<sup>1</sup>, including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications ([https://www.env.nm.gov/aqb/permit/aqb\\_pol.html](https://www.env.nm.gov/aqb/permit/aqb_pol.html)) for more detailed instructions. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP <sup>2</sup>		PM10 <sup>2</sup>		PM2.5 <sup>2</sup>		H <sub>2</sub> S		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	
																-	-	-	-
<b>Totals</b>																			

<sup>1</sup> 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 this table. 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.

<sup>2</sup> Condensable Particulate Matter: Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.



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

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.

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. 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.

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		<input type="checkbox"/> H <sub>2</sub> S or <input type="checkbox"/> 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
RLUOB_B	RLUOB-BHW-1,2,3,4	2.8	11.6	4.4	19.2	0.4	-	0.4	0.4	0.4	1.6	0.4	1.6	0.4	1.6	-	-
TA3_S1	TA-3-22-1,2																
	gas	20.3		14.0		1.9		2.1		2.7		2.7		2.7		-	-
	oil	22.5		13.0		0.5		19.3		8.6		6.0		4.0		-	-
<b>Totals:</b>																	

**Table 2-H: Stack Exit Conditions**

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions. If the facility has multiple operating scenarios, complete a separate Table 2-H for each scenario and, for each, type scenario name here:

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		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter (ft)
						(acfs)	(dscfs)			
TA60_BDM	TA-60-BDM	V	No	33	126	13903	-	-	60.7	2.21
RLUOB_B	RLUOB-BHW-1,2,3,4	V	No	60	410	18040	-	-	28.5	3.70
TA33_G1P	TA-33-G-1P	V	No	14	975	7769	-	-	185.4	0.67
TA33_G2	TA-33-G-2	H	No	2	Model sets to ambient.	Model calculates horizontal stack.	-	-	0.001	1.00
TA33_G3	TA-33-G-3	H	No	2	Model sets to ambient.	Model calculates horizontal stack.	-	-	0.001	1.00
TA33_G4	TA-33-G-4	V	No	9	980.6	1900	-	-	234.00	0.42
TA52_11	TA-52-11	H	No	25.9	Model sets to ambient.	Model calculates horizontal stack.	-	-	0.001	1
TA3_S1	TA-3-22-1,2	H	No	68	415	2667	-	-	57.2	7.7
TA3_S2	TA-3-22-3	H	No	68	415	1333	-	-	28.6	7.7
TA3_CT	TA-3-22-CT-1	H	No	59	921	7362	-	-	73.6	11.3
TA55_BHW	TA-55-6-BHW-1,2	V	Yes	29.8	Model sets to ambient.	Model calculates for rain cap.	-	-	0.001	1
TA53_BHW	TA-53-365-BHW-1,2	V	Yes	22	Model sets to ambient.	Model calculates for rain cap.	-	-	0.001	1
TA16_BS	TA-16-1484-BS-1,2	V	Yes	21	Model sets to ambient.	Model calculates for rain cap.	-	-	0.001	1

Note: Stack information provided for all stacks included in modeling criteria pollutants to support LANL New Source Review permit applications. Stack numbers are same as prior modeling with AERMOD.

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

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. 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. Include tank-flashing emissions estimates of HAPs in this table. 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 or the pollutant is emitted in a quantity less than the threshold amounts described above.

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 Calculations Worksheet for HAP estimates by emission unit.																				
See "Beryllium Activities" Worksheet for beryllium emission rates.																				
<b>Totals:</b>																				

**Table 2-J: Fuel**

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

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
TA-60-BDM	Natural Gas	Pipeline Quality Natural Gas	1030 Btu/scf	24,272 scf max	106 MMscf max	-	-
All Boilers	Natural Gas	Pipeline Quality Natural Gas	1030 Btu/scf	N/A	870 MMscf max	-	-
RLUOB-BHW-1	Natural Gas	Pipeline Quality Natural Gas	1030 Btu/scf	10,679 scf max	94 MMscf max	-	-
RLUOB-BHW-2	Natural Gas	Pipeline Quality Natural Gas	1030 Btu/scf	10,679 scf max	94 MMscf max	-	-
RLUOB-BHW-3	Natural Gas	Pipeline Quality Natural Gas	1030 Btu/scf	10,679 scf max	94 MMscf max	-	-
RLUOB-BHW-4	Natural Gas	Pipeline Quality Natural Gas	1030 Btu/scf	10,679 scf max	94 MMscf max	-	-
RLUOB-BHW-1,2,3,4	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	N/A	289,100 gal max	0.05	-
TA-33-G-1P	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	69.3 gal max	607,068 gal max	0.05	-
TA-33-G-2	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	1.7 gal max	850 gal max	0.05	-
TA-33-G-3	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	1.7 gal max	850 gal max	0.05	-
TA-33-G-4	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	15.8 gal max	7,900 gal max	0.05	-
RLUOB-GEN-1	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	103.6 gal max	10,360 gal max	0.05	-
RLUOB-GEN-2	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	103.6 gal max	10,360 gal max	0.05	-
RLUOB-GEN-3	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	103.6 gal max	10,360 gal max	0.05	-
TA-48-GEN-1	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	12.25 gal max	1,225 gal max	0.05	-
TA-3-22-1,2,3	Natural Gas	Pipeline Quality Natural Gas	1030 Btu/scf	N/A	1,000,000 mSCF	-	-
TA-3-22-1,2,3	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	N/A	500,000 gal	0.05	-
TA-50-GEN-184	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	30.1 gal max	15,050 gal	0.05	-

Unit No.	Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...)	Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other	Specify Units				
			Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
TA-55-GEN-474	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	27.3 gal max	13,650 gal	0.05	-
TA-55-GEN-475	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	27.3 gal max	13,650 gal	0.05	-
TA-63-GEN-TRU	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	14.9 gal max	7,450 gal	0.05	-
TA-55-GEN-3	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	62.5 gal max	31,250 gal	0.05	-
TA-3-22-CT-1	Natural Gas	1030 Btu/scf	281.2 mSCF	1,400,000 mSCF	-	-	-
TA-55-GEN-1	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	1.6 gal max	160 gal	0.05	-
TA-55-GEN-2	No.2 Fuel Oil	Purchased Commercial	137,000 Btu/gal	1.6 gal max	160 gal	0.05	-

**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)
<b>All tanks are Title V insignificant activities.</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 <small>(refer to Table 2-LR below)</small>	Roof Type <small>(refer to Table 2-LR below)</small>	Capacity		Diameter (M)	Vapor Space (M)	Color <small>(from Table VI-C)</small>		Paint Condition <small>(from Table VI-C)</small>	Annual Throughput <small>(gal/yr)</small>	Turn-overs <small>(per year)</small>
					(bbl)	(M <sup>3</sup> )			Roof	Shell			
<b>All tanks are Title V insignificant activities.</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		Roof, Shell Color	Paint Condition
	Mechanical Shoe Seal	Liquid-mounted resilient seal	Vapor-mounted resilient seal	Seal Type		
FX: Fixed Roof					WH: White	Good
IF: Internal Floating Roof	A: Primary only	A: Primary only	A: Primary only	A: Mechanical shoe, primary only	AS: Aluminum (specular)	Poor
EF: External Floating Roof	B: Shoe-mounted secondary	B: Weather shield	B: Weather shield	B: Shoe-mounted secondary	AD: Aluminum (diffuse)	
P: Pressure	C: Rim-mounted secondary	C: Rim-mounted secondary	C: Rim-mounted secondary	C: Rim-mounted secondary	LG: Light Gray	
					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M<sup>3</sup> = 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)
				Asphalt Production	-	solid	6,000 tons/yr



**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
<b>There is no CEM equipment present.</b>									

**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
<b>There is no parametric emissions measurement equipment present.</b>								

**Table 2-P: Greenhouse Gas Emissions**

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box  By checking this box, the applicant acknowledges the total CO<sub>2</sub>e emissions are less than 75,000 tons per year.

		CO <sub>2</sub> ton/yr	N <sub>2</sub> O ton/yr	CH <sub>4</sub> ton/yr	SF <sub>6</sub> ton/yr	PFC/HFC ton/yr <sup>2</sup>									Total GHG Mass Basis ton/yr <sup>4</sup>	Total CO <sub>2</sub> e ton/yr <sup>5</sup>
<b>Unit No.</b>	<b>GWPs<sup>1</sup></b>	<b>1</b>	<b>298</b>	<b>25</b>	<b>22,800</b>	<b>footnote 3</b>										
<b>TA-60-BDM</b>	<b>mass GHG</b>	7418	0.1	0.4	-	-									7419	7449
	<b>CO<sub>2</sub>e</b>	7418	21.6	9.1	-	-									-	-
<b>Boilers</b>	<b>mass GHG</b>	52372	0.6	3.0	-	-									52375	52622
	<b>CO<sub>2</sub>e</b>	52372	176.6	74.1	-	-									-	-
<b>RLUOB Boilers</b>	<b>mass GHG</b>	25757	0.3	1.4	-	-									25759	25876
	<b>CO<sub>2</sub>e</b>	25757	83.8	35.1	-	-									-	-
<b>Prmited Gens.</b>	<b>mass GHG</b>	1989	1.6E-02	0.1	-	-									1989	1996
	<b>CO<sub>2</sub>e</b>	1989	4.8	2.0	-	-									-	-
<b>TA-3-22-1,2,3</b>	<b>mass GHG</b>	65706	0.7	3.6	-	-									65710	66013
	<b>CO<sub>2</sub>e</b>	65706	216.2	90.7	-	-									-	-
<b>TA-3-22-CT-1</b>	<b>mass GHG</b>	84113	0.9	4	-	-									84118	84478
	<b>CO<sub>2</sub>e</b>	84113	257	108	-	-									-	-
<b>Total</b>	<b>mass GHG</b>	237355	2.6	12.8	-	-									237370	238434
	<b>CO<sub>2</sub>e</b>	237355	760.3	318.9	-	-									-	-

<sup>1</sup> GWP (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

<sup>2</sup> For HFCs or PFCs describe the specific HFC or PFC compound and use a separate column for each individual compound.

<sup>3</sup> For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

<sup>4</sup> Green house gas emissions on a mass basis is the ton per year green house gas emission before adjustment with its GWP.

<sup>5</sup> CO<sub>2</sub>e means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

## Asphalt Plant Emission Estimates

### Process Data

Plant capacity	49.5 tons/hr
Plant production restriction	
Current	6000 tons/year 4380 hours/year
Propane burner maximum capacity	25 MMBtu/hr

1 Due to altitude and other factors the maximum plant capacity during the 5/18/2009 source test was 45 tons per hour. As noted in the test report, the plant capacity is now limited to 49.5 tons per hour (10% about tested rate).

## Criteria Pollutants

### Criteria Pollutant Emission Factors

		NOx	CO	SOx	VOC	TSP	PM10	PM2.5
lb/ton asphalt	Uncontrolled	-	-	0.0046	0.0082	32	4.5	4.5
	Controlled	0.012	0.43			0.007	0.005	0.005

- 1 VOC, SOx, and uncontrolled TSP and PM10 factors from AP-42, 3/04, Section 11.1, Hot Mix Asphalt Plants.
- 2 Controlled PM factor, NOx, CO from 5/18/2009 compliance source test.
- 3 PM10 factor assumes 64% of PM test value as indicated in AP-42.
- 4 Assume PM2.5 equal to PM10, no factors available.

### Maximum Emissions - Criteria Pollutants

	NOx	CO	SOx	VOC	TSP	PM10	PM2.5
lb/hr	0.6	21.5	0.2	0.4	1584.0	222.75	222.75
tpy	0.04	1.3	0.01	0.02	96.0	13.5	13.5
tpy, Controlled	0.04	1.3	0.01	0.02	0.02	0.01	0.01

- 1 These values assume no control system but include for tpy the current enforceable production restriction.
- 2 The tpy controlled values are shown to indicate how low actual maximum TSP emissions are.

### Requested Allowable Emissions - Criteria Pollutants

	NOx	CO	SOx	VOC	TSP
lb/hr	n/a	n/a	n/a	n/a	33.8
gr/dscf	n/a	n/a	n/a	n/a	4.0E-02
tpy	20	10	20	20	20

- 1 TSP lb/hr limit from 20.2.11 NMAC - Asphalt Process Equipment.
- 2 TSP gr/dscf limit from 40 CFR Part 60, Subpart I New Source Performance Standard
- 3 Ton per year limits are voluntary requested limits less than specified in GCP-3-2195G.

## Hazardous Air Pollutants

### Hazardous Air Pollutant Emission Estimates - Potential to Emit

	lb/ton	tpy
Total HAPs	0.01	0.02

1 Assumes total allowable 6,000 tons per year asphalt processed.

2 Emission factor from AP-42, 3/04, Section 11.1, Hot Mix Asphalt Plants.

**Boiler and Heater Emission Estimates**

**Process 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 - Other			
Annual fuel limit	870 MMscf/yr	natural gas	
TA-16-1484-BS-1	7.47 MMBtu/hr	Maximum heat input	
TA-16-1484-BS-2	7.47 MMBtu/hr	Maximum heat input	
TA-53-365-BHW-1	8.37 MMBtu/hr	Maximum heat input	
TA-53-365-BHW-2	8.37 MMBtu/hr	Maximum heat input	
TA-55-6-BHW-1	14.6 MMBtu/hr	Maximum heat input	
TA-55-6-BHW-2	14.6 MMBtu/hr	Maximum heat input	
Boilers - RLUOB			
Annual fuel limit(all)	289,100 gallons/yr	fuel oil	
Annual hour limit (each)		48 hours fuel oil	
Boilers - RLUOB			
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	

**Criteria Pollutants**

**Criteria Pollutant Emission Factors**

	NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC
Boilers - Other (lb/MMScf)							
lb/MMScf	100	84	0.6	7.6	7.6	7.6	5.5
lb/MMBtu	0.1	0.08	0.0006	0.007	0.007	0.007	0.005
Boilers - RLUOB							
natural gas (lb/MMBtu)	0.029	0.037	0.006	0.0048	0.0048	0.0048	0.025
fuel oil (lb/MMBtu)	0.126	0.037	0.0525	0.0143	0.0143	0.0143	0.038

1 Boilers - Other emission factors from AP-42, 7/98, Section 1.4, Natural Gas Combustion.

2 Boilers - RLUOB emission factors for Nox, CO, TSP, PM10, PM2.5 and VOC from vendor.

**Maximum Emissions, lb/hr - Criteria Pollutants**

	NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC
TA-16-1484-BS-1	0.73	0.61	0.004	0.06	0.06	0.06	0.04
TA-16-1484-BS-2	0.73	0.61	0.004	0.06	0.06	0.06	0.04
TA-53-365-BHW-1	0.81	0.68	0.005	0.06	0.06	0.06	0.04
TA-53-365-BHW-2	0.81	0.68	0.005	0.06	0.06	0.06	0.04
TA-55-6-BHW-1	1.42	1.19	0.009	0.11	0.11	0.11	0.08
TA-55-6-BHW-2	1.42	1.19	0.009	0.11	0.11	0.11	0.08
Boilers - RLUOB							
natural gas	1.0	0.4	0.06	0.05	0.05	0.05	0.3
fuel oil	1.39	0.41	0.58	0.16	0.16	0.16	0.42

1 Low-NOx burners are present on each boiler. This calculation assumes no NOx control present at 67%.

2 The Boilers-Other group has several boilers/heaters of varying sizes. The hourly rate cannot be estimated.



**Maximum Emissions, tpy - Criteria Pollutants**

	NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC
Boilers - Other	43.5	36.5	0.26	3.3	3.3	3.3	2.4
TA-16-1484-BS-1	3.18	2.67	0.02	0.24	0.24	0.24	0.17
TA-16-1484-BS-2	3.18	2.67	0.02	0.24	0.24	0.24	0.17
TA-53-365-BHW-1	3.56	2.99	0.02	0.27	0.27	0.27	0.20
TA-53-365-BHW-2	3.56	2.99	0.02	0.27	0.27	0.27	0.20
TA-55-6-BHW-1	6.21	5.22	0.04	0.47	0.47	0.47	0.34
TA-55-6-BHW-2	6.21	5.22	0.04	0.47	0.47	0.47	0.34
Boilers - RLUOB							
natural gas (each)	4.23	1.78	0.27	0.23	0.23	0.23	1.20
natural gas (all)	16.9	7.13	1.07	0.93	0.93	0.93	4.82
fuel oil (each)	0.033	0.010	0.014	0.004	0.004	0.004	0.010
fuel oil (all)	2.50	0.73	1.04	0.28	0.28	0.28	0.75
Total	62.9	44.4	2.4	4.5	4.5	4.5	8.0

1 The Boilers - Other tpy assumes no controls but is based on the enforceable annual gas limit.

2 RLUOB boiler tpy NOx assumes no controls.

3 RLUOB fuel oil (each) assumes no controls but is based on enforceable hourly limit.

4 RLUOB fuel oil (all) assumes no controls but is based on enforceable annual fuel limit.

**Requested Allowable Emissions - Criteria Pollutants**

	NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC
Boilers - All LANL, tpy	80	80	50	50	50	50	50
Boilers - RLUOB							
natural gas (each)							
lb/hr	0.7	1.1	0.1	0.1	0.1	0.1	0.1
tpy	2.9	4.8	0.3	0.4	0.4	0.4	-
fuel oil (all)							
tpy	2.9	0.9	10.4	0.5	0.3	0.3	-

1 All values are the current allowable emissions within Permit P100-R2-M3.

2 The Boilers - All LANL include all boilers at LANL including RLUOB boilers and small exempt/ insignificant units.

3 RLUOB boilers had lb/hr and tpy allowable emissions established during NSR permitting.

**Hazardous Air Pollutants**

**Hazardous Air Pollutant Emission Factors**

		HAP	lb/MMscf	
Boilers - natural gas	Organics	POM	8.82E-05	
		Benzene	2.10E-03	
		Dichlorobenzene	1.20E-03	
		Formaldehyde	7.50E-02	
		Hexane	1.80E+00	
		Naphthalene	6.10E-04	
		Toluene	3.40E-03	
	Metals	Arsenic	2.00E-04	
		Beryllium	1.20E-05	
		Cadmium	1.10E-03	
		Chromium	1.40E-03	
		Cobalt	8.40E-05	
		Lead	5.00E-04	
		Manganese	3.80E-04	
		Mercury	2.60E-04	
		Nickel	2.10E-03	
		Selenium	2.40E-05	
		<b>Total</b>	<b>1.89E+00</b>	
	Boilers - fuel oil	Organics	HAP Formaldehyde	4.80E-02
			POM	3.30E-03
Metals		Arsenic	5.48E-04	
		Beryllium	4.11E-04	
		Cadmium	4.11E-04	
		Chromium	4.11E-04	
		Lead	1.23E-03	
		Manganese	8.22E-04	
		Mercury	4.11E-04	
		Nickel	4.11E-04	
		Selenium	2.06E-03	
		<b>Total</b>	<b>5.80E-02</b>	

1 Gas 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 Oil emission factors from AP-42, 9/98, Section 1.3, Fuel Oil Combustion, Tables 1.3-8 and 1.3-10, for distillate oil.

**Hazardous Air Pollutant Emission Estimates - Potential to Emit**

Boilers - Other	tpy	0.8
Boilers - RLUOB		
natural gas		0.4
fuel oil		8.4E-03
<b>Total</b>		<b>1.18</b>

1 Boilers - Other based on annual fuel consumption limit.

2 RLUOB boilers - natural gas assumes maximum capacity 8,760 hours per year.

3 RLUOB boilers - fuel oil based on annual fuel limit.

## Chemical Usage Emission Estimates

### Past Actual Emission Estimates, tpy

Year	VOCs	HAPs
2013	9.6	3.5
2014	10.9	5.1
2015	9.1	4.4
2016	12.7	6.4
2017	10.3	5.2

- 1 Maximum emissions or potential to emit cannot be estimated for this source type.
- 2 Estimates include the existing RLUOB facility.
- 3 Emissions from chemical usage count towards LANL facility-wide emission limits.

### Requested Allowable Emissions, tpy

	NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC
LANL-FW-CHEM	-	-	-	-	-	-	-
RLUOB-CHEM	-	-	-	-	-	-	3.75

- 1 There are no applicable regulations which establish emission limits for this source type.
- 2 The emission limit for RLUOB-CHEM is from NSR Permit 2195N-R2.

### Degreaser Emission Estimates

#### Past Actual Emission Estimates, lbs/year

Year	TCE
2013	15.8
2014	15.8
2015	12.6
2016	19.0
2017	3.2

1 Maximum emissions or potential to emit cannot be estimated for this source type.

2 TCE, trichloroethylene, is a designated VOC and HAP.

#### Requested Allowable Emissions, tpy

None.

1 There are no applicable regulations which establish emission limits for this source type.

2 Emissions from this source do count towards the LANL facility-wide emission limits in P100-R2-M3.

**Internal Combustion Emission Estimates**

**TA-33 Generators**

**Process Data**

Generator Ratings		
TA-33-G-1P	1000 kW	
	1490 hp	
	1416 hp (derated)	
TA-33-G-2	20 kW	
TA-33-G-3	20 kW	
TA-33-G-4	225 kW	
Engine Fuel Consumption		
TA-33-G-1P	69.3 gal/hr	
TA-33-G-2	1.7 gal/hr	
TA-33-G-3	1.7 gal/hr	
TA-33-G-4	15.8 gal/hr	
Operational Restrictions		
TA-33-G-1P		
Hour equivalent	900 hours per year	
TA-33-G-2,3,4		
Annual restriction	500 hours	

1 Operational restrictions are from NSR permits and are within Permit P100-R2-M3.

**Criteria Pollutants**

**Criteria Pollutant Emission Factors**

	NOx lb/hp-hr	CO lb/hp-hr	SOx lb/hp-hr	PM lb/hp-hr	PM10 lb/hp-hr	PM2.5 lb/hp-hr	VOC lb/hp-hr
TA-33-G-1P	0.015	0.0015	0.0004	0.00046	0.00046	0.00046	0.0011
	NOx g/kW-hr	CO g/kW-hr	SOx g/kW-hr	PM g/kW-hr	PM10 g/kW-hr	PM2.5 g/kW-hr	VOC g/kW-hr
TA-33-G-2,3	18.9	5.5	1.3	1.3	1.3	1.3	1.5
TA-33-G-4	18.9	11.4	1.3	1.3	1.3	1.3	1.5

**TA-33-G-1P**

- SOx, and HAP emission factors from AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines.
- Sulfur concentration of diesel fuel used is 0.05% verified in March 2007 for Title V emission report.
- NOx, CO, PM and VOC emission factors are from vendor.

**TA-33-G-2,3,4**

- Emission factors from AP-42, Section 3.3 Gasoline and Diesel Industrial Engines, except CO from EPA Tier 1 nonroad standards.
- NSR permit app prepared with all AP-42, later review showed Tier 1 standards lower than AP-42 except for CO.
- To convert AP-42 factor of lb/hp-hr to g/kW-hr: lb/hr-hr x 0.608 kg/kW-hr per lb/hp-hr x 1000 g/kg.

**Maximum Emissions, lb/hr - Criteria Pollutants**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC
TA-33-G-1P	20.92	2.15	0.57	0.66	0.66	0.66	1.62
TA-33-G-2	0.83	0.24	0.06	0.06	0.06	0.06	0.07
TA-33-G-3	0.83	0.24	0.06	0.06	0.06	0.06	0.07
TA-33-G-4	9.35	5.65	0.62	0.66	0.66	0.66	0.75

1 These engines do not have control equipment to consider in estimating maximum emissions.

**Maximum Emissions, tpy - Criteria Pollutants**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC
TA-33-G-1P	9.41	0.97	0.26	0.30	0.30	0.30	0.73
TA-33-G-2	0.21	0.06	0.01	0.01	0.01	0.01	0.017
TA-33-G-3	0.21	0.06	0.01	0.01	0.01	0.01	0.017
TA-33-G-4	2.34	1.41	0.16	0.17	0.17	0.17	0.33

1 Emission estimates reflect the current enforceable annual operating hour restrictions.

**Requested Allowable Emissions, lb/hr - Criteria Pollutants**

	NOx	CO	SOx	PM	PM10	VOC
TA-33-G-1P	20.9	2.2	0.6	0.7	0.7	1.6
TA-33-G-2	0.83	0.2	-	-	-	-
TA-33-G-3	0.83	0.2	-	-	-	-
TA-33-G-4	9.33	5.7	0.6	-	-	0.75

1 All values are the current emission limits in Permit P100-R2-M2 with exception below.

2 Requested allowables for TA-33-G-1P have been lowered from limits accepted in NSR technical revision from larger unit which was replaced.

**Requested Allowable Emissions, tpy - Criteria Pollutants**

	NOx	CO	SOx	PM	PM10	VOC
TA-33-G-1P	9.4	1.0	0.3	0.3	0.3	0.7
TA-33-G-2	0.21	0.1	-	-	-	-
TA-33-G-3	0.21	0.1	-	-	-	-
TA-33-G-4	2.33	1.4	0.16	-	-	0.2

1 All values are the current emission limits in Permit P100-R2-M2 with exception below.

2 Requested allowables for TA-33-G-1P have been lowered from limits accepted in NSR technical revision from larger unit which was replaced.

**Hazardous Air Pollutants**

**Hazardous Air Pollutant Emission Factors**

	HAP	lb/MMBtu	lb/kW-hr
> 447 kW	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
			5.82E-06
< 447 KW	Benzene	9.33E-04	3.18E-06
	Toluene	4.09E-04	1.40E-06
	Xylene	2.85E-04	9.73E-07
	1,3-Butadiene	3.91E-05	1.33E-07
	Formaldehyde	1.18E-03	4.03E-06
	Acetaldehyde	7.67E-04	2.62E-06
	Acrolein	9.25E-05	3.16E-07
	Naphthalene	8.48E-05	2.89E-07
	PAH, total	1.68E-04	5.73E-07
		1.35E-05	

1 All factors from AP-42, Sections 3.3 Gasoline and Diesel Industrial Engines and 3.4 Large Stationary Diesel and All Stationary Dual-Fuel Engines.



**Emission Estimates, Total HAPs, each engine**

	lb/hr	tpy
TA-33-G-1P	5.82E-03	2.62E-03
TA-33-G-2	2.70E-04	6.75E-05
TA-33-G-3	2.70E-04	6.75E-05
TA-33-G-4	3.04E-03	7.60E-04

**Emission Estimates, Total HAPs, all 4 TA-33 engines**

	lb/hr	ton/year
Totals	9.40E-03	3.51E-03

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

**NSPS Subpart III Engines**

**RLUOB-GEN-1, 2 and 3**

**Process Data**

Generator Maximum Rating (each)	1500 kW electrical
Engine Maximum Rating (each)	2220 hp
Engine Maximum Fuel Consumption	1656.1 kW mechanical 103.6 gal/hr
Operational Restrictions	
Annual operating hours	100 hr/yr non-emergency

1 Annual hour restriction from engine NSPS and Permit P100-R2-M2.

**Emission Factors**

NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	HAPs
g/kW-hr	g/kW-hr	g/kW-hr	g/kW-hr	g/kW-hr	g/kW-hr	g/kW-hr	lb/kW-hr
9.2	11.4	0.246	0.54	0.45	0.45	1.3	5.82E-06

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

**Maximum Emissions, lb/hr**

	NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	HAPs
Each	33.59	41.62	0.90	1.97	1.66	1.66	4.7	9.63E-03

1 These engines do not have control equipment to consider in estimating maximum emissions.

**Maximum Emissions, ton/yr**

	NOx	CO	SOx	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	HAPs
Each	1.7	2.1	0.04	0.10	0.08	0.08	0.24	4.82E-04
All	#####	6.2	0.13	0.30	0.25	0.25	0.71	#####

1 Emission estimates reflect the current enforceable annual operating hour restrictions from Subpart IIII.

**Additional LANL NSPS Subpart III Engines**

**Process Data**

Unit	TA	Bldg/Name	Manufacturer	Engine hp	Engine kWm	Fuel Type	EPA Tier
TA-48-GEN-1	48	1	Cummins	250	186.5	Diesel	Tier 3
TA-50-GEN-184	50	184	Cummins	765	570.7	Diesel	Tier 2
TA-55-GEN-1	55	1	Whisper Watt	40.2	30.0	Diesel	Tier 4
TA-55-GEN-2	55	2	Whisper Watt	40.2	30.0	Diesel	Tier 4
TA-55-GEN-3	55	371	Caterpillar	1335	995.9	Diesel	Tier 3
TA-55-GEN-474	55	474	Cummins	680	507.3	Diesel	Tier 2
TA-55-GEN-475	55	475	Cummins	680	507.3	Diesel	Tier 2
TA-63-GEN-TRU	63	TRU	Cummins	324	241.7	Diesel	Tier 2

1 NSPS Subpart IIII restricts generator operation to 100 hours per year non-emergency use.

**Emission Factors**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC	HAPs
	g/kW-hr	g/kW-hr	lb/kW-hr	g/kW-hr	g/kW-hr	g/kW-hr	g/kW-hr	lb/kW-hr
TA-48-GEN-1	4.0	3.5	0.003	0.2	0.2	0.2	4.0	1.35E-05
TA-50-GEN-184	0.4	3.5	0.001	0.02	0.02	0.02	0.2	5.82E-06
TA-55-GEN-1	4.7	5.5	0.003	0.03	0.03	0.03	4.7	1.35E-05
TA-55-GEN-2	4.7	5.5	0.003	0.03	0.03	0.03	4.7	1.35E-05
TA-55-GEN-3	6.4	3.5	0.001	0.2	0.2	0.2	6.4	5.82E-06
TA-55-GEN-474	0.4	3.5	0.001	0.02	0.02	0.02	0.2	5.82E-06
TA-55-GEN-475	0.4	3.5	0.001	0.02	0.02	0.02	0.2	5.82E-06
TA-63-GEN-TRU	0.4	3.5	0.003	0.02	0.02	0.02	0.2	1.35E-05

1 NOx, CO, VOC and PM factors are the applicable Tier 2, Tier 3 and Tier 4 engine standards. Assume PM10 and PM2.5=PM. NOx/VOC is a combined limit.  
 2 SOx and HAP factors are from AP-42, Section 3.3 Gasoline and Diesel Industrial Engines.

**Maximum Emissions, lb/hr**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC	HAPs
TA-48-GEN-1	1.64	1.44	0.56	0.08	0.08	0.08	1.64	2.52E-03
TA-50-GEN-184	0.50	4.40	0.57	0.03	0.03	0.03	0.24	3.32E-03
TA-55-GEN-1	0.31	0.36	0.09	0.002	0.002	0.002	0.31	4.05E-04
TA-55-GEN-2	0.31	0.36	0.09	0.002	0.002	0.002	0.31	4.05E-04
TA-55-GEN-3	14.05	7.68	1.00	0.44	0.44	0.44	14.05	5.79E-03
TA-55-GEN-474	0.45	3.91	0.51	0.02	0.02	0.02	0.21	2.95E-03
TA-55-GEN-475	0.45	3.91	0.51	0.02	0.02	0.02	0.21	2.95E-03
TA-63-GEN-TRU	0.21	1.87	0.73	0.01	0.01	0.01	0.10	3.27E-03

**Maximum Emissions, tpy**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC	HAPs
TA-48-GEN-1	0.08	0.07	2.80E-02	4.11E-03	4.11E-03	4.11E-03	0.08	1.26E-04
TA-50-GEN-184	0.03	0.22	2.85E-02	0.001	1.26E-03	1.26E-03	0.01	1.66E-04
TA-55-GEN-1	0.02	0.02	4.50E-03	9.92E-05	9.92E-05	9.92E-05	0.02	2.03E-05
TA-55-GEN-2	0.02	0.02	4.50E-03	9.92E-05	9.92E-05	9.92E-05	0.02	2.03E-05
TA-55-GEN-3	0.70	0.38	4.98E-02	0.02	2.20E-02	2.20E-02	0.70	2.90E-04
TA-55-GEN-474	0.02	0.20	2.54E-02	0.001	1.12E-03	1.12E-03	0.01	1.48E-04
TA-55-GEN-475	0.02	0.20	2.54E-02	0.001	1.12E-03	1.12E-03	0.01	1.48E-04
TA-63-GEN-TRU	0.01	0.09	3.63E-02	5.33E-04	5.33E-04	5.33E-04	5.06E-03	1.63E-04
<b>total</b>	<b>0.90</b>	<b>1.20</b>	<b>0.20</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.85</b>	<b>0.001</b>

1 Emission estimates reflect the current NSPS annual operating hour limit for non-emergency use to maintain emergency stand-by status.

**Emergency Stationary Standby Generators Pre-NSPS**

**Process Data**

TA	Bldg	Manufacturer	Model	kW <sub>e</sub>	Fuel Type
3	40	Onan Sons	1500DVE15R31374B	150	Diesel
3	440	Cummins	DFGA-5005210	500	Diesel
3	1076	Cummins	DGBB-5601289	35	Diesel
3	1400	Cummins	DFEH-5699616	400	Diesel
3	1404	Cummins	DFLC-5554001	1250	Diesel
3	1498	Caterpillar	SR-4	600	Diesel
3	2322	Onan Sons	DGDA-5005757	80	Diesel
16	980	Cummins	1100DFLB-4148	1100	Diesel
16	1374	Onan Sons	60ENA	60	Nat. Gas
35	402	Cummins	DGCB-5674244	60	Diesel
43	1	Cummins	4BT3.9-GC	50	Diesel
43	1	Onan Sons	DVE	150	Diesel
46	335	Onan Sons	300DEFCB	300	Diesel
48	45	Onan Sons	DFCB-5740130	300	Diesel
50	37	Cummins	680FDR5059FF	500	Diesel
50	69	Onan Sons	DGDB4487482	100	Diesel
50	188	Onan Sons	L940563879	1250	Diesel
53	1	Onan Sons	60ENA	60	Nat. Gas
55	8	Delco/Detroit	E7014DD	600	Diesel
55	47	Onan Sons	200DFAA	200	Diesel
55	142	Cummins	DFEB-4963414	400	Diesel
55	364	Onan Sons	1250DFLC-4987	1250	Diesel
64	1	Onan Sons	250DVG	250	Diesel
69	33	Cummins	DFLC-5568730	1250	Diesel
<b>Total</b>				<b>10895</b>	
<b>Total Ratings by Size and Fuel</b>					
Large diesel > 447 kW				10375 kW <sub>m</sub>	
Small diesel < 447 kW				3093.8 kW <sub>m</sub>	
Nat gas - TA-53-1 & TA-16-1374				150.0 kW <sub>m</sub>	

1 Assumed generators 80% efficient in converting electrical kW to engine mechanical kW.

**Emission Factors**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC	HAPs
	lb/kW-hr	lb/kW-hr	lb/kW-hr	lb/kW-hr	lb/kW-hr	lb/kW-hr	lb/kW-hr	lb/kW-hr
Large diesel > 447 kW	0.032	0.007	0.001	0.001	0.001	0.001	0.001	5.82E-06
Small diesel < 447 kW	0.042	0.009	0.003	0.003	0.003	0.003	0.003	1.35E-05
Natural gas	0.008	0.013	0.000002	0.00003	0.00003	0.00003	0.0001	1.11E-04

- 1 Emission factors from AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines
- 2 Emission factors from AP-42, Section 3.3 Gasoline and Diesel Industrial Engines
- 3 Emission factors from AP-42, Section 3.2 Natural Gas-Fired Reciprocating Engines, 4-stroke rich-burn engine factors

**Proposed Annual Hour Limits:**

Hour limit for Diesel Fired Gens	100
Hour Limit for Gas fired Gens	500

**Maximum Emissions, tpy**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC	HAPs
Large diesel > 447 kW	16.6	3.6	0.9	0.52	0.5	0.5	0.5	0.00
Small diesel < 447 kW	6.5	1.4	0.5	0.46	0.5	0.5	0.5	0.002
Nat gas - TA-16-1374 & TA-53-1	0.3	0.5	7.50E-05	1.28E-03	1.20E-03	1.20E-03	3.75E-03	4.15E-03
<b>Total for Grandfathered Gens</b>	<b>23.40</b>	<b>5.51</b>	<b>1.32</b>	<b>0.98</b>	<b>0.98</b>	<b>0.98</b>	<b>0.99</b>	<b>0.01</b>

1 Emission estimates use proposed restriction of 100 hours of operation per year per diesel engine and 500 hrs/yr for small gas-fired engines.

**Ton per year values for Table 2.6-2**

	NOx	CO	SOx	PM	PM10	PM2.5	VOC	HAP
TA33	12.17	2.50	0.44	0.49	0.49	0.49	1.10	0.004
RLUOB	5.0	6.24	0.13	0.30	0.25	0.25	0.71	0.001
NSPS	0.79	1.018	0.17	0.027	0.027	0.027	0.75	0.001
<b>total</b>	<b>18.0</b>	<b>9.8</b>	<b>0.7</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>2.6</b>	<b>0.006</b>

## Data Disintegrator Emission Estimates

### Process Data

Maximum capacity	1200 lb/hr
Maximum weight 1 box processed	45 lbs
Particle percentage to exhaust system	15 percent
Cyclone particle control	75 percent
Cloth tube filters particle control	95 percent

- 1 Vendor estimates the capacity of the data disintegrator is equal to 500 - 1200 lb/hr.
- 2 The manufacturer of the air handling system estimates that 10 - 15 percent of the materials loaded into the machine potentially are exhausted.
- 3 Control efficiency of cyclone and cloth tube filters provided by vendor.

### Maximum Emissions, Particulate Matter

	TSP	PM10	PM2.5
lb/hr	180.0	180.0	180.0
tpy	788.4	788.4	788.4
lb/hr, controlled	2.3	2.3	2.3
tpy, controlled	9.9	9.9	9.9

- 1 Maximum emissions assume no particulate matter control and operation 8,760 hours per year.
- 2 Controlled maximum emissions shown to indicate how low actual maximum emissions are.
- 3 PM10 and PM2.5 assumed equal to TSP which is an over-estimate of emissions.

**Process Restriction, Potential to Emit Pre-Control System**

25,000 boxes/yr	TSP, tpy	84.4	PM10, tpy	84.4	PM2.5, tpy	84.4
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1 The highest quantity boxes processed in last 5 years (2017-2013) was 10,067 boxes in 2017.

**Requested Allowable Emissions, particulate matter**

	TSP	PM10	PM2.5
lb/hr	2.3	2.3	2.3
tpy	9.9	9.9	9.9

1 Values are the existing emission limits in Permit P100-R2M3

2 No information available on PM2.5. Assume equivalent to TSP and PM10.

**Power Plant Emission Estimates**

**Process Data**

<u>Fuel</u>			
Natural gas			
Heat Content (HHV)	1030 Btu/scf		
Sulfur Content	2 grains/ 100 scf		
Distillate Fuel Oil			
Heat Content	137,000 Btu/gallon		
Sulfur Content	0.05 %		
<u>Boilers (each)</u>			
Maximum Heat Input (derated)	178.5 MMBtu/hr	Annual Fuel Limit (all)	
Maximum Fuel Consumption - gas	173.3 mSCF/hr	gas	1,000,000 mSCF/yr
Maximum Fuel Consumption - oil	1.303 mGAL/hr	oil	500 mGAL
<u>Combustion Turbine</u>			
Maximum Fuel Consumption	281.2 mSCF/hr	Annual Fuel Limit	1,400,000 mSCF/yr

**Derivation of Combustion Turbine NOx and CO Factors**

<u>Compliance test results at multiple loads</u>				
	6/17/10 77 F Ambient Temp		1/19/11 34 F Ambient Temp	
	100% Load	80% Load	100% Load	80% Load
NOx ppmv	15.1	17	17.7	19.9
NOx lb/hr	15.75	15.13	21.09	19.44
CO ppmv	10.1	14.3	4.1	21.9
CO lb/hr	6.42	7.75	2.95	13.03
DSCFH	6.76E+06	6.77E+06	7.86E+06	7.10E+06
<u>Calculate maximum lb/hr emission rates for each load</u>				
		100% load	80% load	
NOx, lb/hr		23.8	21.5	
CO, lb/hr		29.0	26.2	
Example: lb/hr = DSCFH x 25/1000000 / 379 ft <sup>3</sup> per lb-mole @ 60 F (520 R) x MW				
<u>Calculate emission factors</u>				
NOx, lb/mSCF		0.085		
CO, lb/mSCF		0.103		

**Emission Factors**

	NOx	CO	SOx	VOC	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Boiler - gas (lb/mSCF)	0.0586	0.0404	0.0006	0.0056	0.0077	0.0077	0.0077
Boiler - oil (lb/mGAL)	8.6400	5.0000	7.4	0.2	3.3000	2.3000	1.5500
Combustion Turbine (lb/mSCF)	0.0848	0.1033	0.0060	0.0022	0.0068	0.0068	0.0068

**Notes**Emission Factors - Boilers -natural gas

- 1 NOx - The factor is the average value from FGR September 2002 compliance test results.
- 2 CO - From AP-42,1995,Section 1.4 -Natural Gas Combustion.Older AP-42 value closer to compliance test values.
- 3 SOx - From AP-42-42, Section 1.4 - Natural Gas Combustion. Note AP-42 factor in units of MMscf, these calculations are in units of mSCF. Divide EF by 1000.
- 4 VOC, PM, PM<sub>10</sub> and PM<sub>2.5</sub> - From AP-42, 7/98, Section 1.4 - Natural Gas Combustion.
- 5 Emission factors adjusted by ratio of average LANL HHV 1030 to AP-42 value of 1020 (1030/1020 = 1.01).

Emission Factors - Boilers - fuel oil

- 1 NOx -Factor assumes similar reduction for oil as test results natural gas.
- 2 CO, VOC, PM, PM<sub>10</sub> and PM<sub>2.5</sub>- From AP-42, 9/98, Section 1.3 - Fuel Oil Combustion.
- 3 SOx - From AP-42,9/98,Section 1.3 -Fuel Oil Combustion,Table 1.3-1 corrected by EPA on 4/28/00,using 0.05% S.

Emission Factors - Combustion Turbine

- 1 NOx and CO factors calculated using highest exhaust flow from recent tests and 25 ppm NOx and 50 ppm CO.
- 2 SOx - 2 gr S/100 scf. or 20,000 gr S/MMscf x lb/7000 gr x 2 lbs SO<sub>2</sub>/1 lb S.
- 3 VOC,PM, PM<sub>10</sub> and PM<sub>2.5</sub>- From AP-42, 4/00, Section 3.1 - Stationary Gas Turbines.



**Maximum Emissions**

		NOx	CO	SOx	VOC	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Boiler (each) gas	lb/hr	28.2	7.0	0.1	1.0	1.3	1.3	1.3
	tpy	81.4	20.2	0.3	2.8	3.8	3.8	3.8
Boiler (each) oil	lb/hr	31.3	6.51	9.64	0.26	4.30	3.0	2.02
	tpy	6.0	1.25	1.85	0.05	0.83	0.58	0.39
Combustion Turbine	lb/hr	79.5	29.03	1.69	0.61	1.91	1.91	1.91
	tpy	348.2	127.17	7.39	2.66	8.37	8.37	8.37
Totals	lb/hr	195.4	56.6	11.6	3.8	10.2	8.9	7.9
	tpy	435.6	148.6	9.5	5.5	13.0	12.8	12.6

**Notes**

- 1 Calculations use current enforceable fuel restrictions but no NOx controls on the boilers or turbine.
- 2 Uncontrolled NOx factors calculated assuming 64% control for FGR on boilers and 70% control for turbine.
- 3 Ton per year values for boilers assume all allowable gas or oil is burned in one boiler.

**Requested Allowable Emissions**

		NOx	CO	SOx	VOC	TSP	PM <sub>10</sub>	PM <sub>2.5</sub>
Boiler (each) gas	lb/hr	10.2	7.0	0.1	1.0	1.3	1.3	1.3
Boiler (each) oil	lb/hr	11.3	6.5	9.6	0.3	4.3	3.0	2.0
Boilers (combined)	tpy	31.5	21.5	2.2	2.8	4.7	4.4	4.2
Combustion Turbine	lb/hr	23.8	29.0	1.7	0.6	1.9	1.9	1.9
	tpy	59.4	72.3	4.2	1.5	4.8	4.8	4.8

**Notes**

1 Requested allowable emissions reflect NOx controls and natural gas/fuel oil restrictions on boilers and turbines.

**Hazardous Air Pollutant Emission Calculations**

**HAP Emission Estimates - Boilers - natural gas**

HAP	Emission Factor lb/MMscf	Emission Estimate	
		lb/hr (each boiler)	tpy (all boilers)
Organics			
POM	8.82E-05	1.53E-05	0.00004
Benzene	2.10E-03	3.64E-04	0.00105
Dichlorobenzene	1.20E-03	2.08E-04	0.00060
Formaldehyde	7.50E-02	1.30E-02	0.03750
Hexane	1.80E+00	3.12E-01	0.90000
Naphthalene	6.10E-04	1.06E-04	0.00031
Toluene	3.40E-03	5.89E-04	0.00170
Metals			
Arsenic	2.00E-04	3.47E-05	0.00010
Beryllium	1.20E-05	2.08E-06	0.00001
Cadmium	1.10E-03	1.91E-04	0.00055
Chromium	1.40E-03	2.43E-04	0.00070
Cobalt	8.40E-05	1.46E-05	0.00004
Lead	5.00E-04	8.67E-05	0.00025
Manganese	3.80E-04	6.59E-05	0.00019
Mercury	2.60E-04	4.51E-05	0.00013
Nickel	2.10E-03	3.64E-04	0.00105
Selenium	2.40E-05	4.16E-06	0.00001
		<b>total</b>	<b>3.27E-01</b>
			<b>0.9</b>
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		
Benzo(a)pyrene	1.20E-06		
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		
Phenanthrene	1.70E-05		
Pyrene	5.00E-06		
	<b>total</b>	<b>8.82E-05</b>	

POM estimates above  
under Organics.

**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 tpy values based on annual quantity of fuel allowed for boilers as a group.

**HAP Emission Estimates - Boilers - distillate fuel oil**

HAP	Emission Factor lb/1000 gal	Emission Estimate	
		lb/hr (each boiler)	tpy (all boilers)
Organics			
Formaldehyde	4.80E-02	6.25E-02	0.012
POM	3.30E-03	4.30E-03	0.001
Metals			
Arsenic	5.48E-04	7.14E-04	0.0001
Beryllium	4.11E-04	5.36E-04	0.0001
Cadmium	4.11E-04	5.36E-04	0.0001
Chromium	4.11E-04	5.36E-04	0.0001
Lead	1.23E-03	1.60E-03	0.0003
Manganese	8.22E-04	1.07E-03	0.0002
Mercury	4.11E-04	5.36E-04	0.0001
Nickel	4.11E-04	5.36E-04	0.0001
Selenium	2.06E-03	2.68E-03	0.001
		<b>total</b>	<b>7.56E-02</b>
			<b>0.015</b>

**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 tpy values based on annual quantity of fuel allowed for boilers as a group.

**HAP Emission Estimates - Combustion Turbine - natural gas**

HAP	Emission Factor		Emission Estimate	
	lb/MMBtu	lbMMscf	lb/hr	tpy
Organics				
1,3-Butadiene	4.30E-07	4.43E-04	1.25E-04	3.10E-04
Acetaldehyde	4.00E-05	4.12E-02	1.16E-02	2.88E-02
Acrolein	6.40E-06	6.59E-03	1.85E-03	4.62E-03
Benzene	1.20E-05	1.24E-02	3.48E-03	8.65E-03
Ethylbenzene	3.20E-05	3.30E-02	9.27E-03	2.31E-02
Formaldehyde	7.10E-04	7.31E-01	2.06E-01	5.12E-01
Naphthalene	1.30E-06	1.34E-03	3.77E-04	9.37E-04
PAH	2.20E-06	2.27E-03	6.37E-04	1.59E-03
Propylene oxide	2.90E-05	2.99E-02	8.40E-03	2.09E-02
Toluene	1.30E-04	1.34E-01	3.77E-02	9.37E-02
Xylenes	6.40E-05	6.59E-02	1.85E-02	4.62E-02
		<b>total</b>	<b>2.98E-01</b>	<b>7.41E-01</b>

**Notes**

- 1 All emission factors from AP-42, 4/2000, Section 3-1, Natural Gas Turbines, Table 3.1-3.
- 2 Hourly values based on maximum hourly fuel consumption at 9 degree F, 100% load.
- 3 Annual values based on annual fuel restriction.

### Beryllium Activities Emission Estimates

#### Potential to Emit and Requested Allowable Emissions - Beryllium (Hazardous Air Pollutant)

	gm/hr	gm/24-hr	gm/year
TA-3-141	N/A	0.35	3.5
TA-55-PF4			
Machining	N/A	0.12	2.99
Foundry	N/A	3.49E-05	8.73E-04
TA-35-213	1.80E-04	N/A	0.36
TA-3-66	N/A	N/A	10

1 All values are the current emission limits in Permit P100-R2-M3.

#### Potential to Emit and Requested Allowable Emissions - Aluminum (Toxic Air Pollutant)

	gm/24-hr	gm/year
TA-55-PF4		
Machining	0.12	2.99
Foundry	3.49E-05	8.73E-04

1 All values are the current emission limits in Permit P100-R2-M3.

2 Aluminum is a New Mexico toxic air pollutant or TAP for New Source Review permit purposes.

### Evaporative Sprayer Emission Estimates

**Basis**

Pond TDS	101920 ppm 0.10192 weight fraction
Water, density	8.34 lb/gallon
	1 g/cm <sup>3</sup> 0.000001 ug/um <sup>3</sup>
Salt, density (NaCl)	2.2 g/cm <sup>3</sup> 0.0000022 ug/um <sup>3</sup>
Pump rate	
Design	9 gallons/minute
Altitude Deratic	16.56 %
Site Maximum	7.51 gallons/minute
Annual hour restriction	8760 hours per year
Evaporation rate	42.5 %

**Notes**

- 1 Vendor states pump deration for altitude is 2.3% each 1000 feet, site at 7200 feet.
- 2 Evaporation rate assumed is mid-point of vendor range for this model of 25 to 60%.
- 3 TDS concentration from July 2018 pond sampling.

**Maximum Emissions, Particulate Matter**

	(1) Sprayer	(5) Sprayers	(1) Sprayer	(5) Sprayers
	tons per year		pounds per hour	
Total Particulate	712.9	2138.8		
PM30	45.0	225.2	10.3	51.4
PM10	0.00	0.0	0.00	0.00
PM2.5	0.0	0.0	0.0	0.0

**Notes**

- 1 Updated TDS concentration is approximately double the prior 2016 value used to estimate emissions.
- 2 The larger TDS concentration within a water droplet results in formation of larger particles and influences PM2.5, PM10 and PM30 estimates.
- 3 Emissions are fugitive and do not count towards major source NSR determinations.

**Percent PM2.5, PM10, and PM30 in total particulate**

	Droplet Diameter um	Number of Droplets #	Particle Diameter um	Particle Volume um <sup>3</sup>	Particle Mass ug	Total Particle Mass in Droplets ug	Total Particle Mass in PM2.5, PM10, PM30 ug	Percent Particle Mass PM2.5, PM10, PM30 %
	0.5	0.00E+00	1.80E-01	3.03E-03	6.67E-09	0.00E+00		
	1.5	0.00E+00	5.39E-01	8.19E-02	1.80E-07	0.00E+00		
	2.5	0.00E+00	8.98E-01	3.79E-01	8.34E-07	0.00E+00		
	3.5	0.00E+00	1.26E+00	1.04E+00	2.29E-06	0.00E+00		
	4.5	0.00E+00	1.62E+00	2.21E+00	4.86E-06	0.00E+00		
	5.5	0.00E+00	1.98E+00	4.04E+00	8.88E-06	0.00E+00		
<b>PM2.5%</b>	<b>6.5</b>	<b>0.00E+00</b>	<b>2.33E+00</b>	<b>6.66E+00</b>	<b>1.47E-05</b>	<b>0.00E+00</b>	<b>0</b>	<b>0</b>
	7.5	0.00E+00	2.69E+00	1.02E+01	2.25E-05	0.00E+00		
	8.5	0.00E+00	3.05E+00	1.49E+01	3.28E-05	0.00E+00		
	9.5	0.00E+00	3.41E+00	2.08E+01	4.58E-05	0.00E+00		
	10.5	0.00E+00	3.77E+00	2.81E+01	6.18E-05	0.00E+00		
	11.5	0.00E+00	4.13E+00	3.69E+01	8.12E-05	0.00E+00		
	12.5	0.00E+00	4.49E+00	4.74E+01	1.04E-04	0.00E+00		
	13.5	0.00E+00	4.85E+00	5.97E+01	1.31E-04	0.00E+00		
	14.5	0.00E+00	5.21E+00	7.40E+01	1.63E-04	0.00E+00		
	15.5	0.00E+00	5.57E+00	9.03E+01	1.99E-04	0.00E+00		
	16.5	0.00E+00	5.93E+00	1.09E+02	2.40E-04	0.00E+00		
	17.5	0.00E+00	6.29E+00	1.30E+02	2.86E-04	0.00E+00		
	18.5	0.00E+00	6.64E+00	1.54E+02	3.38E-04	0.00E+00		
	19.5	0.00E+00	7.00E+00	1.80E+02	3.96E-04	0.00E+00		
	20.5	0.00E+00	7.36E+00	2.09E+02	4.60E-04	0.00E+00		
	21.5	0.00E+00	7.72E+00	2.41E+02	5.30E-04	0.00E+00		
	22.5	0.00E+00	8.08E+00	2.76E+02	6.08E-04	0.00E+00		
	23.5	0.00E+00	8.44E+00	3.15E+02	6.93E-04	0.00E+00		
	24.5	0.00E+00	8.80E+00	3.57E+02	7.85E-04	0.00E+00		
	25.5	0.00E+00	9.16E+00	4.02E+02	8.85E-04	0.00E+00		
	26.5	0.00E+00	9.52E+00	4.51E+02	9.93E-04	0.00E+00		
<b>PM10%</b>	<b>27.5</b>	<b>0.00E+00</b>	<b>9.88E+00</b>	<b>5.04E+02</b>	<b>1.11E-03</b>	<b>0.00E+00</b>	<b>0</b>	<b>0</b>
	28.5	1.09E+02	1.02E+01	5.62E+02	1.24E-03	1.35E-01		
	29.5	1.19E+02	1.06E+01	6.23E+02	1.37E-03	1.63E-01		
	30.5	1.20E+02	1.10E+01	6.88E+02	1.51E-03	1.82E-01		
	31.5	1.28E+02	1.13E+01	7.58E+02	1.67E-03	2.14E-01		
	32.5	1.03E+02	1.17E+01	8.33E+02	1.83E-03	1.89E-01		
	33.5	1.19E+02	1.20E+01	9.12E+02	2.01E-03	2.39E-01		
	34.5	1.13E+02	1.24E+01	9.96E+02	2.19E-03	2.48E-01		
	35.5	9.47E+01	1.27E+01	1.09E+03	2.39E-03	2.26E-01		
	36.5	1.28E+02	1.31E+01	1.18E+03	2.59E-03	3.33E-01		
	37.5	9.78E+01	1.35E+01	1.28E+03	2.81E-03	2.75E-01		

38.5	1.31E+02	1.38E+01	1.38E+03	3.05E-03	4.00E-01
39.5	1.69E+02	1.42E+01	1.49E+03	3.29E-03	5.54E-01
40.5	1.46E+02	1.45E+01	1.61E+03	3.55E-03	5.18E-01
41.5	1.57E+02	1.49E+01	1.73E+03	3.81E-03	6.00E-01
42.5	1.47E+02	1.53E+01	1.86E+03	4.10E-03	6.03E-01
43.5	2.25E+02	1.56E+01	2.00E+03	4.39E-03	9.88E-01
44.5	1.95E+02	1.60E+01	2.14E+03	4.70E-03	9.17E-01
45.5	1.93E+02	1.63E+01	2.28E+03	5.03E-03	9.69E-01
46.5	1.52E+02	1.67E+01	2.44E+03	5.37E-03	8.14E-01
47.5	1.71E+02	1.71E+01	2.60E+03	5.72E-03	9.79E-01
48.5	1.94E+02	1.74E+01	2.77E+03	6.09E-03	1.18E+00
49.5	1.91E+02	1.78E+01	2.94E+03	6.47E-03	1.23E+00
50.5	1.98E+02	1.81E+01	3.12E+03	6.87E-03	1.36E+00
51.5	1.76E+02	1.85E+01	3.31E+03	7.29E-03	1.28E+00
52.5	1.94E+02	1.89E+01	3.51E+03	7.72E-03	1.50E+00
53.5	1.64E+02	1.92E+01	3.71E+03	8.17E-03	1.34E+00
54.5	1.62E+02	1.96E+01	3.93E+03	8.64E-03	1.40E+00
55.5	1.99E+02	1.99E+01	4.15E+03	9.12E-03	1.82E+00
56.5	1.64E+02	2.03E+01	4.38E+03	9.63E-03	1.58E+00
57.5	1.73E+02	2.07E+01	4.61E+03	1.01E-02	1.76E+00
58.5	1.71E+02	2.10E+01	4.86E+03	1.07E-02	1.83E+00
59.5	1.90E+02	2.14E+01	5.11E+03	1.12E-02	2.14E+00
60.5	1.93E+02	2.17E+01	5.37E+03	1.18E-02	2.29E+00
61.5	2.01E+02	2.21E+01	5.64E+03	1.24E-02	2.49E+00
62.5	1.86E+02	2.24E+01	5.92E+03	1.30E-02	2.42E+00
63.5	1.82E+02	2.28E+01	6.21E+03	1.37E-02	2.49E+00
64.5	1.79E+02	2.32E+01	6.51E+03	1.43E-02	2.56E+00
65.5	1.98E+02	2.35E+01	6.82E+03	1.50E-02	2.97E+00
66.5	1.90E+02	2.39E+01	7.13E+03	1.57E-02	2.98E+00
67.5	2.09E+02	2.42E+01	7.46E+03	1.64E-02	3.43E+00
68.5	1.64E+02	2.46E+01	7.80E+03	1.72E-02	2.81E+00
69.5	1.86E+02	2.50E+01	8.14E+03	1.79E-02	3.34E+00
70.5	1.51E+02	2.53E+01	8.50E+03	1.87E-02	2.83E+00
71.5	1.82E+02	2.57E+01	8.87E+03	1.95E-02	3.55E+00
72.5	1.64E+02	2.60E+01	9.24E+03	2.03E-02	3.33E+00
73.5	1.53E+02	2.64E+01	9.63E+03	2.12E-02	3.24E+00
74.5	1.52E+02	2.68E+01	1.00E+04	2.21E-02	3.35E+00
75.5	1.46E+02	2.71E+01	1.04E+04	2.30E-02	3.35E+00
76.5	1.71E+02	2.75E+01	1.09E+04	2.39E-02	4.08E+00
77.5	1.41E+02	2.78E+01	1.13E+04	2.48E-02	3.49E+00
78.5	1.64E+02	2.82E+01	1.17E+04	2.58E-02	4.23E+00
79.5	1.26E+02	2.86E+01	1.22E+04	2.68E-02	3.38E+00

	80.5	1.11E+02	2.89E+01	1.27E+04	2.78E-02	3.09E+00		
	81.5	1.23E+02	2.93E+01	1.31E+04	2.89E-02	3.56E+00		
	82.5	1.11E+02	2.96E+01	1.36E+04	3.00E-02	3.34E+00		
<b>PM30%</b>	<b>83.5</b>	<b>1.33E+02</b>	<b>3.00E+01</b>	<b>1.41E+04</b>	<b>3.11E-02</b>	<b>4.12E+00</b>	<b>104.6827043</b>	<b>6.316670234</b>
	84.5	1.16E+02	3.03E+01	1.46E+04	3.22E-02	3.75E+00		
	85.5	1.22E+02	3.07E+01	1.52E+04	3.34E-02	4.07E+00		
	86.5	1.34E+02	3.11E+01	1.57E+04	3.45E-02	4.61E+00		
	87.5	1.13E+02	3.14E+01	1.63E+04	3.58E-02	4.04E+00		
	88.5	1.23E+02	3.18E+01	1.68E+04	3.70E-02	4.56E+00		
	89.5	1.24E+02	3.21E+01	1.74E+04	3.83E-02	4.75E+00		
	90.5	1.23E+02	3.25E+01	1.80E+04	3.96E-02	4.88E+00		
	91.5	1.12E+02	3.29E+01	1.86E+04	4.09E-02	4.59E+00		
	92.5	1.12E+02	3.32E+01	1.92E+04	4.22E-02	4.73E+00		
	93.5	9.65E+01	3.36E+01	1.98E+04	4.36E-02	4.21E+00		
	94.5	1.17E+02	3.39E+01	2.05E+04	4.50E-02	5.26E+00		
	95.5	1.02E+02	3.43E+01	2.11E+04	4.65E-02	4.72E+00		
	96.5	1.16E+02	3.47E+01	2.18E+04	4.80E-02	5.55E+00		
	97.5	1.02E+02	3.50E+01	2.25E+04	4.95E-02	5.05E+00		
	98.5	9.30E+01	3.54E+01	2.32E+04	5.10E-02	4.74E+00		
	99.5	1.03E+02	3.57E+01	2.39E+04	5.26E-02	5.40E+00		
	100.5	9.81E+01	3.61E+01	2.46E+04	5.42E-02	5.31E+00		
	101.5	8.33E+01	3.65E+01	2.54E+04	5.58E-02	4.65E+00		
	102.5	9.02E+01	3.68E+01	2.61E+04	5.75E-02	5.18E+00		
	103.5	8.98E+01	3.72E+01	2.69E+04	5.92E-02	5.31E+00		
	104.5	9.52E+01	3.75E+01	2.77E+04	6.09E-02	5.80E+00		
	105.5	8.64E+01	3.79E+01	2.85E+04	6.27E-02	5.41E+00		
	106.5	9.03E+01	3.82E+01	2.93E+04	6.45E-02	5.82E+00		
	107.5	1.03E+02	3.86E+01	3.01E+04	6.63E-02	6.80E+00		
	108.5	8.12E+01	3.90E+01	3.10E+04	6.82E-02	5.54E+00		
	109.5	7.96E+01	3.93E+01	3.18E+04	7.01E-02	5.57E+00		
	110.5	8.77E+01	3.97E+01	3.27E+04	7.20E-02	6.31E+00		
	111.5	7.07E+01	4.00E+01	3.36E+04	7.40E-02	5.23E+00		
	112.5	8.85E+01	4.04E+01	3.45E+04	7.60E-02	6.72E+00		
	113.5	8.68E+01	4.08E+01	3.55E+04	7.80E-02	6.77E+00		
	114.5	7.14E+01	4.11E+01	3.64E+04	8.01E-02	5.72E+00		
	115.5	7.67E+01	4.15E+01	3.74E+04	8.22E-02	6.31E+00		
	116.5	7.24E+01	4.18E+01	3.84E+04	8.44E-02	6.11E+00		
	117.5	7.62E+01	4.22E+01	3.94E+04	8.66E-02	6.60E+00		
	118.5	7.19E+01	4.26E+01	4.04E+04	8.88E-02	6.39E+00		
	119.5	6.90E+01	4.29E+01	4.14E+04	9.11E-02	6.28E+00		
	120.5	7.02E+01	4.33E+01	4.24E+04	9.34E-02	6.55E+00		
	121.5	6.19E+01	4.36E+01	4.35E+04	9.57E-02	5.92E+00		



122.5	6.57E+01	4.40E+01	4.46E+04	9.81E-02	6.45E+00
123.5	6.56E+01	4.44E+01	4.57E+04	1.01E-01	6.59E+00
124.5	5.60E+01	4.47E+01	4.68E+04	1.03E-01	5.77E+00
125.5	6.92E+01	4.51E+01	4.79E+04	1.05E-01	7.30E+00
126.5	6.64E+01	4.54E+01	4.91E+04	1.08E-01	7.17E+00
127.5	4.50E+01	4.58E+01	5.03E+04	1.11E-01	4.98E+00
128.5	4.23E+01	4.62E+01	5.15E+04	1.13E-01	4.79E+00
129.5	4.87E+01	4.65E+01	5.27E+04	1.16E-01	5.65E+00
130.5	4.86E+01	4.69E+01	5.39E+04	1.19E-01	5.76E+00
131.5	5.50E+01	4.72E+01	5.52E+04	1.21E-01	6.68E+00
132.5	6.80E+01	4.76E+01	5.64E+04	1.24E-01	8.44E+00
133.5	2.87E+01	4.79E+01	5.77E+04	1.27E-01	3.64E+00
134.5	6.90E+01	4.83E+01	5.90E+04	1.30E-01	8.95E+00
135.5	3.76E+01	4.87E+01	6.03E+04	1.33E-01	5.00E+00
136.5	4.66E+01	4.90E+01	6.17E+04	1.36E-01	6.33E+00
137.5	5.17E+01	4.94E+01	6.31E+04	1.39E-01	7.17E+00
138.5	4.00E+01	4.97E+01	6.44E+04	1.42E-01	5.67E+00
139.5	5.53E+01	5.01E+01	6.59E+04	1.45E-01	8.01E+00
140.5	5.13E+01	5.05E+01	6.73E+04	1.48E-01	7.60E+00
141.5	4.23E+01	5.08E+01	6.87E+04	1.51E-01	6.39E+00
142.5	5.37E+01	5.12E+01	7.02E+04	1.54E-01	8.29E+00
143.5	4.21E+01	5.15E+01	7.17E+04	1.58E-01	6.63E+00
144.5	4.96E+01	5.19E+01	7.32E+04	1.61E-01	7.99E+00
145.5	3.94E+01	5.23E+01	7.47E+04	1.64E-01	6.47E+00
146.5	3.80E+01	5.26E+01	7.63E+04	1.68E-01	6.38E+00
147.5	3.41E+01	5.30E+01	7.78E+04	1.71E-01	5.85E+00
148.5	3.66E+01	5.33E+01	7.94E+04	1.75E-01	6.40E+00
149.5	3.90E+01	5.37E+01	8.11E+04	1.78E-01	6.96E+00
150.5	4.78E+01	5.41E+01	8.27E+04	1.82E-01	8.69E+00
151.5	4.77E+01	5.44E+01	8.43E+04	1.86E-01	8.85E+00
152.5	3.26E+01	5.48E+01	8.60E+04	1.89E-01	6.16E+00
153.5	4.87E+01	5.51E+01	8.77E+04	1.93E-01	9.41E+00
154.5	2.99E+01	5.55E+01	8.95E+04	1.97E-01	5.89E+00
155.5	4.11E+01	5.58E+01	9.12E+04	2.01E-01	8.24E+00
156.5	3.11E+01	5.62E+01	9.30E+04	2.05E-01	6.35E+00
157.5	3.72E+01	5.66E+01	9.48E+04	2.08E-01	7.76E+00
158.5	3.22E+01	5.69E+01	9.66E+04	2.12E-01	6.84E+00
159.5	3.09E+01	5.73E+01	9.84E+04	2.17E-01	6.69E+00
160.5	4.07E+01	5.76E+01	1.00E+05	2.21E-01	8.98E+00
161.5	3.82E+01	5.80E+01	1.02E+05	2.25E-01	8.58E+00
162.5	2.83E+01	5.84E+01	1.04E+05	2.29E-01	6.47E+00
163.5	2.95E+01	5.87E+01	1.06E+05	2.33E-01	6.87E+00

164.5	3.06E+01	5.91E+01	1.08E+05	2.38E-01	7.27E+00
165.5	3.18E+01	5.94E+01	1.10E+05	2.42E-01	7.69E+00
166.5	3.42E+01	5.98E+01	1.12E+05	2.46E-01	8.42E+00
167.5	2.68E+01	6.02E+01	1.14E+05	2.51E-01	6.72E+00
168.5	3.16E+01	6.05E+01	1.16E+05	2.55E-01	8.08E+00
169.5	2.55E+01	6.09E+01	1.18E+05	2.60E-01	6.63E+00
170.5	2.43E+01	6.12E+01	1.20E+05	2.65E-01	6.41E+00
171.5	3.03E+01	6.16E+01	1.22E+05	2.69E-01	8.15E+00
172.5	2.78E+01	6.20E+01	1.25E+05	2.74E-01	7.61E+00
173.5	3.26E+01	6.23E+01	1.27E+05	2.79E-01	9.08E+00
174.5	2.77E+01	6.27E+01	1.29E+05	2.84E-01	7.86E+00
175.5	2.29E+01	6.30E+01	1.31E+05	2.88E-01	6.59E+00
176.5	2.28E+01	6.34E+01	1.33E+05	2.93E-01	6.70E+00
177.5	2.40E+01	6.37E+01	1.36E+05	2.98E-01	7.16E+00
178.5	2.64E+01	6.41E+01	1.38E+05	3.04E-01	8.00E+00
179.5	1.91E+01	6.45E+01	1.40E+05	3.09E-01	5.90E+00
180.5	2.39E+01	6.48E+01	1.43E+05	3.14E-01	7.49E+00
181.5	2.15E+01	6.52E+01	1.45E+05	3.19E-01	6.85E+00
182.5	1.79E+01	6.55E+01	1.47E+05	3.24E-01	5.79E+00
183.5	2.14E+01	6.59E+01	1.50E+05	3.30E-01	7.05E+00
184.5	2.26E+01	6.63E+01	1.52E+05	3.35E-01	7.56E+00
185.5	1.66E+01	6.66E+01	1.55E+05	3.41E-01	5.65E+00
186.5	2.72E+01	6.70E+01	1.57E+05	3.46E-01	9.42E+00
187.5	3.07E+01	6.73E+01	1.60E+05	3.52E-01	1.08E+01
188.5	1.89E+01	6.77E+01	1.62E+05	3.57E-01	6.75E+00
189.5	1.65E+01	6.81E+01	1.65E+05	3.63E-01	5.99E+00
190.5	2.00E+01	6.84E+01	1.68E+05	3.69E-01	7.38E+00
191.5	1.06E+01	6.88E+01	1.70E+05	3.75E-01	3.96E+00
192.5	1.64E+01	6.91E+01	1.73E+05	3.81E-01	6.26E+00
193.5	1.52E+01	6.95E+01	1.76E+05	3.87E-01	5.89E+00
194.5	1.52E+01	6.99E+01	1.78E+05	3.93E-01	5.98E+00
195.5	2.10E+01	7.02E+01	1.81E+05	3.99E-01	8.39E+00
196.5	1.75E+01	7.06E+01	1.84E+05	4.05E-01	7.09E+00
197.5	2.68E+01	7.09E+01	1.87E+05	4.11E-01	1.10E+01
198.5	1.51E+01	7.13E+01	1.90E+05	4.17E-01	6.32E+00
199.5	8.14E+00	7.17E+01	1.93E+05	4.24E-01	3.45E+00
200.5	2.21E+01	7.20E+01	1.96E+05	4.30E-01	9.49E+00
201.5	1.51E+01	7.24E+01	1.98E+05	4.37E-01	6.59E+00
202.5	1.39E+01	7.27E+01	2.01E+05	4.43E-01	6.16E+00
203.5	1.50E+01	7.31E+01	2.04E+05	4.50E-01	6.77E+00
204.5	1.27E+01	7.34E+01	2.07E+05	4.56E-01	5.80E+00
205.5	1.50E+01	7.38E+01	2.11E+05	4.63E-01	6.95E+00

206.5	1.15E+01	7.42E+01	2.14E+05	4.70E-01	5.42E+00
207.5	1.38E+01	7.45E+01	2.17E+05	4.77E-01	6.59E+00
208.5	1.38E+01	7.49E+01	2.20E+05	4.84E-01	6.68E+00
209.5	1.95E+01	7.52E+01	2.23E+05	4.91E-01	9.59E+00
210.5	1.26E+01	7.56E+01	2.26E+05	4.98E-01	6.28E+00
211.5	1.60E+01	7.60E+01	2.29E+05	5.05E-01	8.10E+00
212.5	1.60E+01	7.63E+01	2.33E+05	5.12E-01	8.21E+00
213.5	1.03E+01	7.67E+01	2.36E+05	5.19E-01	5.35E+00
214.5	2.06E+01	7.70E+01	2.39E+05	5.27E-01	1.08E+01
215.5	1.83E+01	7.74E+01	2.43E+05	5.34E-01	9.75E+00
216.5	1.48E+01	7.78E+01	2.46E+05	5.42E-01	8.02E+00
217.5	9.11E+00	7.81E+01	2.50E+05	5.49E-01	5.00E+00
218.5	1.02E+01	7.85E+01	2.53E+05	5.57E-01	5.70E+00
219.5	1.82E+01	7.88E+01	2.57E+05	5.64E-01	1.03E+01
220.5	1.25E+01	7.92E+01	2.60E+05	5.72E-01	7.14E+00
221.5	1.70E+01	7.96E+01	2.64E+05	5.80E-01	9.86E+00
222.5	1.13E+01	7.99E+01	2.67E+05	5.88E-01	6.65E+00
223.5	1.02E+01	8.03E+01	2.71E+05	5.96E-01	6.06E+00
224.5	1.24E+01	8.06E+01	2.74E+05	6.04E-01	7.50E+00
225.5	1.24E+01	8.10E+01	2.78E+05	6.12E-01	7.60E+00
226.5	9.02E+00	8.13E+01	2.82E+05	6.20E-01	5.59E+00
227.5	1.13E+01	8.17E+01	2.86E+05	6.28E-01	7.08E+00
228.5	1.24E+01	8.21E+01	2.89E+05	6.37E-01	7.88E+00
229.5	7.87E+00	8.24E+01	2.93E+05	6.45E-01	5.07E+00
230.5	1.80E+01	8.28E+01	2.97E+05	6.54E-01	1.17E+01
231.5	1.57E+01	8.31E+01	3.01E+05	6.62E-01	1.04E+01
232.5	1.01E+01	8.35E+01	3.05E+05	6.71E-01	6.76E+00
233.5	1.45E+01	8.39E+01	3.09E+05	6.79E-01	9.88E+00
234.5	1.57E+01	8.42E+01	3.13E+05	6.88E-01	1.08E+01
235.5	8.94E+00	8.46E+01	3.17E+05	6.97E-01	6.23E+00
236.5	5.58E+00	8.49E+01	3.21E+05	7.06E-01	3.94E+00
237.5	1.45E+01	8.53E+01	3.25E+05	7.15E-01	1.04E+01
238.5	5.57E+00	8.57E+01	3.29E+05	7.24E-01	4.03E+00
239.5	5.56E+00	8.60E+01	3.33E+05	7.33E-01	4.08E+00
240.5	6.67E+00	8.64E+01	3.37E+05	7.42E-01	4.95E+00
241.5	9.99E+00	8.67E+01	3.42E+05	7.52E-01	7.51E+00
242.5	1.33E+01	8.71E+01	3.46E+05	7.61E-01	1.01E+01
243.5	5.54E+00	8.75E+01	3.50E+05	7.70E-01	4.27E+00
244.5	9.96E+00	8.78E+01	3.55E+05	7.80E-01	7.77E+00
245.5	5.53E+00	8.82E+01	3.59E+05	7.90E-01	4.37E+00
246.5	3.31E+00	8.85E+01	3.63E+05	7.99E-01	2.65E+00
247.5	9.94E+00	8.89E+01	3.68E+05	8.09E-01	8.04E+00

248.5	5.52E+00	8.92E+01	3.72E+05	8.19E-01	4.52E+00
249.5	8.82E+00	8.96E+01	3.77E+05	8.29E-01	7.31E+00
250.5	1.43E+01	9.00E+01	3.81E+05	8.39E-01	1.20E+01
251.5	1.21E+01	9.03E+01	3.86E+05	8.49E-01	1.03E+01
252.5	6.60E+00	9.07E+01	3.90E+05	8.59E-01	5.67E+00
253.5	9.88E+00	9.10E+01	3.95E+05	8.69E-01	8.59E+00
254.5	6.58E+00	9.14E+01	4.00E+05	8.80E-01	5.79E+00
255.5	3.29E+00	9.18E+01	4.05E+05	8.90E-01	2.93E+00
256.5	4.38E+00	9.21E+01	4.09E+05	9.01E-01	3.94E+00
257.5	6.57E+00	9.25E+01	4.14E+05	9.11E-01	5.98E+00
258.5	6.56E+00	9.28E+01	4.19E+05	9.22E-01	6.05E+00
259.5	9.83E+00	9.32E+01	4.24E+05	9.33E-01	9.17E+00
260.5	8.73E+00	9.36E+01	4.29E+05	9.43E-01	8.24E+00
261.5	9.81E+00	9.39E+01	4.34E+05	9.54E-01	9.37E+00
262.5	5.45E+00	9.43E+01	4.39E+05	9.65E-01	5.26E+00
263.5	6.53E+00	9.46E+01	4.44E+05	9.76E-01	6.38E+00
264.5	7.61E+00	9.50E+01	4.49E+05	9.87E-01	7.52E+00
265.5	5.43E+00	9.54E+01	4.54E+05	9.99E-01	5.43E+00
266.5	6.51E+00	9.57E+01	4.59E+05	1.01E+00	6.58E+00
267.5	2.17E+00	9.61E+01	4.64E+05	1.02E+00	2.22E+00
268.5	6.50E+00	9.64E+01	4.70E+05	1.03E+00	6.72E+00
269.5	2.17E+00	9.68E+01	4.75E+05	1.04E+00	2.26E+00
270.5	5.41E+00	9.72E+01	4.80E+05	1.06E+00	5.72E+00
271.5	2.16E+00	9.75E+01	4.85E+05	1.07E+00	2.31E+00
272.5	2.16E+00	9.79E+01	4.91E+05	1.08E+00	2.33E+00
273.5	4.32E+00	9.82E+01	4.96E+05	1.09E+00	4.72E+00
274.5	8.63E+00	9.86E+01	5.02E+05	1.10E+00	9.53E+00
275.5	4.31E+00	9.89E+01	5.07E+05	1.12E+00	4.81E+00
276.5	5.38E+00	9.93E+01	5.13E+05	1.13E+00	6.07E+00
277.5	2.15E+00	9.97E+01	5.18E+05	1.14E+00	2.45E+00
278.5	5.38E+00	1.00E+02	5.24E+05	1.15E+00	6.20E+00
279.5	0.00E+00	1.00E+02	5.30E+05	1.17E+00	0.00E+00
280.5	2.15E+00	1.01E+02	5.35E+05	1.18E+00	2.53E+00
281.5	2.15E+00	1.01E+02	5.41E+05	1.19E+00	2.55E+00
282.5	6.43E+00	1.01E+02	5.47E+05	1.20E+00	7.74E+00
283.5	1.07E+00	1.02E+02	5.53E+05	1.22E+00	1.30E+00
284.5	3.21E+00	1.02E+02	5.59E+05	1.23E+00	3.95E+00
285.5	2.14E+00	1.03E+02	5.64E+05	1.24E+00	2.66E+00
286.5	1.07E+00	1.03E+02	5.70E+05	1.25E+00	1.34E+00
287.5	4.27E+00	1.03E+02	5.76E+05	1.27E+00	5.42E+00
288.5	4.27E+00	1.04E+02	5.82E+05	1.28E+00	5.47E+00
289.5	1.07E+00	1.04E+02	5.89E+05	1.29E+00	1.38E+00

290.5	5.33E+00	1.04E+02	5.95E+05	1.31E+00	6.97E+00
291.5	3.19E+00	1.05E+02	6.01E+05	1.32E+00	4.22E+00
292.5	2.13E+00	1.05E+02	6.07E+05	1.34E+00	2.84E+00
293.5	1.06E+00	1.05E+02	6.13E+05	1.35E+00	1.43E+00
294.5	4.25E+00	1.06E+02	6.20E+05	1.36E+00	5.79E+00
295.5	2.12E+00	1.06E+02	6.26E+05	1.38E+00	2.92E+00
296.5	2.12E+00	1.06E+02	6.32E+05	1.39E+00	2.95E+00
297.5	5.30E+00	1.07E+02	6.39E+05	1.41E+00	7.45E+00
298.5	3.18E+00	1.07E+02	6.45E+05	1.42E+00	4.51E+00
299.5	2.12E+00	1.08E+02	6.52E+05	1.43E+00	3.04E+00
300.5	4.23E+00	1.08E+02	6.58E+05	1.45E+00	6.13E+00
301.5	1.06E+00	1.08E+02	6.65E+05	1.46E+00	1.55E+00
302.5	5.28E+00	1.09E+02	6.71E+05	1.48E+00	7.80E+00
303.5	4.22E+00	1.09E+02	6.78E+05	1.49E+00	6.30E+00
304.5	6.33E+00	1.09E+02	6.85E+05	1.51E+00	9.54E+00
305.5	6.33E+00	1.10E+02	6.92E+05	1.52E+00	9.63E+00
306.5	0.00E+00	1.10E+02	6.98E+05	1.54E+00	0.00E+00
307.5	2.11E+00	1.10E+02	7.05E+05	1.55E+00	3.27E+00
308.5	1.05E+00	1.11E+02	7.12E+05	1.57E+00	1.65E+00
309.5	1.05E+00	1.11E+02	7.19E+05	1.58E+00	1.66E+00
310.5	0.00E+00	1.12E+02	7.26E+05	1.60E+00	0.00E+00
311.5	3.15E+00	1.12E+02	7.33E+05	1.61E+00	5.08E+00
312.5	3.15E+00	1.12E+02	7.40E+05	1.63E+00	5.13E+00
313.5	1.05E+00	1.13E+02	7.47E+05	1.64E+00	1.72E+00
314.5	0.00E+00	1.13E+02	7.55E+05	1.66E+00	0.00E+00
315.5	4.19E+00	1.13E+02	7.62E+05	1.68E+00	7.02E+00
316.5	1.05E+00	1.14E+02	7.69E+05	1.69E+00	1.77E+00
317.5	2.09E+00	1.14E+02	7.76E+05	1.71E+00	3.57E+00
318.5	1.05E+00	1.14E+02	7.84E+05	1.72E+00	1.80E+00
319.5	1.04E+00	1.15E+02	7.91E+05	1.74E+00	1.82E+00
320.5	0.00E+00	1.15E+02	7.99E+05	1.76E+00	0.00E+00
321.5	4.17E+00	1.15E+02	8.06E+05	1.77E+00	7.40E+00
322.5	0.00E+00	1.16E+02	8.14E+05	1.79E+00	0.00E+00
323.5	2.08E+00	1.16E+02	8.21E+05	1.81E+00	3.77E+00
324.5	3.12E+00	1.17E+02	8.29E+05	1.82E+00	5.70E+00
325.5	1.04E+00	1.17E+02	8.37E+05	1.84E+00	1.92E+00
326.5	2.08E+00	1.17E+02	8.44E+05	1.86E+00	3.86E+00
327.5	4.16E+00	1.18E+02	8.52E+05	1.87E+00	7.79E+00
328.5	1.04E+00	1.18E+02	8.60E+05	1.89E+00	1.97E+00
329.5	2.08E+00	1.18E+02	8.68E+05	1.91E+00	3.96E+00
330.5	2.07E+00	1.19E+02	8.76E+05	1.93E+00	4.00E+00
331.5	1.04E+00	1.19E+02	8.84E+05	1.94E+00	2.02E+00

332.5	0.00E+00	1.19E+02	8.92E+05	1.96E+00	0.00E+00
333.5	2.07E+00	1.20E+02	9.00E+05	1.98E+00	4.10E+00
334.5	3.10E+00	1.20E+02	9.08E+05	2.00E+00	6.20E+00
335.5	1.03E+00	1.20E+02	9.16E+05	2.02E+00	2.08E+00
336.5	0.00E+00	1.21E+02	9.24E+05	2.03E+00	0.00E+00
337.5	0.00E+00	1.21E+02	9.33E+05	2.05E+00	0.00E+00
338.5	2.06E+00	1.22E+02	9.41E+05	2.07E+00	4.27E+00
339.5	0.00E+00	1.22E+02	9.49E+05	2.09E+00	0.00E+00
340.5	1.03E+00	1.22E+02	9.58E+05	2.11E+00	2.17E+00
341.5	0.00E+00	1.23E+02	9.66E+05	2.13E+00	0.00E+00
342.5	1.03E+00	1.23E+02	9.75E+05	2.14E+00	2.21E+00
343.5	0.00E+00	1.23E+02	9.83E+05	2.16E+00	0.00E+00
344.5	0.00E+00	1.24E+02	9.92E+05	2.18E+00	0.00E+00
345.5	1.03E+00	1.24E+02	1.00E+06	2.20E+00	2.26E+00
346.5	0.00E+00	1.24E+02	1.01E+06	2.22E+00	0.00E+00
347.5	0.00E+00	1.25E+02	1.02E+06	2.24E+00	0.00E+00
348.5	3.08E+00	1.25E+02	1.03E+06	2.26E+00	6.96E+00
349.5	0.00E+00	1.26E+02	1.04E+06	2.28E+00	0.00E+00
350.5	1.03E+00	1.26E+02	1.04E+06	2.30E+00	2.36E+00
351.5	0.00E+00	1.26E+02	1.05E+06	2.32E+00	0.00E+00
352.5	0.00E+00	1.27E+02	1.06E+06	2.34E+00	0.00E+00
353.5	0.00E+00	1.27E+02	1.07E+06	2.36E+00	0.00E+00
354.5	1.02E+00	1.27E+02	1.08E+06	2.38E+00	2.43E+00
355.5	0.00E+00	1.28E+02	1.09E+06	2.40E+00	0.00E+00
356.5	0.00E+00	1.28E+02	1.10E+06	2.42E+00	0.00E+00
357.5	0.00E+00	1.28E+02	1.11E+06	2.44E+00	0.00E+00
358.5	0.00E+00	1.29E+02	1.12E+06	2.46E+00	0.00E+00
359.5	0.00E+00	1.29E+02	1.13E+06	2.48E+00	0.00E+00
360.5	0.00E+00	1.29E+02	1.14E+06	2.50E+00	0.00E+00
361.5	1.02E+00	1.30E+02	1.15E+06	2.52E+00	2.57E+00
362.5	2.04E+00	1.30E+02	1.16E+06	2.54E+00	5.18E+00
363.5	0.00E+00	1.31E+02	1.17E+06	2.56E+00	0.00E+00
364.5	0.00E+00	1.31E+02	1.17E+06	2.58E+00	0.00E+00
365.5	0.00E+00	1.31E+02	1.18E+06	2.61E+00	0.00E+00
366.5	1.02E+00	1.32E+02	1.19E+06	2.63E+00	2.67E+00
367.5	1.02E+00	1.32E+02	1.20E+06	2.65E+00	2.69E+00
368.5	0.00E+00	1.32E+02	1.21E+06	2.67E+00	0.00E+00
369.5	1.01E+00	1.33E+02	1.22E+06	2.69E+00	2.73E+00
370.5	1.01E+00	1.33E+02	1.23E+06	2.71E+00	2.75E+00
371.5	1.01E+00	1.33E+02	1.24E+06	2.74E+00	2.77E+00
372.5	0.00E+00	1.34E+02	1.25E+06	2.76E+00	0.00E+00
373.5	2.03E+00	1.34E+02	1.26E+06	2.78E+00	5.63E+00

374.5	0.00E+00	1.35E+02	1.27E+06	2.80E+00	0.00E+00
375.5	0.00E+00	1.35E+02	1.28E+06	2.83E+00	0.00E+00
376.5	0.00E+00	1.35E+02	1.29E+06	2.85E+00	0.00E+00
377.5	0.00E+00	1.36E+02	1.30E+06	2.87E+00	0.00E+00
378.5	0.00E+00	1.36E+02	1.32E+06	2.89E+00	0.00E+00
379.5	0.00E+00	1.36E+02	1.33E+06	2.92E+00	0.00E+00
380.5	2.02E+00	1.37E+02	1.34E+06	2.94E+00	5.93E+00
381.5	0.00E+00	1.37E+02	1.35E+06	2.96E+00	0.00E+00
382.5	1.01E+00	1.37E+02	1.36E+06	2.99E+00	3.01E+00
383.5	0.00E+00	1.38E+02	1.37E+06	3.01E+00	0.00E+00
384.5	0.00E+00	1.38E+02	1.38E+06	3.03E+00	0
385.5	0.00E+00	1.38E+02	1.39E+06	3.06E+00	0
386.5	0.00E+00	1.39E+02	1.40E+06	3.08E+00	0
387.5	0.00E+00	1.39E+02	1.41E+06	3.11E+00	0
388.5	0.00E+00	1.40E+02	1.42E+06	3.13E+00	0
389.5	0.00E+00	1.40E+02	1.43E+06	3.15E+00	0
390.5	0.00E+00	1.40E+02	1.44E+06	3.18E+00	0
391.5	0.00E+00	1.41E+02	1.46E+06	3.20E+00	0
392.5	0.00E+00	1.41E+02	1.47E+06	3.23E+00	0
393.5	0.00E+00	1.41E+02	1.48E+06	3.25E+00	0
394.5	0.00E+00	1.42E+02	1.49E+06	3.28E+00	0
395.5	0.00E+00	1.42E+02	1.50E+06	3.30E+00	0
396.5	0.00E+00	1.42E+02	1.51E+06	3.33E+00	0
397.5	0.00E+00	1.43E+02	1.52E+06	3.35E+00	0
398.5	0.00E+00	1.43E+02	1.54E+06	3.38E+00	0
399.5	1.00E+00	1.43E+02	1.55E+06	3.40E+00	3.40E+00
400.5	0.00E+00	1.44E+02	1.56E+06	3.43E+00	0.00E+00

Total 1.66E+03

#### Notes

- 1 Raw droplet data from laboratory test report, Spray Analysis and Research Services, March 28, 2016. Highest pump rate analyzed at 9 gpm used.
- 2 Particle diameter calculated from equation in NMED Technical Memorandum: Calculating TSP, PM10, and PM2.5 from Cooling Towers , September 9, 2013.  
Equation is  $d_p = d_d / (\text{density salt} / \text{density water} \times \text{concentration TDS})^{1/3}$

#### Maximum Emissions (Potential to Emit), Hazardous and Toxic Air Pollutants

##### Basis

Water, density	8.34 lb/gallon
Pump rate	7.51 gallons/minute
Evaporation rate	42.5 %

**HAP Potential to Emit, ton per year**

HAP	PPM	Weight Fraction	(1) Sprayer ton/year	(5) Sprayers ton/year
Arsenic	0.02584	2.584E-08	1.81E-04	9.04E-04
Bromoform	0.00051	5.1E-10	3.57E-06	1.78E-05
Chloroform	0.002385	2.385E-09	1.67E-05	8.34E-05
Chlorometha	0.00443	4.43E-09	3.10E-05	1.55E-04
Cobalt	0.00166	1.66E-09	1.16E-05	5.81E-05
Cyanide	0.021628	2.1628E-08	1.51E-04	7.56E-04
Manganese	0.009385	9.385E-09	6.57E-05	3.28E-04
Nickel	0.01568	1.568E-08	1.10E-04	5.48E-04
Selenium	0.02695	2.695E-08	1.89E-04	9.426E-04
			<b>total</b>	<b>3.79E-03</b>

## Notes

1 Values from July 2018 pond water sampling. □



**Asphalt Plant Emission Estimates**

**Greenhouse Gases**

**Greenhouse Gas Emission Estimates - Potential to Emit**

Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e
CO <sub>2</sub>	61.46	6729.9	7418.3	1	7418.3
CH <sub>4</sub>	0.003	0.3	0.4	25	9.1
N <sub>2</sub> O	0.0006	6.6E-02	7.2E-02	298	21.6
Total			7418.8		7449.0

- 1 Emission factors are from 40 CFR Part 98, Subpart C, Tables C-1 and C-2.
- 2 CO<sub>2</sub> equivalent or GWP values from 40 CFR Part 98, Subpart A, Table A-1.
- 3 Calculation assumes maximum burner capacity for all allowable hours of the year.
- 4 CO<sub>2</sub> equivalent tons calculated from short tons as specified by NMED form 2-P.

**Boiler and Heater Emission Estimates**

**Greenhouse Gases**

**Greenhouse Gas Emission Estimates - Potential to Emit**

Boilers - Other	Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e	
	CO <sub>2</sub>	53.02	47511.2	52371.6	1	52371.6	
	CH <sub>4</sub>	0.003	2.7	3.0	25	74.1	
	N <sub>2</sub> O	0.0006	0.5	0.6	298	176.6	
	Total			52375.2		52622.3	
Boilers - RLUOB	natural gas	Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e
		CO <sub>2</sub>	53.02	20436.0	22526.6	1	22526.6
		CH <sub>4</sub>	0.003	1.2	1.3	25	31.9
		N <sub>2</sub> O	0.0006	0.2	0.3	298	76.0
		Total			22528.2		22634.5
fuel oil		Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e
		CO <sub>2</sub>	73.96	2929.3	3229.0	1	3229.0
		CH <sub>4</sub>	0.003	0.1	0.1	25	3.3
		N <sub>2</sub> O	0.0006	0.02	0.03	298	7.8
		Total			3229.1		3240.1
combined	Compound			short tons	GWP	CO <sub>2</sub> e	

	CO <sub>2</sub>	25757.3	1	25757.3
	CH <sub>4</sub>	1.4	25	35.1
	N <sub>2</sub> O	0.3	298	83.8
	Total	25759.0		25876.2

- 1 Emission factors are from 40 CFR Part 98, Subpart C, Tables C-1 and C-2.
- 2 CO2 equivalent or GWP values from 40 CFR Part 98, Subpart A, Table A-1.
- 3 CO2 equivalent tons calculated from short tons as specified by NMED form 2-P.
- 4 Boiler - Other calculation based on annual natural gas limit.
- 5 RLUOB natural gas calculation based on maximum hourly rate and 8,760 hours per year.
- 6 RLUOB fuel oil calculation based on annual fuel oil limit.

### Internal Combustion Emission Estimates

#### Greenhouse Gas Emissions

#### Greenhouse Gas Emission Estimates - Potential to Emit

Genset	Allowable hours/yr	Max. Fuel gal/hr	Max. Fuel gal/yr	Fuel oil,HHV MMBtu/gal	Total MMBtu/yr
TA-33-G-1P	900	69.3	62370	0.138	24399.09
TA-33-G-2	500	1.7	850		
TA-33-G-3	500	1.7	850		
TA-33-G-4	500	15.8	7900		
RLUOB-GEN-1	100	103.6	10360		
RLUOB-GEN-2	100	103.6	10360		
RLUOB-GEN-3	100	103.6	10360		
TA-3-GEN-1400	500	112	56000		
TA-48-GEN-1	100	12.25	1225		
TA-50-GEN-184	100	30.1	3010		
TA-55-GEN-1	100	1.6	160		
TA-55-GEN-2	100	1.6	160		
TA-55-GEN-3	100	62.5	6250		
TA-55-GEN-474	100	27.3	2730		
TA-55-GEN-475	100	27.3	2730		
TA-63-GEN-TRU	100	14.9	1490		
Totals	4000	688.85	176805		
Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e
CO <sub>2</sub>	73.96	1804.6	1989.2	1	1989.2
CH <sub>4</sub>	0.003	0.1	0.1	25	2.0
N <sub>2</sub> O	0.0006	0.01	0.02	298	4.8
Total			1989.3		1996.0

- 1 Emission factors and HHV of fuel oil are from 40 CFR Part 98, Subpart C, Tables C-1 and C-2.
- 2 CO2 equivalent or GWP values from 40 CFR Part 98, Subpart A, Table A-1.
- 3 CO2 equivalent tons calculated from short tons as specified by NMED form 2-P.

**Power Plant Emission Estimates**

**Greenhouse Gases**

**Greenhouse Gas Emission Estimates - Potential to Emit**

	Total Fuel		HHV	MMBtu/yr		
Boilers - Gas	1,000,000 mSCF/yr		0.001028 MMBtu/scf	1028000		
Boilers - Oil	500 mGAL		0.138 MMBtu/gal	69000		
Combustion Turbine	1,400,000 mSCF/yr		0.001028 MMBtu/scf	1439200		
<b>Boilers</b>						
natural gas	Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e
	CO <sub>2</sub>	53.02	54504.6	60080.4	1	60080.4
	CH <sub>4</sub>	0.003	3.1	3.4	25	85.0
	N <sub>2</sub> O	0.0006	0.6	0.7	298	202.6
			Total	60084.5		60368.0
fuel oil	Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e
	CO <sub>2</sub>	73.96	5103.2	5625.3	1	5625.3
	CH <sub>4</sub>	0.003	0.2	0.2	25	5.7
	N <sub>2</sub> O	0.0006	0.04	0.05	298	13.6
			Total	5625.6		5644.6
combined	Compound			short tons	GWP	CO <sub>2</sub> e
	CO <sub>2</sub>			65705.7	1	65705.7
	CH <sub>4</sub>			3.6	25	90.7
	N <sub>2</sub> O			0.7	298	216.2
			Total	65710.0		66012.6
Combustion Turbine	Compound	kg/MMBtu	metric tons	short tons	GWP	CO <sub>2</sub> e
	CO <sub>2</sub>	53.02	76306.4	84112.5	1	84112.5
	CH <sub>4</sub>	0.003	4.3	4.8	25	119.0
	N <sub>2</sub> O	0.0006	0.9	1.0	298	283.7

- 1 Emission factors are from 40 CFR Part 98, Subpart C, Tables C-1 and C-2.
- 2 CO2 equivalent or GWP values from 40 CFR Part 98, Subpart A, Table A-1.
- 3 CO2 equivalent tons calculated from short tons as specified by NMED form 2-P.
- 4 Boiler emissions based on annual fuel and oil limits.

# Section 3

## Application Summary

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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 affect 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.env.nm.gov/aqb/permit/app\\_form.html](http://www.env.nm.gov/aqb/permit/app_form.html)) for more detailed instructions on SSM emissions.

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This application is for the five-year renewal of the Los Alamos National Laboratory (LANL) Title V operating permit. 20.2.70 NMAC requires all Title V permits to be renewed on a five-year cycle. The first LANL Title V permit was issued on April 30, 2004. The first five year renewal permit was issued on August 7, 2009. The second five year renewal permit was issued on February 3, 2017. As required, this application for the third five-year renewal is being submitted one year prior to the current expiration date of February 27, 2020. The current permit is referenced as Permit P100-R2M3.

LANL is a federal facility owned by the U.S. Department of Energy and operated under contract by Triad National Security, LLC and Newport News Nuclear BWXT-Los Alamos, LLC (N3B). LANL conducts research and development to fulfill the missions of ensuring the safety and reliability of the U.S. nuclear deterrent, reducing the global threat of weapons of mass destruction, and solving national problems in energy, environment, infrastructure and health security. Regulated air pollutant emissions subject to the Title V program are primarily associated with mission support sources, such as boilers for electricity and steam generation, asphalt production for road repair, and standby generators. Within research and development activities, small quantities of chemicals are used which result in emissions of volatile organic compounds. These research activities also include beryllium sources, which are regulated for air emissions.

This application does not seek to permit any new activity. Any new or modified activity is required to be processed through the New Source Review process under 20.2.72 NMAC – Construction Permits first prior to becoming part of the Title V permit. This application is primarily an update to the current Title V permit. Some changes to existing permit conditions are recommended for either clarity or corrections. Note that since some of the forms in this uniform permit application are only for New Source Review applications, they are not included here.

LANL sources do not have any routine or predictable emissions during startup, shutdown, and maintenance. This is further discussed in Section 2.0 of the application for each source category.

# Section 4

## Process Flow Sheet

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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.

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See Section 2.0 of the application for a process flow sheet for each source category.

# Section 5

## Plot Plan Drawn To Scale

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A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

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See Section 2.0 of the application for a plot plan for each source category.

# Section 6

## All Calculations

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**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. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

**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 and/or Section 22 GHG Tables and the rationale for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications ([http://www.env.nm.gov/aqb/permit/app\\_form.html](http://www.env.nm.gov/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.

**Glycol Dehydrator Calculations:** The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

**Road Calculations:** Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

**Significant Figures:**

**A.** All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

**B.** At least 5 significant figures shall be retained in all intermediate calculations.

**C.** In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

- (1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
- (2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
- (3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
- (4) The final result of the calculation shall be expressed in the units of the standard.

**Control Devices:** In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

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All assumptions and calculations are shown by source type in the included Excel workbook "UA2.xls".. Calculations for each source type are organized by individual worksheets which are named accordingly.



# Section 6.a

## Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

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**Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC)** applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).

### Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO<sub>2</sub>e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO<sub>2</sub>e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO<sub>2</sub>e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO<sub>2</sub>e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following  By checking this box, the applicant acknowledges the total CO<sub>2</sub>e emissions are less than 75,000 tons per year.

### Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at <http://www.epa.gov/ttn/chief/ap42/index.html>
- EPA's Internet emission factor database WebFIRE at <http://cfpub.epa.gov/webfire/>
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at <http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases>:

### Global Warming Potentials (GWP):

Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO<sub>2</sub> over a specified time period.

**"Greenhouse gas"** for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC)**. You may also find GHGs defined in 40 CFR 86.1818-12(a).

### Metric to Short Ton Conversion:

Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.

1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

# Section 7

## Information Used To Determine Emissions

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**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.
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Information used to determine emissions in the application is included in this section and is organized by source type.

# Asphalt Plant

Table 11.1-1. PARTICULATE MATTER EMISSION FACTORS FOR BATCH MIX HOT MIX ASPHALT PLANTS<sup>a</sup>

Process	Filterable PM			Condensable PM <sup>b</sup>			Total PM		
	PM <sup>c</sup>	EMISSION FACTOR RATING	PM-10 <sup>d</sup>	EMISSION FACTOR RATING		PM <sup>e</sup>	EMISSION FACTOR RATING		
				Inorganic	Organic		Inorganic	Organic	
Dryer, hot screens, mixef (SCC 3-05-002-45, -46, -47)									
Uncontrolled	32 <sup>h</sup>	E	4.5	0.013 <sup>j</sup>	E	0.0041 <sup>j</sup>	E	32	E
Venturi or wet scrubber	0.12 <sup>k</sup>	C	ND	0.013 <sup>m</sup>	B	0.0041 <sup>n</sup>	B	0.14	NA
Fabric filter	0.025 <sup>p</sup>	A	0.0098	0.013 <sup>m</sup>	A	0.0041 <sup>n</sup>	A	0.042	C

<sup>a</sup> Factors are lb/ton of product. SCC = Source Classification Code. ND = no data. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

<sup>b</sup> Condensable PM is that PM collected using an EPA Method 202, Method 5 (analysis of "back-half" or impingers), or equivalent sampling train.

<sup>c</sup> Filterable PM is that PM collected on or before the filter of an EPA Method 5 (or equivalent) sampling train.

<sup>d</sup> Particle size data from Reference 23 were used in conjunction with the filterable PM emission factors shown.

<sup>e</sup> Total PM is the sum of filterable PM, condensable inorganic PM, and condensable organic PM.

<sup>f</sup> Total PM-10 is the sum of filterable PM-10, condensable inorganic PM, and condensable organic PM.

<sup>g</sup> Batch mix dryer fired with natural gas, propane, fuel oil, waste oil, and coal. The data indicate that fuel type does not significantly effect PM emissions.

<sup>h</sup> Reference 5.

<sup>j</sup> Although no data are available for uncontrolled condensable PM, values are assumed to be equal to the controlled value measured.

<sup>k</sup> Reference 1, Table 4-19. Average of data from 16 facilities. Range: 0.047 to 0.40 lb/ton. Median: 0.049 lb/ton. Standard deviation: 0.11 lb/ton.

<sup>m</sup> Reference 1, Table 4-19. Average of data from 35 facilities. Range: 0.00073 to 0.12 lb/ton. Median: 0.0042 lb/ton. Standard deviation: 0.024 lb/ton.

<sup>n</sup> Reference 1, Table 4-19. Average of data from 24 facilities. Range: 0.000012 to 0.018 lb/ton. Median: 0.0026 lb/ton. Standard deviation: 0.0042 lb/ton.

<sup>p</sup> Reference 1, Table 4-19. Average of data from 89 facilities. Range: 0.0023 to 0.18 lb/ton. Median: 0.012 lb/ton. Standard deviation: 0.033 lb/ton.

Table 11.1-5. EMISSION FACTORS FOR CO, CO<sub>2</sub>, NO<sub>x</sub>, AND SO<sub>2</sub> FROM BATCH MIX HOT MIX ASPHALT PLANTS<sup>a</sup>

Process	CO <sup>b</sup>	EMISSION FACTOR RATING	CO <sub>2</sub> <sup>c</sup>	EMISSION FACTOR RATING	NO <sub>x</sub>	EMISSION FACTOR RATING	SO <sub>2</sub> <sup>c</sup>	EMISSION FACTOR RATING
Natural gas-fired dryer, hot screens, and mixer (SCC 3-05-002-45)	<u>0.40</u>	C	37 <sup>d</sup>	A	<u>0.025<sup>e</sup></u>	D	<u>0.0046<sup>f</sup></u>	E
No. 2 fuel oil-fired dryer, hot screens, and mixer (SCC 3-05-002-46)	0.40	C	37 <sup>d</sup>	A	0.12 <sup>g</sup>	E	0.088 <sup>h</sup>	E
Waste oil-fired dryer, hot screens, and mixer (SCC 3-05-002-47)	0.40	C	37 <sup>d</sup>	A	0.12 <sup>g</sup>	E	0.088 <sup>h</sup>	E
Coal-fired dryer, hot screens, and mixer <sup>j</sup> (SCC 3-05-002-98)	ND	NA	37 <sup>d</sup>	A	ND	NA	0.043 <sup>k</sup>	E

<sup>a</sup> Emission factor units are lb per ton of HMA produced. SCC = Source Classification Code. ND = no data available. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

<sup>b</sup> References 24, 34, 46-47, 49, 161, 204, 215-217, 282, 370, 378, 381. The CO emission factors represent normal plant operations without scrutiny of the burner design, operation, and maintenance. Information is available that indicates that attention to burner design, periodic evaluation of burner operation, and appropriate maintenance can reduce CO emissions. Data for dryers firing natural gas, No. 2 fuel oil, and No. 6 fuel oil were combined to develop a single emission factor because the magnitude of emissions was similar for dryers fired with these fuels.

<sup>c</sup> Emissions of CO<sub>2</sub> and SO<sub>2</sub> can also be estimated based on fuel usage and the fuel combustion emission factors (for the appropriate fuel) presented in AP-42 Chapter 1. The CO<sub>2</sub> emission factors are an average of all available data, regardless of the dryer fuel (emissions were similar from dryers firing any of the various fuels). Based on data for drum mix facilities, 50 percent of the fuel-bound sulfur, up to a maximum (as SO<sub>2</sub>) of 0.1 lb/ton of product, is expected to be retained in the product, with the remainder emitted as SO<sub>2</sub>.

<sup>d</sup> Reference 1, Table 4-20. Average of data from 115 facilities. Range: 6.9 to 160 lb/ton. Median: 32 lb/ton. Standard deviation: 22 lb/ton.

<sup>e</sup> References 24, 34, 46-47.

<sup>f</sup> References 46-47.

<sup>g</sup> References 49, 226.

<sup>h</sup> References 49, 226, 228, 385.

<sup>j</sup> Dryer fired with coal and supplemental natural gas or fuel oil.

<sup>k</sup> Reference 126.

Table 11.1-6. EMISSION FACTORS FOR TOC, METHANE, AND VOC FROM BATCH MIX HOT MIX ASPHALT PLANTS<sup>a</sup>

Process	TOC <sup>b</sup>	EMISSION FACTOR RATING	CH <sub>4</sub> <sup>c</sup>	EMISSION FACTOR RATING	VOC <sup>d</sup>	EMISSION FACTOR RATING
Natural gas-fired dryer, hot screens, and mixer (SCC 3-05-002-45)	0.015 <sup>e</sup>	D	0.0074	D	<u>0.0082</u>	D
No. 2 fuel oil-fired dryer, hot screens, and mixer (SCC 3-05-002-46)	0.015 <sup>e</sup>	D	0.0074	D	0.0082	D
No. 6 fuel oil-fired dryer, hot screens, and mixer (SCC 3-05-002-47)	0.043 <sup>f</sup>	E	0.0074	D	0.036	E

<sup>a</sup> Emission factor units are lb per ton of HMA produced. SCC = Source Classification Code. ND = no data available. NA = not applicable. To convert from lb/ton to kg/Mg, multiply by 0.5.

<sup>b</sup> TOC equals total hydrocarbons as propane, as measured with an EPA Method 25A or equivalent sampling train plus formaldehyde.

<sup>c</sup> References 24, 46-47, 49. Factor includes data from natural gas- and No. 6 fuel oil-fired dryers. Methane measured with an EPA Method 18 or equivalent sampling train.

<sup>d</sup> The VOC emission factors are equal to the TOC factors minus the methane emission factors; differences in values reported are due to rounding.

<sup>e</sup> References 24, 46-47, 155.

<sup>f</sup> Reference 49.

Table 11.1-9. EMISSION FACTORS FOR ORGANIC POLLUTANT EMISSIONS FROM BATCH MIX HOT MIX ASPHALT PLANTS<sup>a</sup>

Process	Pollutant		Emission Factor, lb/ton	Emission Factor Rating	Ref. Nos.
	CASRN	Name			
Natural gas- or No. 2 fuel oil-fired dryer, hot screens, and mixer with fabric filter (SCC 3-05-002-45,-46)	Non-PAH Hazardous Air Pollutants <sup>b</sup>				
	75-07-0	Acetaldehyde	0.00032	E	24,34
	71-43-2	Benzene	0.00028	D	24,34,46, 382
	100-41-4	Ethylbenzene	0.0022	D	24,46,47,49
	50-00-0	Formaldehyde	0.00074	D	24,34,46,47,49,226,382
	106-51-4	Quinone	0.00027	E	24
	108-88-3	Toluene	0.0010	D	24,34,46,47
	1330-20-7	Xylene	0.0027	D	24,46,47,49
		Total non-PAH HAPs	0.0075		
	PAH HAPs				
	91-57-6	2-Methylnaphthalene <sup>c</sup>	7.1x10 <sup>-5</sup>	D	24,47,49
	83-32-9	Acenaphthene <sup>c</sup>	9.0x10 <sup>-7</sup>	D	34,46,226
	208-96-8	Acenaphthylene <sup>c</sup>	5.8x10 <sup>-7</sup>	D	34,46,226
	120-12-7	Anthracene <sup>c</sup>	2.1x10 <sup>-7</sup>	D	34,46,226
	56-55-3	Benzo(a)anthracene <sup>c</sup>	4.6x10 <sup>-9</sup>	E	46,226
	50-32-8	Benzo(a)pyrene <sup>c</sup>	3.1x10 <sup>-10</sup>	E	226
	205-99-2	Benzo(b)fluoranthene <sup>c</sup>	9.4x10 <sup>-9</sup>	D	34,46,226
	191-24-2	Benzo(g,h,i)perylene <sup>c</sup>	5.0x10 <sup>-10</sup>	E	226
	207-08-9	Benzo(k)fluoranthene <sup>c</sup>	1.3x10 <sup>-8</sup>	E	34,226
	218-01-9	Chrysene <sup>c</sup>	3.8x10 <sup>-9</sup>	E	46,226
	53-70-3	Dibenz(a,h)anthracene <sup>c</sup>	9.5x10 <sup>-11</sup>	E	226
	206-44-0	Fluoranthene <sup>c</sup>	1.6x10 <sup>-7</sup>	D	34,46,47,226
	86-73-7	Fluorene <sup>c</sup>	1.6x10 <sup>-6</sup>	D	34,46,47,226
	193-39-5	Indeno(1,2,3-cd)pyrene <sup>c</sup>	3.0x10 <sup>-10</sup>	E	226
	91-20-3	Naphthalene	3.6x10 <sup>-5</sup>	D	34,46,47,49,226
	85-01-8	Phenanthrene <sup>c</sup>	2.6x10 <sup>-6</sup>	D	34,46,47,226
	129-00-0	Pyrene <sup>c</sup>	6.2x10 <sup>-8</sup>	D	34,46,226
		Total PAH HAPs	0.00011		
	Total HAPs		0.0076		
	Non-HAP organic compounds				
	100-52-7	Benzaldehyde	0.00013	E	24
	78-84-2	Butyraldehyde/ isobutyraldehyde	3.0x10 <sup>-5</sup>	E	24
4170-30-3	Crotonaldehyde	2.9x10 <sup>-5</sup>	E	24	
66-25-1	Hexanal	2.4x10 <sup>-5</sup>	E	24	
	Total non-HAPs	0.00019			

# Boilers and Heaters



Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO<sub>x</sub>) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION<sup>a</sup>

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO <sub>x</sub> <sup>b</sup>		CO	
	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS) <sup>c</sup>	280	A	84	B
Uncontrolled (Post-NSPS) <sup>c</sup>	190	A	84	B
Controlled - Low NO <sub>x</sub> burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	$\frac{100}{50}$	B	$\frac{84}{84}$	B
Controlled - Low NO <sub>x</sub> burners	50	D	84	B
Controlled - Low NO <sub>x</sub> burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

<sup>a</sup> Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from lb/10<sup>6</sup> 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. SCC = Source Classification Code. ND = no data. NA = not applicable.

<sup>b</sup> Expressed as NO<sub>x</sub>. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO<sub>x</sub> emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO<sub>x</sub> emission factor.

<sup>c</sup> NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION<sup>a</sup>

Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
CO <sub>2</sub> <sup>b</sup>	120,000	A
Lead	0.0005	D
N <sub>2</sub> O (Uncontrolled)	2.2	E
N <sub>2</sub> O (Controlled-low-NO <sub>x</sub> burner)	0.64	E
PM (Total) <sup>c</sup>	<u>7.6</u>	D
PM (Condensable) <sup>c</sup>	5.7	D
PM (Filterable) <sup>c</sup>	1.9	B
SO <sub>2</sub> <sup>d</sup>	<u>0.6</u>	A
TOC	11	B
Methane	2.3	B
VOC	<u>5.5</u>	C

<sup>a</sup> 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<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> 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.

<sup>b</sup> Based on approximately 100% conversion of fuel carbon to CO<sub>2</sub>. CO<sub>2</sub>[lb/10<sup>6</sup> scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO<sub>2</sub>, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10<sup>4</sup> lb/10<sup>6</sup> scf.

<sup>c</sup> All PM (total, condensable, 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<sub>10</sub>, PM<sub>2.5</sub> or PM<sub>1</sub> emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable 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.

<sup>d</sup> Based on 100% conversion of fuel sulfur to SO<sub>2</sub>.

Assumes sulfur content is natural gas of 2,000 grains/10<sup>6</sup> scf. The SO<sub>2</sub> emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO<sub>2</sub> emission factor by the ratio of the site-specific sulfur content (grains/10<sup>6</sup> scf) to 2,000 grains/10<sup>6</sup> scf.

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION<sup>a</sup>

CAS No.	Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
91-57-6	2-Methylnaphthalene <sup>b,c</sup>	2.4E-05	D
56-49-5	3-Methylchloranthrene <sup>b,c</sup>	<1.8E-06	E
	7,12-Dimethylbenz(a)anthracene <sup>b,c</sup>	<1.6E-05	E
83-32-9	Acenaphthene <sup>b,c</sup>	<1.8E-06	E
203-96-8	Acenaphthylene <sup>b,c</sup>	<1.8E-06	E
120-12-7	Anthracene <sup>b,c</sup>	<2.4E-06	E
56-55-3	Benz(a)anthracene <sup>b,c</sup>	<1.8E-06	E
71-43-2	Benzene <sup>b</sup>	2.1E-03	B
50-32-8	Benzo(a)pyrene <sup>b,c</sup>	<1.2E-06	E
205-99-2	Benzo(b)fluoranthene <sup>b,c</sup>	<1.8E-06	E
191-24-2	Benzo(g,h,i)perylene <sup>b,c</sup>	<1.2E-06	E
205-82-3	Benzo(k)fluoranthene <sup>b,c</sup>	<1.8E-06	E
106-97-8	Butane	2.1E+00	E
218-01-9	Chrysene <sup>b,c</sup>	<1.8E-06	E
53-70-3	Dibenzo(a,h)anthracene <sup>b,c</sup>	<1.2E-06	E
25321-22-6	Dichlorobenzene <sup>b</sup>	1.2E-03	E
74-84-0	Ethane	3.1E+00	E
206-44-0	Fluoranthene <sup>b,c</sup>	3.0E-06	E
86-73-7	Fluorene <sup>b,c</sup>	2.8E-06	E
50-00-0	Formaldehyde <sup>b</sup>	7.5E-02	B
110-54-3	Hexane <sup>b</sup>	1.8E+00	E
193-39-5	Indeno(1,2,3-cd)pyrene <sup>b,c</sup>	<1.8E-06	E
91-20-3	Naphthalene <sup>b</sup>	6.1E-04	E
109-66-0	Pentane	2.6E+00	E
85-01-8	Phenanathrene <sup>b,c</sup>	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 <sup>6</sup> scf)	Emission Factor Rating
74-98-6	Propane	1.6E+00	E
129-00-0	Pyrene <sup>b,c</sup>	5.0E-06	E
108-88-3	Toluene <sup>b</sup>	3.4E-03	C

<sup>a</sup> 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<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020. Emission Factors preceded with a less-than symbol are based on method detection limits.

<sup>b</sup> Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

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

<sup>d</sup> 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<sup>a</sup>

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

<sup>a</sup> 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 preceded by a less-than symbol are based on method detection limits. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to 1b/MMBtu, divide by 1,020.

<sup>b</sup> Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.



### Typical Flue Product Emissions Data for Power Flame Burners

	Natural Gas	# 2 Fuel Oil (1)
Carbon Monoxide - CO	.037 lb CO per 10 <sup>6</sup> BTU input (50 PPM)	.037 lb per 10 <sup>6</sup> BTU INPUT (50 PPM)
Sulfur Dioxide - SO <sub>2</sub>	(1.05) x (% Sulphur by weight in fuel) = lb SO <sub>2</sub> per 10 <sup>6</sup> BTU Input	
Particulate Matter	.0048 lb PM per 10 <sup>6</sup> BTU input	.0143 lb PM per 10 <sup>6</sup> BTU input
Hydrocarbons	.025 lb HC's per 10 <sup>6</sup> BTU input	.038 lb HC's per 10 <sup>6</sup> BTU input
CO <sub>2</sub>	9 % to 10%	10% to 13%
<b>Nitrogen Oxides - NO<sub>x</sub></b>		
Standard J, FDM & X4 Gas Burners	.088 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (75 PPM)	N/A N/A
Standard C Burners	.088 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (75 PPM)	.159 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU Input (120) PPM
LNIAC Burners	.029 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (25 PPM)	.12 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU Input (90) PPM
CM Burners	.070 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (60 PPM)	.146 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU Input (110) PPM
IFGR LNIC NO <sub>x</sub> Burners	.029 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (25 PPM)	.126 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU Input (110) PPM
LNICM Burners	.029 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (25) PPM	.12 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU Input (90) PPM
NPM Premix Burners	.029 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (25) PPM	N/A N/A
Nova Plus Burners	.010 lb NO <sub>x</sub> per 10 <sup>6</sup> BTU input (9) PPM	N/A N/A

(1) NO<sub>x</sub> emissions at 3.0 % O<sub>2</sub> 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 constitute guarantees by Power Flame Inc. In instances where guarantees are required, please consult the factory with the specific application information.

# Internal Combustion

Table 3.3-1. EMISSION FACTORS FOR UNCONTROLLED GASOLINE AND DIESEL INDUSTRIAL ENGINES<sup>a</sup>

Pollutant	Gasoline Fuel (SCC 2-02-003-01, 2-03-003-01)		Diesel Fuel (SCC 2-02-001-02, 2-03-001-01)		EMISSION FACTOR RATING
	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	Emission Factor (lb/hp-hr) (power output)	Emission Factor (lb/MMBtu) (fuel input)	
NO <sub>x</sub>	0.011	1.63	0.031	4.41	D
CO	0.439	62.7	6.68 E-03	0.95	D
SO <sub>x</sub>	5.91 E-04	0.084	2.05 E-03	0.29	D
PM-10 <sup>b</sup>	7.21 E-04	0.10	2.20 E-03	0.31	D
CO <sub>2</sub> <sup>c</sup>	1.08	154	1.15	164	B
Aldehydes	4.85 E-04	0.07	4.63 E-04	0.07	D
TOC					
Exhaust	0.015	2.10	2.47 E-03	0.35	D
Evaporative	6.61 E-04	0.09	0.00	0.00	E
Crankcase	4.85 E-03	0.69	4.41 E-05	0.01	E
Refueling	1.08 E-03	0.15	0.00	0.00	E

<sup>a</sup> References 2.5-6.9-14. When necessary, an average brake-specific fuel consumption (BSFC) of 7.000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr. 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. TOC = total organic compounds.

<sup>b</sup> PM-10 = particulate matter less than or equal to 10 µm aerodynamic diameter. All particulate is assumed to be ≤ 1 µm in size.

<sup>c</sup> Assumes 99% conversion of carbon in fuel to CO<sub>2</sub> with 87 weight % carbon in diesel, 86 weight % carbon in gasoline, average BSFC of 7.000 Btu/hp-hr, diesel heating value of 19.300 Btu/lb, and gasoline heating value of 20.300 Btu/lb.



Table 3.3-2. SPECIATED ORGANIC COMPOUND EMISSION FACTORS FOR UNCONTROLLED DIESEL ENGINES<sup>a</sup>

EMISSION FACTOR RATING: E

Pollutant	Emission Factor (Fuel Input) (lb/MMBtu)
Benzene <sup>b</sup>	9.33 E-04
Toluene <sup>b</sup>	4.09 E-04
Xylenes <sup>b</sup>	2.85 E-04
Propylene <sup>b</sup>	2.58 E-03
1,3-Butadiene <sup>b,c</sup>	<3.91 E-05
Formaldehyde <sup>h</sup>	1.18 E-03
Acetaldehyde <sup>h</sup>	7.67 E-04
Acrolein <sup>h</sup>	<9.25 E-05
Polycyclic aromatic hydrocarbons (PAH)	
Naphthalene <sup>h</sup>	8.48 E-05
Acenaphthylene	<5.06 E-06
Acenaphthene	<1.42 E-06
Fluorene	2.92 E-05
Phenanthrene	2.94 E-05
Anthracene	1.87 E-06
Fluoranthene	7.61 E-06
Pyrene	4.78 E-06
Benzo(a)anthracene	1.68 E-06
Chrysene	3.53 E-07
Benzo(b)fluoranthene	<9.91 E-08
Benzo(k)fluoranthene	<1.55 E-07
Benzo(a)pyrene	<1.88 E-07
Indeno(1,2,3-cd)pyrene	<3.75 E-07
Dibenzo(a,h)anthracene	<5.83 E-07
Benzo(g,h,i)perylene	<4.89 E-07
TOTAL PAH	1.68 E-04

<sup>a</sup> Based on the uncontrolled levels of 2 diesel engines from References 6-7. Source Classification Codes 2-02-001-02, 2-03-001-01. To convert from lb/MMBtu to ng/J, multiply by 430.

<sup>b</sup> Hazardous air pollutant listed in the *Clean Air Act*.

<sup>c</sup> Based on data from 1 engine.

Table 3.4-1. GASEOUS EMISSION FACTORS FOR LARGE STATIONARY DIESEL AND ALL STATIONARY DUAL-FUEL ENGINES<sup>a</sup>

Pollutant	Diesel Fuel (SCC 2-02-004-01)			Dual Fuel <sup>b</sup> (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 <sub>x</sub>						
Uncontrolled	0.024	3.2	B	0.018	2.7	D
Controlled	0.013 <sup>c</sup>	1.9 <sup>c</sup>	B	ND	ND	NA
CO	5.5 E-03	0.85	C	7.5 E-03	1.16	D
SO <sub>x</sub> <sup>d</sup>	8.09 E-03S <sub>1</sub>	1.01S <sub>1</sub>	B	4.06 E-04S <sub>1</sub> + 9.57 E-03S <sub>2</sub>	0.05S <sub>1</sub> + 0.895S <sub>2</sub>	B
CO <sub>2</sub> <sup>e</sup>	1.16	165	B	0.772	110	B
PM	0.0007 <sup>c</sup>	0.1 <sup>c</sup>	B	ND	ND	NA
TOC (as CH <sub>4</sub> )	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 <sup>g</sup>	E

<sup>a</sup> 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.

<sup>b</sup> Dual fuel assumes 95% natural gas and 5% diesel fuel.

<sup>c</sup> References 8-26. Controlled NO<sub>x</sub> is by ignition timing retard.

<sup>d</sup> Assumes that all sulfur in the fuel is converted to SO<sub>2</sub>. S<sub>1</sub> = % sulfur in fuel oil; S<sub>2</sub> = % sulfur in natural gas. For example, if sulfur content is 1.5%, then S = 1.5.

<sup>e</sup> Assumes 100% conversion of carbon in fuel to CO<sub>2</sub> 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.

<sup>f</sup> Based on data from 1 engine, TOC is by weight 9% methane and 91% nonmethane.

<sup>g</sup> 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<sup>a</sup>**

**EMISSION FACTOR RATING: E**

Pollutant	Emission Factor (lb/MMBtu) (fuel input)
Filterable particulate <sup>b</sup>	
< 1 $\mu\text{m}$	0.0478
< 3 $\mu\text{m}$	0.0479
< 10 $\mu\text{m}$	0.0496
Total filterable particulate	0.0620
Condensable particulate	0.0077
Total PM-10 <sup>c</sup>	0.0573
Total particulate <sup>d</sup>	0.0697

<sup>a</sup> 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  $\leq$  10 micrometers ( $\mu\text{m}$ ) aerometric diameter.

<sup>b</sup> Particle size is expressed as aerodynamic diameter.

<sup>c</sup> Total PM-10 is the sum of filterable particulate less than 10  $\mu\text{m}$  aerodynamic diameter and condensable particulate.

<sup>d</sup> 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<sup>a</sup>

EMISSION FACTOR RATING: E

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

<sup>a</sup>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.

<sup>b</sup>Hazardous air pollutant listed in the *Clean Air Act*.

Table 3.4-4. PAH EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES<sup>a</sup>

EMISSION FACTOR RATING: E

PAH	Emission Factor (lb/MMBtu) (fuel input)
Naphthalene <sup>b</sup>	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

<sup>a</sup> 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.

<sup>b</sup> Hazardous air pollutant listed in the *Clean Air Act*.

## 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 <sub>x</sub>	HC	NO <sub>x</sub>	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)

# Data Disintegrator

# SECURITY ENGINEERED MACHINERY

## ENGINEERING REPORT

### SEM Document Disintegrators with Waste Evacuation/Air Systems

This evaluation report is prepared as an outline of 'how' the disintegrator and waste collection units function and effectively provide a clean air environment to satisfy state and local requirements.

\*\*\*\*\*

The Document Destruction system is comprised of two basic units: (1) a mechanical cutting machine and (2) a Waste Evacuation/Air System.

The security disintegrator machine destroys paper, micrographics and other materials by a dry slicing and cutting process that leaves the end result in the shape of miniature confetti particles.

The Waste Evacuation system pulls the confetti waste particles through a security screen, located in the base of the machine. The confetti particles travel in an air stream via a rigid duct run, to a fan cyclone separator. The waste particles are then deposited into a waste container. The air system is supplied with a dust filter which exhausts clean filtered air. The optional air lock valve permits 'zero-pressure' discharge at the waste container, allowing waste particles to fall by gravity.

Since basis for concern of dust emission while using SEM Disintegrator systems is quite often brought up in discussion, the concern has been somewhat eased due to the fact that the waste materials and dust particles are traveling in a closed system/ductwork.

Engineers and consultants who have designed and installed the inter-connecting pneumatic/paper waste removal systems generally have been confident that these type of systems are in fact safe, due to the low concentration of materials in a rapidly moving air stream.

The after filters remove dust particles as small as 0.3 microns, returning clean air into the work area where permitted.

The cyclone efficiency is based on percentage and micron size as follows:

- 99% - 20 microns
- 85% - 10 microns
- 80% - 9 microns
- 75% - 8 microns ← *Average*
- 60% - 7 microns
- 50% - 6 microns



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The world leader in document and sensitive waste destruction solutions



The cloth tube filter efficiency is as follows:

- 99% - 5 microns
- 98% - 3 microns
- 97% - 2 microns
- 93% - 1 micron
- 90% - .6 micron
- 88% - .5 micron
- 85% - .4 micron
- 82% - .3 micron

Most dust residue is in the range of 5-20 micron.  
 ∴ Considering the upper range of efficiencies & taking an average to get 95%; this would be a conservative estimate

The cloth bag filter efficiency of F-type fan systems is approximately as follows:

- N/A  
 (BAG TYPE)
- 99% - 7 microns
  - 98% - 5 microns
  - 91% - 1 micron
  - 85% - .5 micron

If you have any questions or need additional information, please contact us at 1-800-225-9293.

Very truly yours,

*Lawrence W. Parker*  
 Lawrence W. Parker  
 Engineering Manager

3/00 LWP



Notes: Leslie Martinez

11/6/03 - SEM 1800 308 9283

- Mike Wakefield - Sales Rep.

Paper Shredder.

Model: 1424

→ Max. capacity not 2200 lbs/hr as shown on web due to <sup>requirements, a</sup> lank's High Security Screen was purchased which reduces the capacity of the paper shredder.

\* Optional features.

- air lock valve

- High Security Screen.

- cloth-tube filter. FT40-model.

→ w/ Regards to Exhaust Rate & Particle distribution & efficiency Mike referred me to the Engineers of these systems.

Larry Parker / David LaFrance 1800 225 9293

<sup>Parker</sup>  
Larry 11/6/03 SEM 1800:225-9293 Ext. 1040.

→ Exhaust Rate of 1200 cfm w/ a 7" duct.

- asked for pre & post air system emissions

- asked for Distribution of efficiencies

relative to PM.

- Air System is vented to outdoors.

517.263.578) 11/17/03 Ray Wakefield ABET Manufacturing (cyclone/air system)  
10-15% of material shredded could potentially be emitted in an uncontrolled system (i.e. No Air System)

4.10

# Power Plant



4221-A Balloon Park Road NE  
Albuquerque, NM 87109

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July 2, 2010

David L. Paulson, CSP, CHMM, CESM  
Ecology and Air Quality Group  
Environmental Protection Division  
Los Alamos National Laboratory

RE: Annual Emissions Testing of CT-1 at TA-3

Dear Mr. Paulson:

Enclosed with this letter are the summary of results and supporting documentation for the annual testing performed on the combustion turbine (Source ID CT-1) located at TA-3 at Los Alamos National Labs on June 17, 2010.

Exhaust emissions vented to the atmosphere were measured in the stack of the unit according to the New Mexico Environment Department's SOP for Using Portable Analyzers in Performance Testing. Stack flow rates were directly measured by the use of EPA Methods 1-4. Method 19 (based on fuel consumption) was additionally used to compare the volumetric flow rate.

Mass emissions rates in terms of pounds per hour and tons per year were calculated to determine compliance with the permits in place for this unit. Six twenty-minute test runs were performed on the unit, three each at two load conditions. The attached data sheets give a detailed summary of the results of this test. The quality assurance data sheets are also attached. Data files are available in the Albuquerque office.

Please feel free to call me at (505) 238-2088 with any questions.

Sincerely,

Richard Stallings

## Summary of Results and Unit Operational Data: Unit CT-1 (100% Load)

Client: Los Alamos National Labs  
 Location: TA-3  
 Source: Rolls-Royce Gas Turbine (Unit CT-1)  
 Technicians: RS/GG

Test Number	1	2	3	
Date	6/17/2010	6/17/2010	6/17/2010	
Start Time	12:14	12:41	13:14	
Stop Time	12:34	13:01	13:34	
<b>Turbine/Generator Operation</b>				
NL (RPM)	6380	6380	6380	
NH (RPM)	9114	9114	9114	
PT (RPM)	4846	4846	4846	
Ambient (°F)	77	77	77	
GG Exit (°F)	1452	1452	1452	
P30 (psia)	226	226	226	
<b>Ambient Conditions</b>				
Atmospheric Pressure (in. Hg)	30.20	30.20	30.20	
<b>Fuel Heating Value (BTU) (HHV @ 60°F &amp; 30 in. Hg)</b>				
Fuel Heating Value (BTU) (HHV @ 60°F & 30 in. Hg)	1022.95	1022.95	1022.95	
<b>Fuel Flow Rate from Turbine Reference Meter (SCFH)</b>				
Fuel Flow Rate from Turbine Reference Meter (SCFH)	218240	215835	215975	
<b>Fuel O2 F-Factor (DSCF/MMBTU)</b>				
Fuel O2 F-Factor (DSCF/MMBTU)	8640.92	8640.92	8640.92	
<b>Measured Emissions (dry) (corrected per equation 7e-5)</b>				<b>Averages</b>
NOx (ppmv)	15.3	15.1	14.9	<b>15.1</b>
CO (ppmv)	10.9	9.8	9.6	<b>10.1</b>
O2 (%)	15.0	15.0	15.0	<b>14.97</b>
CO2 (%)	3.1	3.1	3.1	<b>3.08</b>
Fo Factor	1.93	1.92	1.93	<b>1.93</b>
<b>Exhaust Flow Rates</b>				
via EPA Methods 1-4, O2 F-Factor (DSCFH)	8.75E+06	8.75E+06	8.75E+06	<b>8.75E+06</b>
via EPA Method 19, O2 F-Factor (DSCFH)	6.79E+06	6.73E+06	6.75E+06	<b>6.76E+06</b>
<b>Mass Emission Rates (Based on Methods 1-4)</b>				
NOx (lbs/hr)	15.96	15.75	15.53	<b>15.75</b>
CO (lbs/hr)	6.91	6.24	6.10	<b>6.42</b>
<b>NSR Permit 2195-BM1 Allowable Emissions</b>				
Allowable NOx Emissions (lb/hr)				<b>23.8</b>
Allowable CO Emissions (lb/hr)				<b>170.9</b>

Testing by TRC Air Measurements, Albuquerque, New Mexico

## Summary of Results and Unit Operational Data: Unit CT-1 (80% Load)

Client: Los Alamos National Labs  
 Location: TA-3  
 Source: Rolls-Royce Gas Turbine (Unit CT-1)  
 Technicians: RS/GG

Test Number	4	5	6	
Date	6/17/2010	6/17/2010	6/17/2010	
Start Time	13:44	14:11	14:37	
Stop Time	14:04	14:31	14:57	
<b>Turbine/Generator Operation</b>				
NL (RPM)	6381	6378	6202	
NH (RPM)	9118	9119	8923	
PT (RPM)	4847	4846	4846	
Ambient (°F)	79	79	79	
GG Exit (°F)	1452	1452	1369	
P30 (psia)	227	226	202	
<b>Ambient Conditions</b>				
Atmospheric Pressure (in. Hg)	30.20	30.20	30.20	
<b>Fuel Heating Value (BTU) (HHV @ 60°F &amp; 30 in. Hg)</b>				
Fuel Heating Value (BTU) (HHV @ 60°F & 30 in. Hg)	1022.95	1022.95	1022.95	
<b>Fuel Flow Rate from Turbine Reference Meter (SCFH)</b>				
Fuel Flow Rate from Turbine Reference Meter (SCFH)	216130	207225	184300	
<b>Fuel O2 F-Factor (DSCF/MMBTU)</b>				
Fuel O2 F-Factor (DSCF/MMBTU)	8640.92	8640.92	8640.92	
<b>Measured Emissions (dry) (corrected per equation 7e-5)</b>				<b>Averages</b>
NOx (ppmv)	16.6	17.1	17.1	<b>17.0</b>
CO (ppmv)	14.7	14.4	13.8	<b>14.3</b>
O2 (%)	15.4	15.4	15.4	<b>15.37</b>
CO2 (%)	2.8	2.8	2.8	<b>2.81</b>
Fo Factor	1.98	1.97	1.96	<b>1.97</b>
<b>Exhaust Flow Rates</b>				
via EPA Methods 1-4, O2 F-Factor (DSCFH)	7.47E+06	7.47E+06	7.47E+06	<b>7.47E+06</b>
via EPA Method 19, O2 F-Factor (DSCFH)	7.23E+06	6.93E+06	6.14E+06	<b>6.77E+06</b>
<b>Mass Emission Rates (Based on Methods 1-4)</b>				
NOx (lbs/hr)	14.83	15.28	15.28	<b>15.13</b>
CO (lbs/hr)	7.99	7.80	7.47	<b>7.75</b>
<b>NSR Permit 2195-BM1 Allowable Emissions</b>				
Allowable NOx Emissions (lb/hr)				<b>23.8</b>
Allowable CO Emissions (lb/hr)				<b>170.9</b>

Testing by TRC Air Measurements, Albuquerque, New Mexico



4221-A Ballnon Park Road NE  
Albuquerque, NM 87109

505.761.0099 PHONE  
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February 15, 2011

David L. Paulson, CSP, CHMM, CESM  
Ecology and Air Quality Group  
Environmental Protection Division  
Los Alamos National Laboratory

RE: Annual Emissions Testing of CT-1 at TA-3

Dear Mr. Paulson:

Enclosed with this letter are the summary of results and supporting documentation for the annual testing performed on the combustion turbine (Source ID CT-1) located at TA-3 at Los Alamos National Labs on January 19, 2011.

Exhaust emissions vented to the atmosphere were measured in the stack of the unit according to the New Mexico Environment Department's SOP for Using Portable Analyzers in Performance Testing. Stack flow rates were directly measured by the use of EPA Methods 1-4. Method 19 (based on fuel consumption) was additionally used to compare the volumetric flow rate.

Mass emissions rates in terms of pounds per hour and tons per year were calculated to determine compliance with the permits in place for this unit. Six twenty-minute test runs were performed on the unit, three each at two load conditions. The attached data sheets give a detailed summary of the results of this test. The quality assurance data sheets are also attached. Data files are available in the Albuquerque office.

Please feel free to call me at (505) 238-2088 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Stallings", written over a horizontal line.

Richard Stallings

## Summary of Results and Unit Operational Data: Unit CT-1 (100% Load)

Client: Los Alamos National Labs  
 Location: TA-3  
 Source: Rolls-Royce Gas Turbine (Unit CT-1)  
 Technicians: RS/GG

Test Number	1	2	3	
Date	1/19/2011	1/19/2011	1/19/2011	
Start Time	7:25	7:53	8:21	
Stop Time	7:45	8:13	8:41	
<b>Turbine/Generator Operation</b>				
NL (RPM)	6424	6424	6422	
NH (RPM)	9101	9101	9101	
PT (RPM)	4848	4848	4846	
Ambient (°F)	34	34	34	
GG Exit (°F)	1452	1452	1452	
<b>Ambient Conditions</b>				
Atmospheric Pressure (in. Hg)	22.68	22.68	22.68	
Fuel Heating Value (BTU) (HHV @ 60°F & 30 in. Hg)	1029.29	1029.29	1029.29	
Fuel Flow Rate from Turbine Reference Meter (SCFH)	257980	257790	258170	
Fuel O2 F-Factor (DSCF/MMBTU)	8646.74	8646.74	8646.74	
<b>Measured Emissions (dry) (corrected per equation 7e-5)</b>				<b>Averages</b>
NOx (ppmv)	17.9	17.7	17.5	<b>17.7</b>
CO (ppmv)	4.6	3.8	3.8	<b>4.1</b>
O2 (%)	14.8	14.8	14.8	<b>14.80</b>
CO2 (%)	3.8	3.8	3.8	<b>3.80</b>
Fo Factor	1.61	1.59	1.62	<b>1.61</b>
<b>Exhaust Flow Rates</b>				
via EPA Methods 1-4, O2 F-Factor (DSCFH)	1.04E+07	9.99E+06	9.62E+06	<b>9.99E+06</b>
via EPA Method 19, O2 F-Factor (DSCFH)	7.82E+06	7.92E+06	7.86E+06	<b>7.86E+06</b>
<b>Mass Emission Rates (Based on Methods 1-4)</b>				
NOx (lbs/hr)	22.15	21.07	20.07	<b>21.09</b>
CO (lbs/hr)	3.45	2.73	2.66	<b>2.95</b>
<b>NSR Permit 2195-BM1 Allowable Emissions</b>				
			Allowable NOx Emissions (lb/hr)	<b>23.8</b>
			Allowable CO Emissions (lb/hr)	<b>170.9</b>



## Summary of Results and Unit Operational Data: Unit CT-1 (80% Load)

Client: Los Alamos National Labs  
 Location: TA-3  
 Source: Rolls-Royce Gas Turbine (Unit CT-1)  
 Technicians: RS/GG

Test Number	4	5	6	
Date	1/19/2011	1/19/2011	1/19/2011	
Start Time	10:00	10:28	11:01	
Stop Time	10:20	10:48	11:21	
<b>Turbine/Generator Operation</b>				
NL (RPM)	6138	6146	6151	
NH (RPM)	8807	8817	8822	
PT (RPM)	4847	4847	4845	
Ambient (°F)	39.2	39.2	39.2	
GG Exit (°F)	1321	1326	1330	
<b>Ambient Conditions</b>				
Atmospheric Pressure (in. Hg)	22.68	22.68	22.68	
<b>Fuel Heating Value (BTU) (HHV @ 60°F &amp; 30 in. Hg)</b>				
Fuel Heating Value (BTU) (HHV @ 60°F & 30 in. Hg)	1029.29	1029.29	1029.29	
Fuel Flow Rate from Turbine Reference Meter (SCFH)	209750	210010	211240	
Fuel O2 F-Factor (DSCF/MMBTU)	8646.74	8646.74	8646.74	
<b>Measured Emissions (dry) (corrected per equation 7e-5)</b>				<b>Averages</b>
NOx (ppmv)	19.8	19.9	19.8	<b>19.9</b>
CO (ppmv)	25.6	22.6	17.3	<b>21.9</b>
O2 (%)	15.4	15.4	15.4	<b>15.39</b>
CO2 (%)	3.4	3.4	3.4	<b>3.40</b>
Fo Factor	1.61	1.63	1.61	<b>1.62</b>
<b>Exhaust Flow Rates</b>				
via EPA Methods 1-4, O2 F-Factor (DSCFH)	8.19E+06	8.33E+06	8.08E+06	<b>8.20E+06</b>
via EPA Method 19, O2 F-Factor (DSCFH)	7.08E+06	7.08E+06	7.13E+06	<b>7.10E+06</b>
<b>Mass Emission Rates (Based on Methods 1-4)</b>				
NOx (lbs/hr)	19.40	19.80	19.12	<b>19.44</b>
CO (lbs/hr)	15.24	13.69	10.16	<b>13.03</b>
<b>NSR Permit 2195-BM1 Allowable Emissions</b>				
			Allowable NOx Emissions (lb/hr)	<b>23.8</b>
			Allowable CO Emissions (lb/hr)	<b>170.9</b>

Table 3.1-3. EMISSION FACTORS FOR HAZARDOUS AIR POLLUTANTS FROM NATURAL GAS-FIRED STATIONARY GAS TURBINES<sup>a</sup>

Emission Factors <sup>b</sup> - Uncontrolled		
Pollutant	Emission Factor (lb/MMBtu) <sup>c</sup>	Emission Factor Rating
1,3-Butadiene <sup>d</sup>	< 4.3 E-07	D
Acetaldehyde	4.0 E-05	C
Acrolein	6.4 E-06	C
Benzene <sup>e</sup>	1.2 E-05	A
Ethylbenzene	3.2 E-05	C
Formaldehyde <sup>f</sup>	7.1 E-04	A
Naphthalene	1.3 E-06	C
PAH	2.2 E-06	C
Propylene Oxide <sup>d</sup>	< 2.9 E-05	D
Toluene	1.3 E-04	C
Xylenes	6.4 E-05	C

<sup>a</sup> SCC for natural gas-fired turbines include 2-01-002-01, 2-02-002-01, 2-02-002-03, 2-03-002-02, and 2-03-002-03. Hazardous Air Pollutants as defined in Section 112 (b) of the *Clean Air Act*.

<sup>b</sup> Factors are derived from units operating at high loads (>80 percent load) only. For information on units operating at other loads, consult the background report for this chapter (Reference 16), available at "www.epa.gov/ttn/chief".

<sup>c</sup> Emission factors based on an average natural gas heating value (HHV) of 1020 Btu/scf at 60°F. To convert from (lb/MMBtu) to (lb/10<sup>6</sup> scf), multiply by 1020. These emission factors can be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this heating value.

<sup>d</sup> Compound was not detected. The presented emission value is based on one-half of the detection limit.

<sup>e</sup> Benzene with SCONOX catalyst is 9.1 E-07, rating of D.

<sup>f</sup> Formaldehyde with SCONOX catalyst is 2.0 E-05, rating of D.

Table 3.1-2a. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM STATIONARY GAS TURBINES

Emission Factors <sup>a</sup> - Uncontrolled				
Pollutant	Natural Gas-Fired Turbines <sup>b</sup>		Distillate Oil-Fired Turbines <sup>d</sup>	
	(lb/MMBtu) <sup>c</sup> (Fuel Input)	Emission Factor Rating	(lb/MMBtu) <sup>c</sup> (Fuel Input)	Emission Factor Rating
CO <sub>2</sub> <sup>f</sup>	110	A	157	A
N <sub>2</sub> O	0.003 <sup>g</sup>	E	ND	NA
Lead	ND	NA	1.4 E-05	C
SO <sub>2</sub>	0.94S <sup>h</sup>	B	1.01S <sup>h</sup>	B
Methane	8.6 E-03	C	ND	NA
VOC	2.1 E-03	D	4.1 E-04 <sup>j</sup>	E
TOC <sup>k</sup>	1.1 E-02	B	4.0 E-03 <sup>l</sup>	C
PM (condensable)	4.7 E-03 <sup>l</sup>	C	7.2 E-03 <sup>l</sup>	C
PM (filterable)	1.9 E-03 <sup>l</sup>	C	4.3 E-03 <sup>l</sup>	C
PM (total)	6.6 E-03 <sup>l</sup>	C	1.2 E-02 <sup>l</sup>	C

<sup>a</sup> Factors are derived from units operating at high loads ( $\geq 80$  percent load) only. For information on units operating at other loads, consult the background report for this chapter (Reference 16), available at "www.epa.gov/ttn/chiep". ND = No Data, NA = Not Applicable.

<sup>b</sup> SCCs for natural gas-fired turbines include 2-01-002-01, 2-02-002-01 & 03, and 2-03-002-02 & 03.

<sup>c</sup> Emission factors based on an average natural gas heating value (HHV) of 1020 Btu/scf at 60°F. To convert from (lb/MMBtu) to (lb/10<sup>6</sup> scf), multiply by 1020. Similarly, these emission factors can be converted to other natural gas heating values.

<sup>d</sup> SCCs for distillate oil-fired turbines are 2-01-001-01, 2-02-001-01, 2-02-001-03, and 2-03-001-02.

<sup>e</sup> Emission factors based on an average distillate oil heating value of 139 MMBtu/10<sup>3</sup> gallons. To convert from (lb/MMBtu) to (lb/10<sup>3</sup> gallons), multiply by 139.

<sup>f</sup> Based on 99.5% conversion of fuel carbon to CO<sub>2</sub> for natural gas and 99% conversion of fuel carbon to CO<sub>2</sub> for distillate oil. CO<sub>2</sub> (Natural Gas) [lb/MMBtu] = (0.0036 scf/Btu)(%CON)(C)(D), where %CON = weight percent conversion of fuel carbon to CO<sub>2</sub>, C = carbon content of fuel by weight, and D = density of fuel. For natural gas, C is assumed at 75%, and D is assumed at 4.1 E+04 lb/10<sup>6</sup>scf. For distillate oil, CO<sub>2</sub> (Distillate Oil) [lb/MMBtu] = (26.4 gal/MMBtu) (%CON)(C)(D), where C is assumed at 87%, and the D is assumed at 6.9 lb/gallon.

<sup>g</sup> Emission factor is carried over from the previous revision to AP-42 (Supplement B, October 1996) and is based on limited source tests on a single turbine with water-steam injection (Reference 5).

<sup>h</sup> All sulfur in the fuel is assumed to be converted to SO<sub>2</sub>. S = percent sulfur in fuel. Example, if sulfur content in the fuel is 3.4 percent, then S = 3.4. If S is not available, use 3.4 E-03 lb/MMBtu for natural gas turbines, and 3.3 E-02 lb/MMBtu for distillate oil turbines (the equations are more accurate).

<sup>j</sup> VOC emissions are assumed equal to the sum of organic emissions.

<sup>k</sup> Pollutant referenced as THC in the gathered emission tests. It is assumed as TOC, because it is based on EPA Test Method 25A.

<sup>l</sup> Emission factors are based on combustion turbines using water-steam injection.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION<sup>a</sup>

Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
CO <sub>2</sub> <sup>b</sup>	120,000	A
Lead	0.0005	D
N <sub>2</sub> O (Uncontrolled)	2.2	E
N <sub>2</sub> O (Controlled-low-NO <sub>x</sub> burner)	0.64	E
PM (Total) <sup>c</sup>	<u>7.6</u>	D
PM (Condensable) <sup>c</sup>	5.7	D
PM (Filterable) <sup>c</sup>	1.9	B
SO <sub>2</sub> <sup>d</sup>	<u>0.6</u>	A
TOC	11	B
Methane	2.3	B
VOC	<u>5.5</u>	C

<sup>a</sup> 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<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> 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.

<sup>b</sup> Based on approximately 100% conversion of fuel carbon to CO<sub>2</sub>.  $CO_2[\text{lb}/10^6 \text{ scf}] = (3.67) (\text{CON}) (\text{C})(\text{D})$ , where CON = fractional conversion of fuel carbon to CO<sub>2</sub>, C = carbon content of fuel by weight (0.76), and D = density of fuel,  $4.2 \times 10^4 \text{ lb}/10^6 \text{ scf}$ .

<sup>c</sup> All PM (total, condensable, 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<sub>10</sub>, PM<sub>2.5</sub> or PM<sub>1</sub> emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable 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.

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

Table 1.4-2 (Metric And English Units). EMISSION FACTORS FOR SULFUR DIOXIDE (SO<sub>2</sub>), NITROGEN OXIDES (NO<sub>x</sub>), AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION<sup>a</sup>

Combustor Type (Size, 10 <sup>6</sup> Btu/hr Heat Input) (SCC) <sup>b</sup>	SO <sub>2</sub> <sup>c</sup>			NO <sub>x</sub> <sup>d</sup>			CO <sup>e</sup>		
	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING
Utility/large Industrial Boilers (>100) (1-01-006-01, 1-01-006-04)									
Uncontrolled	9.6	0.6	A	8800	550 <sup>f</sup>	A	640	40	A
Controlled - Low NO <sub>x</sub> burners	9.6	0.6	A	1300	81 <sup>f</sup>	D	ND	ND	NA
Controlled - Flue gas recirculation	9.6	0.6	A	850	53 <sup>f</sup>	D	ND	ND	NA
Small Industrial Boilers (10 - 100) (1-02-006-02)									
Uncontrolled	9.6	0.6	A	2240	140	A	560	35	A
Controlled - Low NO <sub>x</sub> burners	9.6	0.6	A	1300	81 <sup>f</sup>	D	980	61	D
Controlled - Flue gas recirculation	9.6	0.6	A	480	30	C	590	37	C
Commercial Boilers (0.3 - <10) (1-03-006-03)									
Uncontrolled	9.6	0.6	A	1600	100	B	330	21	C
Controlled - Low NO <sub>x</sub> burners	9.6	0.6	A	270	17	C	425	27	C
Controlled - Flue gas recirculation	9.6	0.6	A	580	36	D	ND	ND	NA
Residential Furnaces (<0.3) (No SCC)									
Uncontrolled	9.6	0.6	A	1500	94	B	640	40	B

<sup>a</sup> Units are kg of pollutant/10<sup>6</sup> cubic meters natural gas fired and lb of pollutant/10<sup>6</sup> cubic feet natural gas fired. Based on an average natural gas fired higher heating value of 8270 kcal/m<sup>3</sup> (1000 Btu/scf). 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. ND = no data. NA = not applicable.

<sup>b</sup> SCC = Source Classification Code.

<sup>c</sup> Reference 7. Based on average sulfur content of natural gas, 4600 g/10<sup>6</sup> Nm<sup>3</sup> (2000 gr/10<sup>6</sup> scf).

Table 1.4-2 (cont.).

<sup>d</sup> References 10,15-19. Expressed as NO<sub>2</sub>. For tangentially fired units; use 4400 kg/10<sup>6</sup> m<sup>3</sup> (275 lb/10<sup>6</sup> ft<sup>3</sup>). At reduced loads, multiply factor by load reduction coefficient in Figure 1.4-1. Note that NO<sub>x</sub> emissions from controlled boilers will be reduced at low load conditions.

<sup>e</sup> References 9-10,16-18,20-21.

<sup>f</sup> Emission factors apply to packaged boilers only.

TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION<sup>a</sup>

CAS No.	Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)	Emission Factor Rating
91-57-6	2-Methylnaphthalene <sup>b,c</sup>	2.4E-05	D
56-49-5	3-Methylchloranthrene <sup>b,c</sup>	<1.8E-06	E
	7,12-Dimethylbenz(a)anthracene <sup>b,c</sup>	<1.6E-05	E
83-32-9	Acenaphthene <sup>b,c</sup>	<1.8E-06	E
203-96-8	Acenaphthylene <sup>b,c</sup>	<1.8E-06	E
120-12-7	Anthracene <sup>b,c</sup>	<2.4E-06	E
56-55-3	Benz(a)anthracene <sup>b,c</sup>	<1.8E-06	E
71-43-2	Benzene <sup>b</sup>	2.1E-03	B
50-32-8	Benzo(a)pyrene <sup>b,c</sup>	<1.2E-06	E
205-99-2	Benzo(b)fluoranthene <sup>b,c</sup>	<1.8E-06	E
191-24-2	Benzo(g,h,i)perylene <sup>b,c</sup>	<1.2E-06	E
205-82-3	Benzo(k)fluoranthene <sup>b,c</sup>	<1.8E-06	E
106-97-8	Butane	2.1E+00	E
218-01-9	Chrysene <sup>b,c</sup>	<1.8E-06	E
53-70-3	Dibenzo(a,h)anthracene <sup>b,c</sup>	<1.2E-06	E
25321-22-6	Dichlorobenzene <sup>b</sup>	1.2E-03	E
74-84-0	Ethane	3.1E+00	E
206-44-0	Fluoranthene <sup>b,c</sup>	3.0E-06	E
86-73-7	Fluorene <sup>b,c</sup>	2.8E-06	E
50-00-0	Formaldehyde <sup>b</sup>	7.5E-02	B
110-54-3	Hexane <sup>b</sup>	1.8E+00	E
193-39-5	Indeno(1,2,3-cd)pyrene <sup>b,c</sup>	<1.8E-06	E
91-20-3	Naphthalene <sup>b</sup>	6.1E-04	E
109-66-0	Pentane	2.6E+00	E
85-01-8	Phenanthrene <sup>b,c</sup>	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 <sup>6</sup> scf)	Emission Factor Rating
74-98-6	Propane	1.6E+00	E
129-00-0	Pyrene <sup>b,c</sup>	5.0E-06	E
108-88-3	Toluene <sup>b</sup>	3.4E-03	C

<sup>a</sup> 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<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020. Emission Factors preceded with a less-than symbol are based on method detection limits.

<sup>b</sup> Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

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

<sup>d</sup> 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<sup>a</sup>

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

<sup>a</sup> 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 preceded by a less-than symbol are based on method detection limits. To convert from lb/10<sup>6</sup> scf to kg/10<sup>6</sup> m<sup>3</sup>, multiply by 16. To convert from lb/10<sup>6</sup> scf to lb/MMBtu, divide by 1,020.

<sup>b</sup> Hazardous Air Pollutant as defined by Section 112(b) of the Clean Air Act.

Table 1.3-1. CRITERIA POLLUTANT EMISSION FACTORS FOR FUEL OIL COMBUSTION<sup>a</sup>

Firing Configuration (SCC) <sup>a</sup>	SO <sub>2</sub> <sup>b</sup>		SO <sub>3</sub> <sup>c</sup>		NO <sub>x</sub> <sup>d</sup>		CO <sup>e</sup>		Filterable PM <sup>f</sup>	
	Emission Factor (lb/10 <sup>3</sup> gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 <sup>3</sup> gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 <sup>3</sup> gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 <sup>3</sup> gal)	EMISSION FACTOR RATING	Emission Factor (lb/10 <sup>3</sup> gal)	EMISSION FACTOR RATING
Boilers > 100 Million Btu/hr										
No. 6 oil fired, normal firing, (1-01-004-01), (1-02-004-01), (1-03-004-01)	157S	A	5.7S	C	47	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, normal firing, low NO <sub>x</sub> burner (1-01-004-01), (1-02-004-01)	157S	A	5.7S	C	40	B	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, (1-01-004-04)	157S	A	5.7S	C	32	A	5	A	9.19(S)+3.22	A
No. 6 oil fired, tangential firing, low NO <sub>x</sub> burner (1-01-004-04)	157S	A	5.7S	C	26	E	5	A	9.19(S)+3.22	A
No. 5 oil fired, normal firing (1-01-004-05), (1-02-004-04)	157S	A	5.7S	C	47	B	5	A	10	B
No. 5 oil fired, tangential firing (1-01-004-06)	157S	A	5.7S	C	32	B	5	A	10	B
No. 4 oil fired, normal firing (1-01-005-04), (1-02-005-04)	150S	A	5.7S	C	47	B	5	A	7	B
No. 4 oil fired, tangential firing (1-01-005-05)	150S	A	5.7S	C	32	B	5	A	7	B
No. 2 oil fired (1-01-005-01), (1-02-005-01), (1-03-005-01)	<del>157S</del> <b>142S</b>	A	<del>5.7S</del>	C	<del>24</del>	D	<del>5</del>	A	<del>2</del>	A
No. 2 oil fired, LNB/FGR (1-01-005-01), (1-02-005-01), (1-03-005-01)	157S	A	5.7S	A	10	D	5	A	2	A



# U.S. Environmental Protection Agency

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Emission  
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Information

## AP-42 Section 1.3 - Fuel Oil Combustion Errata

Conferences

Updated 4/28/00

Publications

Emission  
Inventory  
Improvement  
Program

1. In table 1.3-1, for boilers > 100 million BTU/hr, the SO<sub>2</sub> emission factor for both no. 2 oil fired and for no. 2 oil fired with LNB/FGR, is 142S, not 157S. ←
2. In table 1.3-1, for boilers < 100 million BTU/hr, the filterable PM emission factor for no. 6 oil fired is 9.19(S)+3.22, not 10. The factor for no. 5 oil fired is 10, not 9.19(S)+3.22. These two factors were reversed.
3. In table 1.3-8, the correct N<sub>2</sub>O factor is 0.53 lb/1000 gal for No 6 oil and 0.26 lb/1000 gal for distillate oil.

AirDATA

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Last updated on Monday, July 1st, 2002

URL: <http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s03erra.html>

Table 1.3-3. EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION<sup>a</sup>

EMISSION FACTOR RATING: A

Firing Configuration (SCC)	TOC <sup>b</sup> Emission Factor (lb/10 <sup>3</sup> gal)	Methane <sup>b</sup> Emission Factor (lb/10 <sup>3</sup> gal)	NMTOC <sup>b</sup> Emission Factor (lb/10 <sup>3</sup> gal)
<b>Utility boilers</b>			
No. 6 oil fired, normal firing (1-01-004-01)	1.04	0.28	0.76
No. 6 oil fired, tangential firing (1-01-004-04)	1.04	0.28	0.76
No. 5 oil fired, normal firing (1-01-004-05)	1.04	0.28	0.76
No. 5 oil fired, tangential firing (1-01-004-06)	1.04	0.28	0.76
No. 4 oil fired, normal firing (1-01-005-04)	1.04	0.28	0.76
No. 4 oil fired, tangential firing (1-01-005-05)	1.04	0.28	0.76
<b>Industrial boilers</b>			
No. 6 oil fired (1-02-004-01/02/03)	1.28	1.00	0.28
No. 5 oil fired (1-02-004-04)	1.28	1.00	0.28
Distillate oil fired (1-02-005-01/02/03)	0.252	0.052	0.2
No. 4 oil fired (1-02-005-04)	0.252	0.052	0.2
<b>Commercial/institutional/residential combustors</b>			
No. 6 oil fired (1-03-004-01/02/03)	1.605	0.475	1.13
No. 5 oil fired (1-03-004-04)	1.605	0.475	1.13
Distillate oil fired (1-03-005-01/02/03)	0.556	0.216	0.34
No. 4 oil fired (1-03-005-04)	0.556	0.216	0.34
Residential furnace (A2104004/A2104011)	2.493	1.78	0.713

<sup>a</sup> To convert from lb/10<sup>3</sup> gal to kg/10<sup>3</sup> L, multiply by 0.12. SCC = Source Classification Code.

<sup>b</sup> References 29-32. Volatile organic compound emissions can increase by several orders of magnitude if the boiler is improperly operated or is not well maintained.

# Section 8

## Map(s)

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**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 map showing the location of each source is included in Section 2.0 of this application.

# Section 9 – Not Applicable to Title V

## 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”)

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**X 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.
- 

Not applicable to Title V.

# Section 10

## Written Description of the Routine Operations of the Facility

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**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.

---

Routine operations for each source type are described in Section 2.0 of this application. There are no modifications and/or revisions being requested since this is not a New Source Review application. LANL is a research and development facility so the concept of process bottlenecks and limiting production is not applicable.

# Section 11

## Source Determination

Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

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, 20.2.73, 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):

### 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, 20.2.73, 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, 20.2.73, 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, 20.2.73, 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):



# Section 12 Not Applicable to Title V

## Section 12.A

### PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

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**A PSD applicability determination for all sources.** For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and 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 PSD source before and after this modification (if so, delete C and D below).
- a major PSD 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”, or other associated emissions resulting in higher emissions. The project emissions (before netting) for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]:

- a. NO<sub>x</sub>: **XX.X** TPY
- b. CO: **XX.X** TPY
- c. VOC: **XX.X** TPY
- d. SO<sub>x</sub>: **XX.X** TPY
- e. TSP (PM): **XX.X** TPY
- f. PM<sub>10</sub>: **XX.X** TPY
- g. PM<sub>2.5</sub>: **XX.X** TPY
- h. Fluorides: **XX.X** TPY
- i. Lead: **XX.X** TPY
- j. Sulfur compounds (listed in Table 2): **XX.X** TPY
- k. GHG: **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 are 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

## Determination of State & Federal Air Quality Regulations

**This section lists each state and federal air quality regulation that may apply to your facility and/or equipment that are stationary sources of regulated air pollutants.**

Not all state and federal air quality regulations are included in this list. Go to the Code of Federal Regulations (CFR) or to the Air Quality Bureau's regulation page to see the full set of air quality regulations.

### **Required Information for Specific Equipment:**

For regulations that apply to specific source types, in the 'Justification' column **provide any information needed to determine if the regulation does or does not apply. For example**, to determine if emissions standards at 40 CFR 60, Subpart IIII apply to your three identical stationary engines, we need to know the construction date as defined in that regulation; the manufacturer date; the date of reconstruction or modification, if any; if they are or are not fire pump engines; if they are or are not emergency engines as defined in that regulation; their site ratings; and the cylinder displacement.

### **Required Information for Regulations that Apply to the Entire Facility:**

See instructions in the 'Justification' column for the information that is needed to determine if an 'Entire Facility' type of regulation applies (e.g. 20.2.70 or 20.2.73 NMAC).

### **Regulatory Citations for Regulations That Do Not, but Could Apply:**

If there is a state or federal air quality regulation that does not apply, but you have a piece of equipment in a source category for which a regulation has been promulgated, you must **provide the low level regulatory citation showing why your piece of equipment is not subject to or exempt from the regulation. For example** if you have a stationary internal combustion engine that is not subject to 40 CFR 63, Subpart ZZZZ because it is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, your citation would be 40 CFR 63.6590(b)(3)(i). **We don't want a discussion of every non-applicable regulation, but if it is possible a regulation could apply, explain why it does not. For example**, if your facility is a power plant, you do not need to include a citation to show that 40 CFR 60, Subpart OOO does not apply to your non-existent rock crusher.

### **Regulatory Citations for Emission Standards:**

**For each unit that is subject to an emission standard in a source specific regulation, such as 40 CFR 60, Subpart OOO or 40 CFR 63, Subpart HH, include the low level regulatory citation of that emission standard.** Emission standards can be numerical emission limits, work practice standards, or other requirements such as maintenance. **Here are examples:** a glycol dehydrator is subject to the general standards at 63.764C(1)(i) through (iii); an engine is subject to 63.6601, Tables 2a and 2b; a crusher is subject to 60.672(b), Table 3 and all transfer points are subject to 60.672(e)(1)

### **Federally Enforceable Conditions:**

All federal regulations are federally enforceable. All Air Quality Bureau State regulations are federally enforceable except for the following: affirmative defense portions at 20.2.7.6.B, 20.2.7.110(B)(15), 20.2.7.11 through 20.2.7.113, 20.2.7.115, and 20.2.7.116; 20.2.37; 20.2.42; 20.2.43; 20.2.62; 20.2.63; 20.2.86; 20.2.89; and 20.2.90 NMAC. Federally enforceable means that EPA can enforce the regulation as well as the Air Quality Bureau and federally enforceable regulations can count toward determining a facility's potential to emit (PTE) for the Title V, PSD, and nonattainment permit regulations.

INCLUDE ANY OTHER INFORMATION NEEDED TO COMPLETE AN APPLICABILITY DETERMINATION OR THAT IS RELEVANT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

EPA Applicability Determination Index for 40 CFR 60, 61, 63, etc: <http://cfpub.epa.gov/adi/>

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

### **Example of a Table for STATE REGULATIONS:**

<u>STATE REGU- LATIONS CITATION</u>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:  (You may delete instructions or statements that do not apply in the justification column to shorten the document.)</b>
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	Facility	20.2.3 NMAC is a SIP approved regulation that specifies the maximum allowable concentration of Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide in the ambient air. Title V applications are exempt from the rule (see exemption at 20.2.3.9 NMAC).
20.2.7 NMAC	Excess Emissions	Yes	Facility	This rule defines compliance requirements with respect to excess emissions above emission limits in regulations and NSR and Title V permit conditions.
20.2.11 NMAC	Asphalt Process Equipment	Yes	TA-60-BDM	The rule is applicable to asphalt process equipment, which includes the LANL asphalt plant. It establishes an emission limit for particulate matter emissions.
20.2.33 NMAC	Gas Burning Equipment - Nitrogen Dioxide	Yes	TA-3-22-1; TA-3-22-2; TA-3-22-3	This facility has gas burning equipment having a maximum heat input of greater than 1,000,000 million British Thermal Units per year. These are the three boilers at the LANL Power Plant. The boilers were installed in the 1950s and thus are defined as existing equipment under the rule and subject to the nitrogen dioxide emission limit.
20.2.34 NMAC	Oil Burning Equipment – Nitrogen Dioxide	Yes	TA-3-22-1; TA-3-22-2; TA-3-22-3;	This facility has oil burning equipment having a maximum heat input of greater than 1,000,000 million British Thermal Units per year per unit subject to the nitrogen dioxide emission limit. These are the three boilers at the LANL Power Plant.
20.2.60 NMAC	Open Burning	Yes	Facility	The regulation applies to the open burning of different materials including vegetative. Open burning conducted under this regulation is not considered a stationary source for any other New Mexico air regulation (Section 108 of the rule.) Under Section 113 - Open Burning of Hazardous Waste of the rule, the LANL TA-16 Burn Ground conducts explosive waste burning in compliance with hazardous waste regulations and is not a source subject to air permitting. LANL has not conducted any other open burning regulated under the rule during the current five-year term of Permit P100-R2-M3.
20.2.61 NMAC	Smoke & Visible Emissions	Yes	All combustion equipment except TA-60-BDM.	The rule applies to all stationary combustion equipment in Permit P100-R2-M3 and establishes among other requirements an opacity standard of 20%. It does not apply to combustion equipment if an applicable regulation specifies a limit for particulate matter.
20.2.65 NMAC	Smoke Management	Yes	Facility	This regulation would apply if LANL conducted prescribed burning. To date, no prescribed burning has taken place since the rule was adopted.
20.2.70 NMAC	Operating Permits	Yes	Facility	LANL is a major source as defined by the rule for NO <sub>2</sub> , CO, VOC, SO <sub>2</sub> , TSP, PM <sub>10</sub> , PM <sub>2.5</sub> , and greenhouse gas emissions and required to obtain a Title V operating permit. For each pollutant, this is based on potential to emit as opposed to actual emissions.
20.2.71 NMAC	Operating Permit Fees	Yes	Facility	All Title V facilities are subject to the rule and an annual fee payment based on allowable emission rates.
20.2.72 NMAC	Construction Permits	Yes	Facility	When the applicability requirements of the rule are triggered for new or modified sources, a construction or NSR permit must be obtained. To date, LANL has received the following NSR permits for operations still current: 632, 634-M2, 1081-M1-R6, 2195B-M3, 2195F-R4, GCP-3-2195G, 2195H, 2195N-R2, and 2195P-R2. Several of these permits have been modified or revised several times with corresponding numbering changed appropriately.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	An NOI could be required if triggered for new or modified sources. LANL is required to submit an annual emission inventory report.
20.2.74 NMAC	Permits – PSD	No	Facility	This rule does not apply. LANL does not have emissions or potential to emit above applicability thresholds because it has enforceable facility-wide emission limits in Permit P100-R2-M3 to be a synthetic minor source for PSD permit purposes.

<a href="#"><u>STATE REGULATIONS CITATION</u></a>	<b>Title</b>	<b>Applies? Enter Yes or No</b>	<b>Unit(s) or Facility</b>	<b>JUSTIFICATION:</b> <b>(You may delete instructions or statements that do not apply in the justification column to shorten the document.)</b>
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	Construction permit fees have been required for each NSR permit issued under 20.2.72 NMAC.
20.2.77 NMAC	New Source Performance Standards	Yes	TA-55-6-BHW-1; TA-55-6-BHW-2; RLUOB-BHW-1 through RLUOB-BHW-4; TA-60-BDM; TA-3-22-CT-1; RLUOB-GEN-1, 2, and 3; TA-48-GEN-1; TA-50-GEN-184; TA-55-GEN-1, 2, and 3; TA-55-GEN-474; TA-55-GEN-475; TA-63-GEN-TRU	The units listed are subject to federal New Source Performance Standards at 40 CFR Part 60 adopted by reference in this state regulation. See the discussion below under Federal Regulations for specific information.
20.2.78 NMAC	Emission Standards for Hazardous Air Pollutants	Yes	Facility	The facility is subject to federal National Emission Standards for Hazardous Air Pollutants at 40 CFR Part 61 adopted by reference in this state regulation. See the discussion below under Federal Regulations for specific information.
20.2.82 NMAC	Maximum Achievable Control Technology Standards for Source Categories of Hazardous Air Pollutants	Yes	TA-55-DG-1	The units listed are subject to federal Maximum Achievable Control Technology Standards at 40 CFR Part 63 adopted by reference in this state regulation. See the discussion below under Federal Regulations for specific information.

40 CFR Part 50	National Primary and Secondary Ambient Air Quality Standards	Yes	Facility	NAAQS are applicable requirements for Title V operating permits as specified in 20.2.70 NMAC.
40 CFR Part 60, Subpart A	General Provisions	Yes	TA-55-6-BHW-1; TA-55-6-BHW-2; RLUOB-BHW-1 through RLUOB-BHW-4; TA-60-BDM; TA-3-22-CT-1; RLUOB-GEN-1, 2, and 3; TA-48-GEN-1; TA-50-GEN-184; TA-55-GEN-1, 2, and 3; TA-55-GEN-474; TA-55-GEN-475; TA-63-GEN-TRU	The NSPS General Provisions may apply to any unit which is subject to an NSPS.
40 CFR Part 60, Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	No		This NSPS applies to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)). The three boilers at LANL which have a heat input capacity greater than 100 MMBtu/hr were installed in the early 1950's. These are the LANL Power Plant boilers.
40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Yes	TA-55-6-BHW-1; TA-55-6-BHW-2; RLUOB-BHW-1 through RLUOB-BHW-4	This NSPS subpart applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h). Boilers TA-55-6-BHW-1 and -2 have a maximum design heat capacity of 14.6 MMBtu/hr. Boilers RLUOB-BHW-1 through -4 each have a maximum design heat input capacity of 11.0 MMBtu/hr. Each of these units was constructed after June 1989 and are regulated under this subpart. There are no other boilers at LANL greater than 10 MMBtu/hr heat input capacity other than the Power Plant boilers which were constructed in the 1950's.
40 CFR Part 60, Subpart I	Standards of Performance for Hot Mix Asphalt Facilities	Yes	TA-60-BDM	This NSPS is applicable to any hot mix asphalt plant constructed after June 11, 1973. The rule is applicable to the LANL asphalt plant.

40 CFR Part 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	No		The NSPS subpart applies to storage vessels with a capacity greater than or equal to 75 cubic meters (m <sup>3</sup> ) which are used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. The subpart does not apply to storage vessels with a capacity greater than or equal to 151 m <sup>3</sup> storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m <sup>3</sup> but less than 151 m <sup>3</sup> storing a liquid with a maximum true vapor pressure less than 15.0 kPa. One storage tank at the LANL Power Plant is larger than 75 m <sup>3</sup> but stores No.2 fuel oil which has a vapor pressure less than 0.2 kPa.
40 CFR Part 60, Subpart GG	Standards of Performance for Stationary Gas Turbines	Yes	TA-3-22-CT-1	The subpart applies to stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired which commence construction, modification, or reconstruction after October 3, 1977. This unit has a heat input at peak load of approximately 290 MMBtu/hr and was constructed after 1977. This simple cycle combustion turbine is located at the LANL Power Plant.
NSPS 40 CFR 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Yes	RLUOB-GEN-1, 2, and 3; TA-48-GEN-1; TA-50-GEN-184; TA-55-GEN-1, 2, and 3; TA-55-GEN-474; TA-55-GEN-475; TA-63-GEN-TRU	The provisions of this subpart apply to stationary diesel engines of any size manufactured or constructed after specified dates depending on different variables. For engine owners, the rule applies to any stationary diesel engine for which construction is commenced after July 11, 2005 and the engine was manufactured after April 1, 2006. The diesel engines in the three RLUOB generators noted were manufactured in September 2006 and installed in September 2009. Besides the RLUOB generators listed, the other generators listed fall under this NSPS due to either the manufacturer date or the installation date. All other diesel stationary engines at LANL pre-date this NSPS subpart.
NESHAP 40 CFR 61 Subpart A	General Provisions	Yes	TA-3-141; TA-35-213; TA-55-PF4; TA-3-66	This subpart applies to the owner or operator of any stationary source for which a standard is prescribed under this part.
NESHAP 40 CFR Part 61, Subpart C	National Emission Standard for Beryllium	Yes	TA-3-141; TA-35-213; TA-55-PF4; TA-3-66	The beryllium NESHAP applies only to specified activities using beryllium. The four regulated LANL sites use beryllium in activities defined by the NESHAP as either a foundry or machine shop. These terms have been interpreted broadly to encompass LANL activities.
NESHAP 40 CFR Part 61, Subpart H	National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities	Yes	Facility	The radionuclide NESHAP is applicable to operations at any facility owned or operated by the Department of Energy that emits any radionuclide other than radon-222 and radon-220 into the air. This rule is the primary air quality regulation for radionuclides at LANL. Although this is a Title V applicable requirement, NMED has not adopted the regulation. The primary regulatory authority for the rule remains EPA Region VI.
NESHAP 40 CFR Part 61, Subpart M	National Emission Standard for Asbestos	Yes	Facility	The asbestos NESHAP is applicable to specified activities which involve asbestos. The rule is applicable facility-wide at LANL where demolitions or renovations occur.
NESHAP 40 CFR Part 61, Subpart Q	Emission Standards for Radon Emissions From Department of Energy Facilities	Yes	Facility	The provisions of this subpart apply to the design and operation of all storage and disposal facilities for radium-containing material (i.e., by product material as defined under section 11.e(2) of the Atomic Energy Act of 1954 (as amended)) that are owned or operated by the Department of Energy that emit radon-222 into air. Although this is a Title V applicable requirement, NMED has not adopted the regulation. The primary regulatory authority for the rule remains EPA Region VI.
MACT 40 CFR Part 63, Subpart A	General Provisions	Yes	Facility	The NESHAP for source categories General Provisions may apply to any unit which is subject to a MACT standard. Each Subpart specifies which sections of the general provisions are applicable.

MACT 40 CFR Part 63, Subpart T	National Emission Standards for Halogenated Solvent Cleaning	Yes	TA-55-DG-1	This subpart applies to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform, or any combination of these halogenated HAP solvents. LANL operates one cold solvent degreaser which uses trichloroethylene and is subject to the rule.
MACT 40 CFR Part 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	Yes	Facility	The RICE NESHAP applies to all existing and new stationary diesel engines. Existing engines are defined as those constructed prior to June 12, 2006. The rule has differing requirements according to engine size as well as whether the engine is located at a major HAP source or area HAP source. LANL is a minor or area HAP source. By letter dated October 11, 2012, EPA Region VI determined this rule only applies at LANL to one existing engine within generator TA-33-G-1. This generator has been permanently shut down and is no longer on-site. All other stationary diesel engines at LANL are for emergency use only and fall under the exemption for emergency use engines at institutional facilities. Although the rule also applies to new engines, a new engine is only required by the RICE NESHAP to meet the applicable engine NSPS and no other NESHAP requirements.
40 CFR Part 64	Compliance Assurance Monitoring	No		The CAM rule is applicable to emission units at a Title V facility which are 1) subject to an emission limit or standard for a regulated pollutant, 2) use a control device to achieve compliance with any such emission limit or standard, and 3) have potential pre-control device emissions of the regulated pollutant equal to or greater than 100 tons per year. For units with a potential to emit after controls of less than 100 tons year, CAM requirements are required to be addressed in five-year Title V renewal applications. There are no LANL emission units subject to the rule.
40 CFR Part 68	Chemical Accident Prevention Provisions	No		Part 68 implements the risk management planning requirements of Section 112 (r) of the Clean Air Act. It requires risk management planning if the quantity of a regulated toxic or flammable substance stored or used in a process exceeds threshold quantities specified by the rule. There are no LANL processes to which the Part 68 is applicable. New LANL processes are reviewed for Part 68 applicability to ensure the rule is not triggered.
40 CFR Part 82, Subpart B	Servicing of Motor Vehicle Air Conditioners	Yes	Facility	LANL maintains motor vehicle air conditioners and is subject to the rule.
40 CFR Part 82, Subpart F	Recycling and Emission Reduction	Yes	Facility	LANL maintains equipment with regulated refrigerants and is subject to the rule.
40 CFR Part 82, Subpart H	Halon Emissions Reduction	Yes	Facility	LANL maintains equipment with regulated halons and is subject to the rule.
40 CFR Part 82, Subpart I	Ban on Refrigeration and Air-Conditioning Appliances Containing HCFCs	Yes	Facility	LANL is subject to the prohibitions on sale or distribution of HCFC containing equipment as specified in the rule.

# Section 14

## Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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√ **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.

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# Section 15

## Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

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**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.

**Construction Scenarios:** When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: [https://www.env.nm.gov/aqb/permit/aqb\\_pol.html](https://www.env.nm.gov/aqb/permit/aqb_pol.html). Compliance with standards must be maintained during construction, which should not usually be a problem unless simultaneous operation of old and new equipment is requested.

In this section, under the bolded title “Construction Scenarios”, specify any information necessary to write these conditions, such as: conservative-realistic estimated time for completion of construction of the various units, whether simultaneous operation of old and new units is being requested (and, if so, modeled), whether the old units will be removed or decommissioned, any PSD ramifications, any temporary limits requested during phased construction, whether any increase in emissions is being requested as SSM emissions or will instead be handled as a separate Construction Scenario (with corresponding emission limits and conditions, etc).

---

There are no alternative operating scenarios currently in Permit P100-R2M3 or proposed by this application.

# Section 16

## Air Dispersion Modeling

- 1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau’s Dispersion Modeling Guidelines found on the Planning Section’s modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
- 2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) 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.env.nm.gov/aqb/permit/app\\_form.html](http://www.env.nm.gov/aqb/permit/app_form.html)) for more detailed instructions on SSM emissions modeling requirements.
- 3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

What is the purpose of this application?	Enter an X for each purpose that applies
New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above.	
New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. <b>Note:</b> Neither modeling nor a modeling waiver is required for VOC emissions.	
Reporting existing pollutants that were not previously reported.	
Reporting existing pollutants where the ambient impact is being addressed for the first time.	
Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above.	
Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC)	
Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements.	
Other: i.e. SSM modeling. See #2 above.	
This application does not require modeling since this is a No Permit Required (NPR) application.	
This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC).	
This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau’s Modeling Guidelines.	

**Check each box that applies:**

- See attached, approved modeling **waiver for all** pollutants from the facility.
- See attached, approved modeling **waiver for some** pollutants from the facility.
- Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.
- Attached in UA4 is a **modeling report for some** pollutants from the facility.
- No modeling is required.

Facility-wide dispersion modeling, which included all LANL sources and neighboring non-LANL sources, was last submitted in support of NSR Permit 2195B-M3 for the LANL Power Plant. The permit was issued on July 27, 2018.

# 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.

To save paper and to standardize the application format, delete this sentence and the samples in the Compliance Test History Table, and begin your submittal for this attachment on this page.

### Compliance Test History Table

Unit No.	Test Description	Test Date
TA-3-22-1,-2,-3	Startup compliance test for NO <sub>x</sub> and CO as required by NSR Permit No. 2195B.	9/25/2002 – 9/27/2002
TA-3-22-CT-1	Startup compliance test for NO <sub>x</sub> and CO as required by NSR Permit No. 2195B.	10/5/2007
TA-3-22-CT-1	Annual compliance test for NO <sub>x</sub> and CO with portable analyzer as required by NSR Permit No. 2195B.	10/23/2009
TA-3-22-CT-1	Annual compliance test for NO <sub>x</sub> and CO with portable analyzer as required by NSR Permit No. 2195B.	6/17/2010
TA-3-22-CT-1	Annual compliance test for NO <sub>x</sub> and CO with portable analyzer as required by NSR Permit No. 2195B.	1/19/2011
TA-3-22-CT-1	Annual compliance test for NO <sub>x</sub> and CO with portable analyzer as required by NSR Permit No. 2195B.	12/11/2012
TA-3-22-CT-1	CGTG annual compliance test for NO <sub>x</sub> and CO with portable analyzer as required by NSR Permit No. 2195B-M1-R2 and additional testing at 92% load.	1/10/2014
TA-3-22-CT-1	CGTG annual compliance test for NO <sub>x</sub> and CO with portable analyzer as required by NSR Permit No. 2195B-M1-R2 and additional testing at 90% load.	12/16/2014
RLUOB-BHW-1 through 3	Startup compliance test for NO <sub>x</sub> and CO as required by NSR Permit No. 2195N.	1/18-19/2012
TA-60-BDM	Startup compliance test for PM as required by GCP-3-2195G.	8/25-26/2005
TA-60-BDM	Compliance test for PM, NO <sub>x</sub> and CO to increase plant throughput.	5/18/2009
TA-33-G-4	Startup compliance test for NO <sub>x</sub> and CO as required by NSR Permit No. 2195P.	12/4/2007
TA-35-213	Startup compliance test for beryllium as required by NSR Permit No. 632.	9/9/1986
TA-3-141	Startup compliance test for beryllium as required by NSR Permit No. 634.	6/21/2001
TA-55-PF-4	Startup compliance test for beryllium as required by NSR Permit No. 1081.	2/17-18/1993
TA-55-PF-4	Startup compliance test for beryllium as required by NSR Permit No. 1081.	2/15/1994
TA-55-PF-4	Startup compliance test for beryllium as required by NSR Permit No. 1081.	9/26-27/2002

# 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.env.nm.gov/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.

---

There are no LANL sources 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.

---

This facility is in compliance with all applicable requirements. Attachment 2 includes a copy of the most recent Annual Compliance Certification report submitted to NMED as required under Permit P100-R2M3. This report is for the period of January through December 2018. The report lists each applicable requirement and describes all monitoring, recordkeeping, reporting and test methods used to demonstrate compliance.

### **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.

---

This facility will continue to be in compliance with requirements for which it is in compliance at the time of this permit application, and will in a timely manner, meet additional applicable requirements that become effective during the permit term.

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#### 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 proposed schedule for submission of the Annual Compliance Certification Report is the schedule currently in Section A109 of Permit P100-R2M3. The schedule requires submittal of the report within 30 days of the end of the 12-month reporting period which starts on January 1<sup>st</sup> each year.

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#### 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  
(If the answer is yes, describe the type of equipment and how many units are at the facility.)

There are approximately 273 refrigeration units in active inventory at this facility containing a charge of 50 pounds or more of refrigerant. There are various duty types of units such as chillers and heating and air conditioning units. Nearly 74% of the units are used for comfort cooling purposes. The remaining percentage consists of units that are tied to different processes. An example of this would be chillers that cool computer rooms.

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.) 40 CFR Part 82, Subparts B, F, H and I

---

This facility is in compliance with all Title VI, Section 608 and Section 609 requirements.

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#### 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.env.nm.gov/aqb/index.html>. Sources that are subject to both the Title V and Acid Rain regulations are **encouraged** to submit both applications **simultaneously**.

---

A compliance plan and schedule is not required for this facility.

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**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.

---

This facility is not subject to the Section 112 (r) requirements.

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**19.8 - Distance to Other States, Bernalillo, Indian Tribes and Pueblos**

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)?

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

---

This facility is within 80 km of the following Indian tribes and pueblos and a local pollution control program as follows with distances indicated in km:

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 - Albuquerque Air Quality Division (56).

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### **19.9 - Responsible Official**

Provide the Responsible Official as defined in 20.2.70.7.AD NMAC: William S. Goodrum.

# Section 20

## Other Relevant Information

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**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.

---

All relevant information is included elsewhere in this application and appendixes.



# Section 22: Certification

Company Name: United States Department of Energy, National Nuclear Security Administration

I, Mark Miera, 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 25<sup>th</sup> day of February, 2019, upon my oath or affirmation, before a notary of the State of New Mexico.

Mark K Miera  
\*Signature

2/25/19  
Date

Mark Miera  
Printed Name

Los Alamos Field Office, DOE  
Title

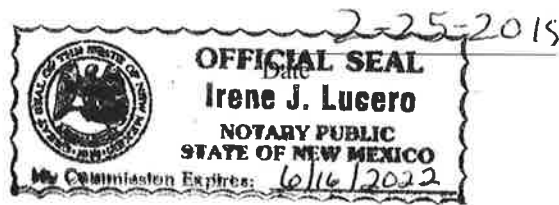
Scribed and sworn before me on this 25<sup>th</sup> day of February, 2019.

My authorization as a notary of the State of New Mexico expires on the

25<sup>th</sup> day of February.

Irene J Lucero  
Notary's Signature

Irene J, Lucero  
Notary's Printed Name



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

**Appendix B**  
**2018 Annual Compliance Certification**



**New Mexico Environment Department  
Air Quality Bureau  
Compliance and Enforcement Section  
525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505  
Phone (505) 476-4300**



Version 07.20.18

NMED USE ONLY	
TEMPO	

## REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION									
A. ® Company Name: Department of Energy, National Nuclear Security Administration					D. ® Facility Name: Los Alamos National Laboratory				
B.1 ® Company Address: 3747 West Jemez Road					E.1 ® Facility Address: P.O. Box 1663 MS J978				
B.2 ® City: Los Alamos		B.3 ® State: NM	B.4 ® Zip: 8 7 5 4 4			E.2 ® City: Los Alamos		E.3 ® State: NM	E.4 ® Zip: 87545
C.1 ® Company Environmental Contact: Adrienne L. Nash		C.2 ® Title: Program Manager			F.1 ® Facility Contact: Marjorie B. Stockton		F.2 ® Title: Acting Air Quality Compliance Team Leader		
C.3 ® Phone Number: (505) 665-5026		C.4 ® Fax Number: (505) 667-9998			F.3 ® Phone Number: (505) 665-3289		F.4 ® Fax Number: NA		
C.5 ® Email Address: adrienne.nash@nnsa.doe.gov					F.5 ® Email Address: mstockton@lanl.gov				
G. Responsible Official: (Title V only): William S. Goodrum			H. Title: Manager		I. Phone Number: (505) 667-5105		J. Fax Number: NA		
K. ® AI Number: 856		L. Title V Permit Number: P100-R2M3 (See Section II.A.)		M. Title V Permit Issue Date: October 17, 2018		N. NSR Permit Number: 2195		O. NSR Permit Issue Date: Various	
P. Reporting Period: From: January 1, 2018 To: December 31, 2018									

Do NOT submit NSPS OOOO or OOOOa well completion or flowback notifications to the Air Quality Bureau. See <https://www.env.nm.gov/air-quality/notices-and-faqs-for-compliance-and-enforcement/> for explanation.

SECTION II - TYPE OF SUBMITTAL (check one that applies)				
A. <input checked="" type="checkbox"/>	Title V Annual Compliance Certification	Permit Condition(s): All	Description: LANL Title V Annual Compliance Certification Operating Permits: P100-R2M1, P100-R2M2, P100-R2M3 Issue Dates: February 3, 2017, May 7, 2018, October 17, 2018 Reporting Period: January 1 - December 31, 2018	
B. <input type="checkbox"/>	Title V Semi-Annual Monitoring Report	Permit Condition(s):	Description:	
C. <input type="checkbox"/>	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. <input type="checkbox"/>	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. <input type="checkbox"/>	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. <input type="checkbox"/>	Permit or Notice of Intent (NOI) Requirement	Permit No. <input type="checkbox"/> : or NOI No. <input type="checkbox"/> :	Condition(s):	Description:
G. <input type="checkbox"/>	Requirement of an Enforcement Action	NOV No. <input type="checkbox"/> : or SFO No. <input type="checkbox"/> : or CD No. <input type="checkbox"/> : or Other <input type="checkbox"/> :	Section(s):	Description:

SECTION III - CERTIFICATION			
After reasonable inquiry I <u>William S. Goodrum</u> certify that the information in this submittal is true, accurate and complete. (Name of Certifier)			
® Signature of Certifier: 	® Title: Manager	® Date: 1-29-19	® Responsible Official for Title V? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Reviewed By: \_\_\_\_\_

Date Reviewed: \_\_\_\_\_



COPY



RECEIVED

JAN 30 2019

Air Quality Bureau

*Environmental Protection & Compliance Division  
Environmental Compliance Programs (EPC-CP)*  
PO Box 1663, K490  
Los Alamos, New Mexico 87545  
(505) 667-0666

*National Nuclear Security Administration  
Los Alamos Field Office*  
3747 West Jemez Road, A316  
Los Alamos, New Mexico, 87544  
(505) 665-7314/Fax (505) 667-5948

*Symbol:* ESHQSS: 19-002

*LA-UR:* 19-20303

*Locates Action No.:* N/A

*Date:*

**JAN 30 2019**

Ms. Elizabeth Bisbey-Kuehn  
Air Quality Bureau Chief  
New Mexico Environment Department, Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505-1816

**Subject: Los Alamos National Laboratory Title V Annual Compliance Certification (AI 856) for Permits P100-R2M1 & P100-R2M2 & P100 R2M3 January 1 – December 31, 2018**

Dear Ms. Bisbey-Kuehn:

Enclosed is Los Alamos National Laboratory's Annual Compliance Certification report (ACC) for Operating permits P100-R2M1, P100-R2M2, and P100-R2M3 for the January 1 – December 31, 2018 reporting period.

Operating permit P100-R2M1 went through an administrative amendment which added Newport News Nuclear BWXT-Los Alamos, LLC (N3B) as an additional operator, along with Los Alamos National Security, LLC (LANS), and also changed the permittee to the Department of Energy- National Nuclear Security Administration (DOE-NNSA). P100-R2M2 was issued on May 7, 2018. Operating permit P100-R2M2 went through another administrative amendment which replaced LANS with Triad National Security, LLC as joint operator with N3B. P100-R2M3 was issued on October 17, 2018 and is the current permit number.

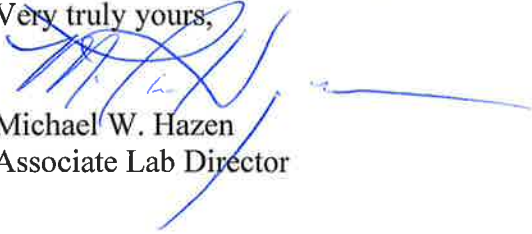
As stipulated on the coversheet of the ACC form provided by NMED, LANL has a onetime authorization to submit one ACC form certifying all three Title V Permits, while submitting three separate Title V Report Certification Forms. Therefore, this ACC is certifying operation conducted under P100-R2M1 from January 1 – May 6, 2018, P100-R2M2 from May 7 – October 16, 2018, and P100-R2M3 from October 17 – December 31, 2018.

This report is required by permit condition A109.C of Title V Operating Permit P100-R2M3, and is being submitted by January 30, 2018, as required by this condition. Additionally, this Annual Compliance Certification Report Form, is certified by LANL's "Responsible Official" as defined in 20.2.70 NMAC, and a copy is being provided to the U.S. EPA Region 6.

A deviation related to the control equipment for Bopiler 1 (Unit TA-3-22-1) at the TA-3 Power Plant occurred during this certification period. On December 29, 2018 from approximately 2:00am – 9:30am, Boiler 1 (Unit TA-3-22-1) operated without the FGR fan operating. Upon identification of the FGR fan malfunction, Boiler 1 was immediately taken off-line and shutdown. Maintenance personnel were called in for emergency repairs. Boiler 1 was operating at less than 25% load from 2:00 am – 9:30am. Emissions were calculated using emission factors from stack test results conducted prior to installation of the FGR fans. Due to the low load and low gas flow rate during the time period of the FGR fan malfunction this deviation did not result in excess emissions above the allowed lb/hr limits in the Title V permit.

If you have any questions or comments regarding this submittal or would like to discuss the submittal in greater detail, please contact Adrienne Nash at (505) 665-5026 or Marjorie Stockton at (505) 665-3289.

Very truly yours,

  
Michael W. Hazen  
Associate Lab Director

Very truly yours,

  
William S. Goodrum  
Manager, Los Alamos Field office

MWH/WSG/MBS/KRM;jdm

Attachment(s): Attachment 1 LANL Title V Semi-Annual Emissions Report for AI 856/P100-R2M1 and P100-R2M2, January 1-June 30, 2018

Copy: Erica Le Doux, USEPA/Region 6, [LeDoux.Erica@Epa.gov](mailto:LeDoux.Erica@Epa.gov), Dallas, TX  
Adrienne L. Nash, LASO-MA-LS, [adrienne.nash@nnsa.doe.gov](mailto:adrienne.nash@nnsa.doe.gov), (E-File)  
Silas DeRoma, LASO-OC, [silas.deroma@nnsa.doe.gov](mailto:silas.deroma@nnsa.doe.gov), (E-File)  
Douglas Hintze, EM-LA, [douglas.hintze@em.doe.gov](mailto:douglas.hintze@em.doe.gov), (E-File)  
Paul Benjamin Underwood, EM-LA, [ben.underwood@em.doe.gov](mailto:ben.underwood@em.doe.gov), (E-File)  
David Rhodes, EM-LA, [david.rhodes@em.doe.gov](mailto:david.rhodes@em.doe.gov), (E-File)  
Hai Shen, EM-LA, [hai.shen@em.doe.gov](mailto:hai.shen@em.doe.gov), (E-File)  
Richard M. Kacich, DIR, [kacich@lanl.gov](mailto:kacich@lanl.gov), (E-File)  
Kelly J. Beierschmitt, DDOPS, [beierschmitt@lanl.gov](mailto:beierschmitt@lanl.gov), (E-File)  
Timothy A. Dolan, GC-ESH, [tdolan@lanl.gov](mailto:tdolan@lanl.gov), (E-File)  
Enrique Torres, EPC-DO, [etorres@lanl.gov](mailto:etorres@lanl.gov), (E-File)  
Jennifer Payne, EPC-DO, [jpayne@lanl.gov](mailto:jpayne@lanl.gov), (E-File)  
Tania Van Valkenburg, EPC-CP, [tauniav@lanl.gov](mailto:tauniav@lanl.gov), (E-File)  
Marjorie B. Stockton, EPC-CP, [mstockton@lanl.gov](mailto:mstockton@lanl.gov), (E-File)  
Katelyn Mahoney, EPC-CP, [kmahoney@lanl.gov](mailto:kmahoney@lanl.gov), (E-File)  
Frazer Lockhart, N3B, (E-File)  
Christian Maupin, N3B, (E-File)  
Elizabeth Lowes, N3B, (E-File)  
Dana Lindsay, N3B, (E-File)  
EPC-CP Title V Permit File  
EPC-CP Title V Annual Compliance Certification File  
EPC-CP Correspondence File  
[lasomailbox@nnsa.doe.gov](mailto:lasomailbox@nnsa.doe.gov), (E-File)  
[locatsteam@lanl.gov](mailto:locatsteam@lanl.gov), (E-File)  
[aldeshqssc Correspondence@lanl.gov](mailto:aldeshqssc Correspondence@lanl.gov), (E-File)  
[epc-correspondence@lanl.gov](mailto:epc-correspondence@lanl.gov)( E-File)

# ATTACHMENT 1

Los Alamos National Laboratory  
Title V Annual Compliance Certification (AI 856)  
for Permits P100-R2M1 & P100-R2M2 & P100-R2M3  
January 1–December 31, 2018

ESHQSS: 19-002

LA-UR-19-20303

JAN 30 2019

Date: \_\_\_\_\_

# Title V Report Certification Form

## I. Report Type

Annual Compliance Certification

Semi-Annual Monitoring Report

Other Specify:

## II. Identifying Information

Facility Name: Los Alamos National Laboratory

Facility Address: P.O. Box 1663, MS J978

State: NM

Zip: 87545

Responsible Official (RO): William R. Mairson

Phone: (505) 667-4218

Fax: (505) 665-3811

RO Title: Associate Director

RO e-mail: wrmairson@lanl.gov

Permit No.: P100-R2M1

Date Permit Issued: 2/3/2017

Report Due Date (as required by the permit): 1/30/2019

Permit AI number: 856

Time period covered by this Report: From: 1/1/2018

To: 5/6/2018

## III. Certification of Truth, Accuracy, and Completeness

I am the Responsible Official indicated above. I, (William R. Mairson) certify that I meet the requirements of 20.2.70.7.AE NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.


Signature



Date: 10-4-18



# Title V Report Certification Form

I. Report Type			
<input checked="" type="checkbox"/> Annual Compliance Certification			
<input type="checkbox"/> Semi-Annual Monitoring Report			
<input type="checkbox"/> Other Specify:			
II. Identifying Information			
Facility Name: Los Alamos National Laboratory			
Facility Address: P.O. Box 1663, MS J978		State: NM	Zip: 87545
Responsible Official (RO): William S. Goodrum		Phone: (505) 667-5105	Fax:
RO Title: Manager, LASO		RO e-mail: <a href="mailto:steve.goodrum@nnsa.doe.gov">steve.goodrum@nnsa.doe.gov</a>	
Permit No.: P100-R2M2		Date Permit Issued: 5/7/2018	
Report Due Date (as required by the permit): 1/30/2019		Permit AI number: 856	
Time period covered by this Report: From: 5/7/2018		To: 10/16/2018	
III. Certification of Truth, Accuracy, and Completeness			
<p>I am the Responsible Official indicated above. I, <u>(William S. Goodrum)</u> certify that I meet the requirements of 20.2.70.7.AE NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.</p>			
Signature 		Date: <u>1-29-19</u>	

# Title V Report Certification Form

## I. Report Type

Annual Compliance Certification

Semi-Annual Monitoring Report

Other Specify:

## II. Identifying Information

Facility Name: Los Alamos National Laboratory

Facility Address: P.O. Box 1663, MS J978

State: NM

Zip: 87545

Responsible Official (RO): William S. Goodrum

Phone: (505) 667-5105

Fax:

RO Title: Manager, LASO

RO e-mail: [steve.goodrum@nmsa.doe.gov](mailto:steve.goodrum@nmsa.doe.gov)

Permit No.: P100-R2M3

Date Permit Issued: 10/17/2018

Report Due Date (as required by the permit): 1/30/2019

Permit AI number: 856

Time period covered by this Report: From: 10/17/2018

To: 12/31/2018

## III. Certification of Truth, Accuracy, and Completeness

I am the Responsible Official indicated above. I, (William S. Goodrum) certify that I meet the requirements of 20.2.70.7.AE NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.

Signature



Date:

1-29-19

# **Title V Annual Compliance Certification for Permits **P100-R2M1 & P100-R2M2 & P100-R2M3****

## **Title (TV) Permit Administration Amendment**

On **October 17, 2018** NMED AQB issued an Administrative Amendment to Operating Permit **P100-R2M2**.

The Administrative Amendment **P100-R2M3** corrected the following:

- **The Department revises the information on page 1 of the permit as follows:**

**Operator names are changed to**                      **Triad National Security, LLC**  
**PO Box 1663 MS K491**  
**Los Alamos, NM 87545**

**and**

**Newport News Nuclear BWXT-Los Alamos, LLC**  
**600 Sixth Street**  
**Los Alamos, NM 87544**

On **October 17, 2018** NMED AQB issued a letter that corrected the permit number for this Administrative Amendment from **P100-R2M2** to **P100-R2M3**.

For this Administrative Amendment (**P100-R2M3**), the facility can use one Annual Compliance Certification (ACC) Form which will cover all three TV Permits.

Although the facility is only required to submit one ACC Form, the facility shall submit **three (3)** separate TV Report Certification Forms. Each form shall list the corresponding TV Permit number, TV Permit Issue Date and Reporting Period under such TV Permit.

Please note that this is a one-time authorization. Submittal forms for future Administrative Revisions will be evaluated on a case by case basis.

This form can also be used for future submittals that cover only the **P100-R2M3** permit.

## Part 1 - Permit Requirements Certification Table

Annual Compliance Certification Data for Title V Permit No. <a href="#">P100-R2M1</a> & <a href="#">P100-R2M2</a> & <a href="#">P100-R2M3</a>				
1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>FACILITY SPECIFIC REQUIREMENTS</b></p> <p><b>A101 Permit Duration (expiration)</b></p> <p>A. The term of this permit is five (5) years. It will expire five years from the date of issuance. Application for renewal of this permit is due twelve (12) months prior to the date of expiration. (20.2.70.300.B.2 and 302.B NMAC)</p>	<p>Operating permit P100-R2 was issued on February 27, 2015, and will expire on February 27, 2020. The application for renewal is due February 27, 2019.</p> <p>Operating permit P100-R2 went through a minor modification and P100-R2M1 was issued on February 3, 2017.</p> <p>Operating permit P100-R2M1 went through an administrative amendment which added Newport News Nuclear BWXT-Los Alamos, LLC (N3B) as an additional operator, along with Los Alamos National Security, LLC (LANS), and also changed the permittee to DOE-NNSA. P100-R2M2 was issued on May 7, 2018.</p> <p>Operating permit P100-R2M2 went through another administrative amendment which replaced LANS with Triad National Security, LLC as joint operator with N3B. P100-R2M3 was issued on October 17, 2018 and is the current permit number.</p> <p>This Annual Compliance Certification report is certifying operation conducted under P100-R2M1 from January 1 - May 6, 2018, P100-R2M2 from May 7 - October 16, 2018, and P100-R2M3 from October 17 - December 31, 2018.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p><b>A101 Permit Duration (expiration)</b></p> <p>B. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate beyond the expiration date, provided that a timely renewal</p>	<p>The renewal operating permit P100-R2 was issued on February 27, 2015, and is valid until February 27, 2020. The application for renewal is due February 27, 2019. The current operating permit is P100-R2M3. This Annual Compliance Certification report is certifying operation conducted under P100-</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
application is submitted no later than twelve (12) months prior to the expiration date. (20.2.70.400.D NMAC)	R2M1 from January 1 - May 6, 2018, P100-R2M2 from May 7 - October 16, 2018, and P100-R2M3 from October 17 - December 31, 2018.			
<b>A102 Facility: Description</b>  B. This Laboratory is located at UTM Zone 13, UTMH 380.790 km, UTMV 3970.800 km, in and adjacent to Los Alamos, New Mexico in Los Alamos County.	The facility description and location provided in this permit condition are correct.	<input checked="" type="checkbox"/> <b>Continuous</b> <input type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>A103 Facility: Applicable Regulations</b>  A. The permittee shall comply with all applicable sections of the requirements listed in Table 103.A	See specific sections under each source category for compliance with applicable requirements.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>

**Table 103.A: Applicable Requirements**

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit Nos: 632, 634-M2, 1081-M1, 1081-M1-R1, 1081-M1-R3, 1081-M1-R5, 1081-M1-R6, 2195B-M2, 2195F-R4, GCP-3-2195G, 2195H, 2195N-R2 and 2195P-R2	X	As referenced in this permit.
20.2.7 NMAC Excess Emissions	X	Entire Facility
20.2.11 NMAC Asphalt Process Equipment	X	TA-60-BDM
20.2.33 NMAC Gas Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1, TA-3-22-2, TA3-22-3
20.2.34 NMAC Oil Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1, TA-3-22-2, TA3-22-3
20.2.60 NMAC Open Burning	X	Entire Facility

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
20.2.61 NMAC Smoke and Visible Emissions	X	All stationary combustion sources (except TA-60-BDM)		
20.2.65 NMAC Smoke Management	X	Entire Facility		
20.2.70 NMAC Operating Permits	X	Entire Facility		
20.2.71 NMAC Operating Permit Emission Fees	X	Entire Facility		
20.2.72 NMAC Construction Permits	X	As referenced in NSR Permit Nos. 632, 634-M2, 1081-M1, 1081-M1-R1, 1081-M1-R3, 1081-M1-R5, 1081-M1-R6, 2195B-M2, 2195F-R4, GCP-3-2195G, 2195H, 2195N, 2195N-R1, and 2195P-R2		
20.2.73 NMAC Notice of Intent and Emissions Inventory Requirements	X	Entire Facility		
20.2.77 NMAC New Source Performance Standards	X	Sources subject to 40 CFR 60		
20.2.78 NMAC NESHAPs	X	Sources subject to 40 CFR 61		
20.2.82 NMAC MACT Standards for Source Categories of HAPS	X	Sources subject to 40 CFR 63		
40 CFR 50 National Ambient Air Quality Standards	X	Entire Facility		
40 CFR 60, Subpart A, General Provisions	X	All sources subject to any NSPS Subpart		
40 CFR 60, Subpart Dc, NSPS for Small Industrial-Commercial-Institutional Steam Generating Units	X	TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1 through RLUOB-BHW-4		
40 CFR 60, Subpart I, NSPS for Hot Mix Asphalt Facilities	X	TA-60-BDM		
40 CFR 60, Subpart GG, NSPS for Stationary Gas Turbines	X	TA-3-22 CT-1		
40 CFR 60, Subpart IIII, NSPS for Stationary Compression Ignition Reciprocating Internal Combustion Engines	X	RLUOB-GEN-1 through RLUOB-GEN-3, TA-48-GEN-1, TA-55-GEN-1, TA-55-GEN-2 and TA-55-GEN-3		
40 CFR 61, Subpart A, General Provisions	X	All sources subject to any NESHAPs Subpart		
40 CFR 61, Subpart C, NESHAP for Beryllium	X	TA-3-141, TA-35-213, TA-55-PF4, TA-3-66		

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
40 CFR 61, Subpart H, NESHAP for Radionuclides other than Radon from DOE Facilities	X	Entire Facility		
40 CFR 61, Subpart M, NESHAP for Asbestos	X	Entire Facility		
40 CFR 61, Subpart Q, NESHAP for Radon Emissions from DOE Facilities	X	Entire Facility		
40 CFR 63, Subpart A, General Provisions	X	All sources subject to any MACT Subpart		
40 CFR 63, Subpart T, MACT for Halogenated Solvent Cleaning	X	TA-55-DG-1		
40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners (MVAC)	X	Entire Facility		
40 CFR 82, Subpart F, Recycling and Emission Reduction	X	Entire Facility		
40 CFR 82, Subpart H, Halon Emissions Reduction	X	Entire Facility		
40 CFR 82, Subpart I, Ban on Refrigeration and Air Conditioning Appliances Containing HCFCS.	X	Entire Facility		
<b>A103 Facility: Applicable Regulations</b> C. Compliance with the terms and conditions of this permit regarding source emissions and operation that were included in NSR permits 632, 634, 1081, 2195B, 2195F, 2195H, 2195N, and 2195P demonstrate compliance with national ambient air quality standards specified at 40 CFR 50, which were applicable at the time air dispersion modeling was performed for those NSR Permits.	See each source category for compliance with NSR permits 632, 634, 1081, 2195B, 2195F, 2195H, 2195N, and 2195P and applicable regulations specified at 40 CFR 50.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A104 Facility: Regulated Sources</b> A. Source category specific Regulated	See each source category for specific regulated equipment.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Equipment Tables are included in sections A600 through A1400 under the Equipment Specific Requirements part of this permit. The Regulated Equipment Tables list all of the process equipment authorized for this facility. Emission units that were identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and equipment not regulated pursuant to the Act are not included.				
<p><b>A105 Facility: Control Equipment</b></p> <p>A. Source category specific Control Equipment Tables are included in sections A601 through A1401 under the Equipment Specific Requirements part of this permit. The Control Equipment Tables list all the pollution control equipment required for this facility. Each emission point is identified by the same number that was assigned to it in the permit application.</p>	See each source category for specific regulated equipment.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A106 Facility: Allowable Emissions</b></p> <p>A. Source category specific Allowable Emissions are established in sections A602 through A1402 under the Equipment Specific Requirements part of this permit. Table 106.A below shows a summary of these emission limits, which are subject to permit fees. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC and NSR Permit Nos. 632, 634-M2, 1081-M1, 1081-M1-R1, 1081-M1-R3, 1081-M1-R5, 1081-M1-R6, 2195B-M2, 2195F-R4, GCP-3-2195G, 2195H, 2195N-R2, and 2195P-R2).</p>	Source-specific and facility-wide emissions are calculated on a semi-annual basis and compared to the limits listed in the referenced table. No emission limits were exceeded during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
---	---	---	---	--

**Table 106.A: Allowable Emissions per Source Category**

Source Category (Section No.)	<sup>1</sup> NO <sub>x</sub> tpy	CO tpy	VOC tpy	SO <sub>2</sub> tpy	TSP tpy	PM <sub>10</sub> tpy	PM <sub>2.5</sub> tpy
Asphalt Production (A600)	50.0 <sup>5</sup>	30.0 <sup>5</sup>	50.0 <sup>5</sup>	50.0	50.0 <sup>5</sup>	- <sup>2</sup>	-
Beryllium Activities (A700)	-	-	-	-	-	-	-
External Combustion (A800)	80.0	80.0	50.0	50.0	50.0	50.0	1.6 <sup>3</sup>
Chemical Usage (A900)	-	-	* <sup>4</sup>	-	-	-	-
Degreasers (A1000)	-	-	*	-	-	-	-
Internal Combustion (A1100)	20.85	16.8	0.5	2.66	-	-	-
Data Disintegrator (A1200)	-	-	-	-	9.9	9.9	-
Power Plant (A1300)	90.8	93.7	4.3	9.1	9.4	9.2	9.0
Open Burning (A1400)	-	-	-	-	-	-	-

- 1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO<sub>2</sub>
- 2 “-” indicates the application represented that emissions of this pollutant are not expected *or* that allowable emission limits have not been previously established for this pollutant and source category.
- 3 This PM<sub>2.5</sub> total represents the RLUOB boilers only; PM<sub>2.5</sub> emission limits have not been established for any other external combustion sources.
- 4 “\*” indicates the application represented that emissions of this pollutant are expected and are included in the facility-wide allowable emissions limit established in Condition A106.B. Annual VOC emission limits for these individual source categories have not been established.
- 5 These are voluntary emission limits that are less than the applicable limits in the Asphalt production permit, GCP-3-2195G. Limits are taken to reduce total emission in Table 106.A to below the facility-wide allowable emissions in Table 106.B

<p><b>A106 Facility: Allowable Emissions</b></p> <p>B. Facility-wide emissions for criteria pollutants, VOC, and HAPs from all emission units, combined, shall not exceed the limits in Table 106.B.</p>	<p>Source-specific and facility-wide emissions are calculated on a semi-annual basis and compared to the limits listed in the referenced table. No emission limits were exceeded during this certification period. Actual emissions are included in the emission inventory reports submitted to the New Mexico Environment Department (NMED) Air Quality Bureau (AQB).</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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**Table 106.B: Facility-Wide Allowable Emissions<sup>1</sup>**

1. Permit Condition # and Permit Condition:		2. Method(s) or other information or other facts used to determine the compliance status:				3. What is the frequency of data collection used to determine compliance?		4. Was this facility in compliance with this requirement during the reporting period?		5. Were there any deviations associated with this requirement during the reporting period?	
Facility-Wide	<sup>2</sup> NO <sub>x</sub> tpy	CO tpy	VOC tpy	SO <sub>2</sub> tpy	TSP tpy	PM <sub>10</sub> tpy	PM <sub>2.5</sub> tpy	Any Individual HAP	Total HAPs		
Sum of emissions from all sources	245.0	225.0	200.0	150.0	120.0	120.0	120.0	8.0	24.0		
<p>1Title V annual fee assessments are based on the allowable facility-wide emission limits in Table 106.B.  2Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO<sub>2</sub></p>											
<b>A106 Facility: Allowable Emissions</b>						<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>C. The permittee shall maintain records of the Facility-Wide annual emissions totals for each pollutant listed in Table 106.B. The record shall include estimated actual emissions from all sources on a semiannual and calendar year basis.</p>		<p>Records of facility-wide annual emissions totals for each pollutant in Table 106.B, including estimated actual emissions from all sources are maintained on a semiannual and calendar year basis. Records are kept on-site.</p>									
<b>A107 Facility: Allowable Startup, Shutdown, &amp; Maintenance (SSM) and Malfunction Emissions</b>						<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>A. Separate allowable startup, shutdown, and maintenance (SSM) emission limits are not required for this facility since the SSM emissions are predicted to be less than the limits established in Table 106.A. The permittee shall maintain records in accordance with Condition B109.E.</p>		<p>Emissions from SSM are not expected to be significantly different from normal operating emissions. Excess emissions did not occur during this certification period.</p>									
<b>A108 Facility: Hours of Operation</b>						<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>A. The operating hours for this facility are established under each source category in sections A604 through A1404 under the Equipment Specific Requirements part of this permit. As applicable, monitoring,</p>		<p>Compliance with the hours of operation for each source is covered under each source category. A tracking mechanism is in place for each source with an operating hour limit. Operating hour limits were not exceeded during this certification period.</p>									

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
recordkeeping, and reporting provisions are specified to demonstrate compliance with allowable hours of operation that are also established under each source category in sections A604 through A1404.				
<p><b>A109 Facility: Reporting Schedules</b></p> <p>A. A Semi-Annual Report of monitoring activities is due within 45 days following the end of every 6-month reporting period. The six month reporting periods start on January 1st and July 1st of each year.</p>	<p>The Semi-Annual Monitoring Reports were submitted within the allowed 45 days following the end of every semi-annual reporting period. During calendar year 2018, two monitoring reports were submitted. The Semi-Annual Monitoring Report for July 1–December 31, 2017, was submitted on February 12, 2018 (SBR20180004). The Semi-Annual Monitoring Report for January 1–June 30, 2018 was submitted on August 10, 2018 (SBR20180007).</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A109 Facility: Reporting Schedules</b></p> <p>B. A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of pollutants NO<sub>x</sub>, CO, SO<sub>2</sub>, VOC, TSP, PM<sub>10</sub>, and PM<sub>2.5</sub> shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the</p>	<p>The Semi-Annual Emissions Reports were submitted within the allowed 90 days following the end of every semi-annual reporting period as required by A109.A. During calendar year 2018, two emissions reports were submitted. The Semi-Annual Emissions Report for July 1 - December 31, 2017, was submitted on March 27, 2018 (SBR20180005). The Semi-Annual Emissions Report for January 1 - June 30, 2018, was submitted on September 25, 2018 (SBR20180008).</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
facility-wide allowable emission limits at Table 106.B.				
<b>A109 Facility: Reporting Schedules</b>  C. The Annual Compliance Certification Report is due within 30 days of the end of every 12-month reporting period. The 12-month reporting period starts on January 1st of each year.	The 2017 Annual Compliance Certification report for permit P100-R2 and P100-R2M1, was submitted to NMED AQB and EPA on January 23, 2018 (SBR20180002), within 30 days of the end of the 12-month reporting period ending on December 31, 2017.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A109 Facility: Reporting Schedules</b>  D. The permittee shall post start-up notifications required by 20.2.72.212(B) NMAC and 40 CFR Parts 60, 61 or 63, to the permittee's Electronic Public Reading Room at <a href="http://epr.lanl.gov/oppie/service">http://epr.lanl.gov/oppie/service</a> .	No new permitted source subject to these requirements was started up during this certification period. Therefore, a start-up notification was not required.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A110 Facility: Fuel Sulfur Requirements</b>  A. Sulfur requirements are defined by source category, as applicable, in sections A605 through A1405 under the Equipment Specific Requirements part of this permit.	See each source category for applicable sulfur requirements.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A111 Facility: 20.2.61 NMAC Opacity</b>  A. Opacity requirements are defined by source category, as applicable, in sections A606 through A1406 under the Equipment Specific Requirements part of this permit.	See each source category for applicable opacity requirements.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A115 Radionuclide NESHAP</b>  A. The permittee shall comply with the requirements of 40 CFR 61, Subpart H – NESHAP for Radionuclides other than Radon from DOE Facilities.	The EPA limit for radionuclide emissions, corresponding to a maximum off-site dose, is 10 millirem per year. The projected emissions from all LANL sources for this certification period are below the 10 millirem off-site limit.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	The annual report summarizing 2017 radionuclide emissions was submitted to EPA on June 25, 2018 and is available to NMED upon request.			
<b>A115 Radionuclide NESHAP</b>  B. The permittee shall comply with the requirements of 40 CFR 61, Subpart Q – NESHAP for Radon Emissions from DOE Facilities.	LANL performed evaluations on the sources applicable under 40 CFR 61, Subpart Q and has determined that radon emission levels are below applicable thresholds. This information was provided to EPA, which in turn provided LANL with a memorandum of understanding in agreement with LANL's findings.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A116 Asbestos NESHAP</b>  A. The permittee shall comply with the requirements of 40 CFR 61, Subpart M-NESHAP for Asbestos.	LANL is in compliance with the requirements of 40 CFR 61, Subpart M for this compliance certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A117 Stratospheric Ozone</b>  A. The permittee shall comply with the standards for servicing of motor vehicle air conditioners pursuant to 40 CFR 82, Subpart B.	Motor vehicle air conditioners (MVAC) are serviced, pursuant to 40 CFR part 82, Subpart B by certified LANL refrigeration technicians. These certified technicians comply with EPA standards for servicing motor vehicle air conditioners.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A117 Stratospheric Ozone</b>  B. The permittee shall comply with the standards for servicing and maintaining and disposing equipment containing refrigerants pursuant to 40 CFR, Subpart F.	A Stratospheric Ozone Protection Program is in place at LANL.  LANL, through our internal maintenance group, as well as other outside contractors, uses only certified technicians and certified recycling and recovery equipment. LANL's refrigeration technicians, as well as other outside contractors, are trained and follow LANL procedures to ensure that required service practices in 40 CFR 82, Subpart F are followed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A117 Stratospheric Ozone</b>	Certified LANL refrigeration technicians maintain the halon systems. These technicians comply with	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?		
C. The permittee shall comply with the standards for servicing and maintaining equipment that contains halons pursuant to 40 CFR 82, Subpart H.	the standards for servicing and maintaining equipment containing halons pursuant to 40 CFR Part 82, Subpart H.	<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No		
<b>A117 Stratospheric Ozone</b> D. The permittee shall comply with the standards on the ban on refrigeration and air-conditioning appliances containing HCFCs pursuant to 40 CFR 82, Subpart I.	LANL has a process in place to ensure that the standards on the ban of refrigeration and air-conditioning appliances containing HCFCs pursuant to 40 CFR 82, Subpart I are met.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>EQUIPMENT SPECIFIC REQUIREMENTS</b> <b>A600 Regulated Sources – Asphalt Production</b> A. Table 600.A lists all of the process equipment authorized for this source category. Emission units that were identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and equipment not regulated pursuant to the Act are not included.	No new equipment was added and no changes were made to the listed equipment in this source category during this certification period (excluding those identified as insignificant, trivial and not regulated pursuant to the Act).	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>Table 600.A: Regulated Sources List</b>						
<b>Unit No.</b>		<b>Source Description/Location</b>	<b>Make Model</b>	<b>Serial No.</b>	<b>Capacity</b>	<b>Manufacture Date</b>
TA-60-BDM		Hot Mix Asphalt Plant, TA-60	BDM Engineering TM2000	unknown	60 tph	After 6/11/1973
<b>A601 Control Equipment – Asphalt Production</b>	No new pollution control equipment was added and no changes were made to this source category during this certification period.	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes		

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
A. Table 601.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category. Each emission point is identified by the same number that was assigned to it in the permit application.		<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No

**Table 601.A: Control Equipment List**

Control Equipment Unit No.	Control Description	Pollutant being controlled	Control for Unit No. <sup>1</sup>
TA-60-BDM	Drum Dryer Cyclone Baghouse 99.97% efficiency	TSP	TA-60-BDM

<sup>1</sup>Control for unit number refers to a unit number from the Regulated Sources List

<p><b>A602 Emission Limits – Asphalt Production</b></p> <p>A. Table 602.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 20.2.11 NMAC; 40 CFR 60, Subpart I; NSR Permit GCP-3-2195G)</p>	<p>LANL asphalt plant operations meet the requirements of 20.2.11 NMAC; 40 CFR Part 60, Subpart I; and NSR Permit No. GCP-3-2195G.</p> <p>Emissions are calculated and reported on a semi-annual basis in accordance with permit condition A109.B. Comparison against the allowable emission limits is performed at each of these reporting periods. Allowable emission limits were not exceeded during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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**Table 602.A: Allowable Emissions**

Unit No.	NOx tpy	SO2 tpy	PM	CO tpy	VOC tpy
TA-60-BDM (dryer stack only)	50.0 <sup>1</sup>	50.0	0.04 gr/dscf 33.8 lb/hr 50.0 <sup>1</sup> tpy	30.0 <sup>1</sup>	50.0 <sup>1</sup>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?															
1 Voluntary emission limits that are less than the applicable limits in GCP-3-2195G. Limits taken to reduce total emission in Table 106.A to below the facility-wide allowable emissions in Table 106.B																			
<b>A603 Applicable Requirements – Asphalt Production</b>  A. The permittee shall comply with all applicable sections of the requirements listed in Table 603.A.	LANL asphalt plant operations comply with the applicable requirements listed in Table 603.A.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															
<p><b>Table 603.A: Applicable Requirements</b></p> <table border="1" data-bbox="134 667 1682 881"> <thead> <tr> <th>Applicable Requirements</th> <th>Federally Enforceable</th> <th>Unit No.</th> </tr> </thead> <tbody> <tr> <td>NSR Permit GCP-3-2195G</td> <td>X</td> <td>TA-60-BDM</td> </tr> <tr> <td>20.2.11 NMAC Asphalt Process Equipment</td> <td>X</td> <td>TA-60-BDM</td> </tr> <tr> <td>40 CFR 60, Subpart A</td> <td>X</td> <td>TA-60-BDM</td> </tr> <tr> <td>40 CFR 60, Subpart I</td> <td>X</td> <td>TA-60-BDM</td> </tr> </tbody> </table>					Applicable Requirements	Federally Enforceable	Unit No.	NSR Permit GCP-3-2195G	X	TA-60-BDM	20.2.11 NMAC Asphalt Process Equipment	X	TA-60-BDM	40 CFR 60, Subpart A	X	TA-60-BDM	40 CFR 60, Subpart I	X	TA-60-BDM
Applicable Requirements	Federally Enforceable	Unit No.																	
NSR Permit GCP-3-2195G	X	TA-60-BDM																	
20.2.11 NMAC Asphalt Process Equipment	X	TA-60-BDM																	
40 CFR 60, Subpart A	X	TA-60-BDM																	
40 CFR 60, Subpart I	X	TA-60-BDM																	
<b>A604 Operational Limitations – Asphalt Production</b>  A. The permittee shall meet the requirements of NSR permit no. GCP-3-2195G, including the requirements in this permit.	The asphalt plant operates in accordance with the requirements in operating permits P100-R2M1, P100-R2M2, and P100-R2M3 and the conditions specified in NSR permit no. GCP-3-2195G.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															
<b>A604 Operational Limitations – Asphalt Production</b>  B. The equipment in this source category is authorized to operate during those daylight hours occurring between one-half	The asphalt plant operates within the allowed daylight hours. To aid operators, a current sunrise/sunset chart is maintained at the plant. A log of start up and shut down times and operating hours is kept as required by the operating permit and GCP-3-2195G permit.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
hour after sunrise and through one-half hour before sunset each day of the year. Annual hours of operation are limited to 4380 hrs/y. This limitation on operating hours does not apply to the use of the hot oil heater or the loading and/or hauling of asphalt products or materials. Monitoring, recordkeeping, and reporting for operational hours shall be conducted according to NSR Permit GCP-3-2195G.	The asphalt plant did not exceed 4,380 hours of operation annually during this certification period.			
<b>A605 Fuel Requirements – Asphalt Production</b>  A. Asphalt Plant Combustion Sources  <b>Requirement:</b> Combustion sources located at the asphalt plant shall combust only those fuels allowed under condition III.A.3 of the NSR Permit GCP-3-2195G.	Pipeline quality natural gas is used at the asphalt plant and is allowed under condition III.A.3 of the NSR permit GCP-3-2195G.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> N/A  <b>Recordkeeping:</b> The permittee shall meet the recordkeeping requirements of GCP-3 and maintain records in accordance with Section B109.	Records are maintained in accordance with Section B109.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	A109.A: The Semi-Annual Monitoring Reports were submitted within the allowed 45 days following the end of every semi-annual reporting period. During calendar year 2018, two monitoring reports were submitted. The Semi-Annual Monitoring Report for July 1–December 31, 2017, was submitted on February 12, 2018 (SBR20180004). The Semi-Annual Monitoring Report for January	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	<p>1–June 30, 2018 was submitted on August 10, 2018 (SBR20180007).</p> <p>A109.B: The Semi-Annual Emissions Reports were submitted within the allowed 90 days following the end of every semi-annual reporting period as required by A109.A. During calendar year 2018, two emissions reports were submitted. The Semi-Annual Emissions Report for July 1 - December 31, 2017, was submitted on March 27, 2018 (SBR20180005). The Semi-Annual Emissions Report for January 1 - June 30, 2018, was submitted on September 25, 2018 (SBR20180008).</p> <p>A109.C: The 2017 Annual Compliance Certification report for permit P100-R2 and P100-R2M1, was submitted to NMED AQB and EPA on January 23, 2018 (SBR20180002), within 30 days of the end of the 12-month reporting period ending on December 31, 2017.</p> <p>All reporting requirements are completed and submitted in accordance with Section B110.</p>			
<p><b>607 Asphalt Production – Other</b></p> <p>A. Asphalt Plant Baghouse – Differential Pressure</p> <p><b>Requirement:</b> The baghouse shall be equipped with a device to continually measure the pressure drop across the baghouse.</p>	<p>The baghouse is equipped with a magnehelic gauge connected to a data-logger to continually monitor the differential pressure across the baghouse.</p>	<input checked="" type="checkbox"/> <b>Continuous</b> <input type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Monitoring:</b> The permittee shall monitor the differential pressure (inches of water) across</p>	<p>The differential pressure data is used to confirm proper operation of the baghouse. The differential</p>	<input type="checkbox"/> <b>Continuous</b>	<input checked="" type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>Yes</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
the filters by the use of a differential pressure gauge. Pressure gauge readings and the time period the rotary dryer drum operates shall be recorded by a datalogger each time the rotary dryer drum is operating. The pressure data shall confirm whether the filter(s) are operating within the unit's specifications.	pressure is measured during rotary dryer drum operation as described below: 1) A datalogger records differential pressure readings every two minutes and transmits the pressure drop data through a leased phoneline to a remote terminal unit. 2) A chart recorder records differential pressure readings and serves as a backup when there is a problem with the remote data-transmission phone communication. 3) The asphalt plant operator manually records the differential pressure readings at each start-up and shut-down daily.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<b>Recordkeeping:</b> The permittee shall manually record the baghouse pressure drop readings at least once each day the rotary drum dryer operates and maintain records of all baghouse differential pressure readings in accordance with Section B109.	Recordkeeping conditions are met using a datalogger, backup chart recorder, and operator's differential pressure entries at the start and end of each operation daily. A backup chart recorder captured baghouse pressure drop data when the phone-line communication did not work.  Records are maintained in accordance with Section B109.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>607 Asphalt Production – Other</b>  B. Asphalt Plant Baghouse - Stack Height (Unit TA-60-BDM)  <b>Requirement:</b> The rotary dryer/baghouse	The height of the asphalt plant stack has been measured and is no less than 10 meters. The stack is a permanent structure attached to the baghouse fan outlet and its height does not change.	<input checked="" type="checkbox"/> <b>Continuous</b> <input type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
exhaust stack shall be no less than 10 meters in height.				
<p><b>Monitoring:</b> N/A</p> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	Records are maintained in accordance with Section B109.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>607 Asphalt Production – Other</b></p> <p>C. Asphalt Plant Baghouse – Opacity</p> <p><b>Requirement:</b> Visible emissions from the rotary dryer/baghouse exhaust stack shall not exhibit an opacity of 20% or greater averaged over a (6) minute period.</p>	LANL has certified visible emissions (opacity) readers on-site who perform readings in accordance with 40 CFR Part 60, Appendix A, Reference Method 9 to determine compliance with the opacity limit. No visible emissions exhibited an opacity of 20% or greater during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> During periods of drum dryer operation, the permittee shall perform six (6) minute opacity readings on the rotary dryer/baghouse stack. Opacity readings shall be performed at least once per month during any month the drum dryer operates. The observations shall be conducted according to 40 CFR 60, Appendix A, Method 9.</p>	LANL has certified visible emissions (opacity) readers on-site who perform monthly six (6) minute opacity readings using the procedures in 40 CFR Part 60, Appendix A, Reference Method 9 to determine compliance with the opacity limitation. No visible emissions exhibited an opacity of 20% or greater during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Recordkeeping:</b> The permittee shall maintain records of all opacity observations and in accordance with Section B109.	Records are maintained in accordance with Section B109. Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis in accordance with permit conditions A109 and B110. For more information, see the methods used to determine compliance for condition A109 in this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>607 Asphalt Production – Other</b>  D. Asphalt Plant Baghouse – Fines Cleanout  <b>Requirement:</b> The permittee shall sequester or remove particulates collected by the control equipment to prevent wind-blown particulate emissions. Recycled baghouse fines shall be recycled into the drum mixer via a closed-loop system.	Baghouse fines (particulates) are removed from the baghouse and cyclone by a screw conveyor. The removed fines are recycled into the asphalt production process via a closed loop system. Visible emissions from this system were not observed during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> N/A  <b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.	Records are maintained in accordance with Section B109.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>607 Asphalt Production – Other</b></p> <p>E. Asphalt Plant Production Rate (Unit TA-60-BDM)</p> <p><b>Requirement:</b> To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the asphalt plant shall limit uncontrolled potential PM emissions by limiting asphalt production to less than or equal to 6,000 tons per year.</p>	<p>The asphalt plant production rate did not exceed 6,000 tons per year.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> The permittee shall monitor the total daily production rate.</p>	<p>Asphalt production is monitored and recorded on a daily basis.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall calculate a weekly rolling, 12-month total production rate and maintain records in accordance with Section B109.</p>	<p>The weekly rolling 12-month total is calculated and compared to the production limit set in this permit condition. Records are maintained in accordance with Section B109.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>607 Asphalt Production – Other</b></p> <p>F. Asphalt Plant Operations – General</p> <p><b>Requirement:</b> The permittee shall:</p> <p>1) Install, operate, and maintain equipment in accordance with standard operating procedures, and</p> <p>2) equip and operate the asphalt</p>	<p>1) No new equipment was installed during this monitoring period. Operational and maintenance requirements are contained in internal plant procedures that are followed by plant operation staff.</p> <p>2) Dust collection and control systems are in place on screens, conveyor belts, and conveyor transfer points to control particulate matter emissions.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>processing equipment such as screens, conveyor belts, and conveyor transfer points with dust control systems to control particulate matter emissions, and</p> <p>3) operate the Plant in accordance with NSR Permit GCP-3-2195G, Section III, A, B, C, D, E, F, and H.</p> <p>4) Ensure that no visible emissions from the facility are observed crossing the perimeter of the restricted area for no more than 5 minutes during any 2 consecutive hours during facility operations.</p>	<p>3) The asphalt plant is operated in accordance with NSR Permit GCP-3-2195G, Section III, A, B, C, D, E, F, and H.</p> <p>4) Both EPA Reference Methods 9 and 22 are used at the plant to determine the extent of visible emissions. Fugitive dust emissions from the plant did not cross the property boundary or exceed the five (5) minute visible emissions limit during any two consecutive hours of operation.</p>			
<p><b>Monitoring:</b> The permittee shall perform all monitoring required under NSR Permit GCP-3-2195G.</p>	<p>Monitoring was performed as required under NSR Permit GCP-3-2195G.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall maintain records of all standard operating procedures, records of all maintenance and/or replacement of dust control systems, and all records required under NSR Permit GCP-3-2195G, Section IV.B, and including records of actual hours of operation, records of all required monitoring, daily and weekly total asphalt production and the weekly rolling 12 month total production, number of haul truck trips daily including materials delivery and product, frequency of haul road sweeping, and copies of the applicant's proposed maintenance requirements and records demonstrating conformance with said requirements. The permittee shall maintain records of all compliance test results for total suspended particulates (TSP), particulate matter (PM10), nitrogen oxides, carbon</p>	<p>Recordkeeping conditions are met using the following methods: Standard operating procedures are in place and available on-site; maintenance and calibrations are performed annually. The maintenance inspection and calibration was performed on July 18, 2018 and December 20, 2018.</p> <p>The plant's operations logs contain the start time, stop time, daily and monthly hours of operation; asphalt production amounts; day when paved road was swept; and the number of truck trips. The rolling 12-month totals for production are calculated on the emissions calculation spreadsheet. Records located at the facility include fuel delivery tickets for fuel oil and asphalt oil, frequency of road sweeping, calibration procedures, and a procedure that outlines required maintenance.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
monoxide, and records of all opacity/visible emissions observations performed.	All compliance test results have been provided to NMED and are available on-site.			
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>607 Asphalt Production – Other</b>  G. Asphalt Plant Fugitive Dust  <b>Requirement:</b> Fugitive dust emissions from asphalt processing equipment, including the system used to recycle fabric filter fines, shall exhibit no more than five (5) minutes of visible emissions during any two consecutive hours. This condition does not apply to fugitive dust emissions from other support operations such as storage piles, front end loaders, or materials handling around the asphalt process equipment.	The asphalt plant did not emit fugitive dust that exceeded five (5) minutes of visible emissions during any two (2) consecutive hours during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> The permittee shall perform a Method 22 test at least once per month on all screens, conveyor drop points, and hoppers during the months the asphalt plant operates. The duration of the test shall be a minimum of ten (10) minutes. If visible emissions are observed for more than two (2) minutes, the Method 22 test shall continue for two (2) hours or until scheduled operation of the plant ends.	EPA Method 22 tests are performed once per month when the plant operates. LANL has certified visible emission (opacity) readers on-site who perform monthly ten (10) minute readings using 40 CFR Part 60, Appendix A, Reference Method 22 to determine compliance with the opacity limitation. No visible emissions exhibited an opacity of 20% or greater during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?															
<b>Recordkeeping:</b> The permittee shall maintain records of all equipment standard operating procedures, records of all maintenance and/or replacement of dust control systems, results of all visible emissions observations, and all records required under NSR Permit GCP-3-2195G.	The standard operating procedure, maintenance and repair records, and visible emissions observations are maintained and available on-site. All other records required under the NSR permit are also available on-site.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis, and compliance certification on an annual basis, in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															
<b>A700 Regulated Sources – Beryllium Activities</b> A. Table 700.A lists all of the process equipment authorized for this source category. Emission units that were identified as insignificant or trivial activities (as defined in 20.2.70.7 NMAC) and equipment not regulated pursuant to the Act are not included.	No new equipment was added to this source category during this certification period (excluding those identified as insignificant, trivial or not regulated pursuant to the Act).	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															
<b>Table 700.A: Regulated Sources List</b>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Unit No.</th> <th style="width: 15%;">Location/ Building</th> <th style="width: 70%;">Process Description</th> </tr> </thead> <tbody> <tr> <td>TA-3-66</td> <td>TA-3-66</td> <td>Sigma Facility - Electroplating and Chemical Milling; Metallographic Operations; and Machining and Arc Melting/Casting</td> </tr> <tr> <td>TA-3-141</td> <td>TA-3-141</td> <td>Beryllium Technology Facility</td> </tr> <tr> <td>TA-35-213</td> <td>TA-35-213</td> <td>Target Fabrication Facility</td> </tr> <tr> <td>TA-55-PF4</td> <td>TA-55-PF4</td> <td>Plutonium Facility</td> </tr> </tbody> </table>					Unit No.	Location/ Building	Process Description	TA-3-66	TA-3-66	Sigma Facility - Electroplating and Chemical Milling; Metallographic Operations; and Machining and Arc Melting/Casting	TA-3-141	TA-3-141	Beryllium Technology Facility	TA-35-213	TA-35-213	Target Fabrication Facility	TA-55-PF4	TA-55-PF4	Plutonium Facility
Unit No.	Location/ Building	Process Description																	
TA-3-66	TA-3-66	Sigma Facility - Electroplating and Chemical Milling; Metallographic Operations; and Machining and Arc Melting/Casting																	
TA-3-141	TA-3-141	Beryllium Technology Facility																	
TA-35-213	TA-35-213	Target Fabrication Facility																	
TA-55-PF4	TA-55-PF4	Plutonium Facility																	
<b>A701 Control Equipment – Beryllium Activities</b>	No new pollution control equipment was added and no changes were made to this source category during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>A. Table 701.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category. Each emission point is identified by the same number that was assigned to it in the permit application.</p>				

**Table 701.A: Control Equipment List**

Control Equipment Unit No. <sup>1</sup>	Location/Building	Process Description	Pollutant being controlled	Type of Control
TA-3-66	TA-3-66	Sigma Facility Electroplating and Chemical Milling and Metallographic Operations	Beryllium Particulate Matter	Aqueous Solution or Lubricant Bath
		Sigma Facility Machining and Arc Melting/Casting	Beryllium Particulate Matter	HEPA Filter 99.95% Efficiency
TA-3-141	TA-3-141	Beryllium Technology Facility	Beryllium Particulate Matter	Lubricating Bath/Cartridge Filtration System/HEPA Filter 99.95% Efficiency
TA-35-213	TA-35-213	Target Fabrication Facility	Beryllium Particulate Matter	Pre-Filter 48% Efficiency, HEPA Filter 99.95% Efficiency
TA-55-PF4	TA-55-PF4	Plutonium Facility	Beryllium and Aluminum Particulate Matter	4-Stage HEPA Filter 99.95% Efficiency

<sup>1</sup>Control for unit number refers to a unit number from the Regulated Sources List

<b>A702 Emission Limits – Beryllium Activities</b>	Emissions are calculated and reported on a semi-annual basis in accordance with permit condition	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
A. Table 702.A lists the emission units, and their allowable emission limits. (40 CFR 61, Subpart C; NSR Permits 632; 634-M2; 1081-M1, 1081M1-R1, 1081-M1-R3, 1081-M1-R5, and 1081-M1-R6)	A109.B. Comparison against the allowable emission limits is performed at each of these reporting periods. Allowable emission limits were not exceeded during this certification period.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>

**Table 702.A: Allowable Emissions**

Source	Beryllium Particulate Matter	Aluminum Particulate Matter
Sigma Facility TA-3-66	10 gm <sup>l</sup> /24 hr	N/A
Beryllium Technology Facility TA-3-141	0.35 gm/24 hr 3.5 gm/yr	N/A
Target Fabrication Facility TA-35-213	1.8 x 10 <sup>-04</sup> gm/hr 0.36 gm/yr	N/A
Plutonium Facility TA-55-PF-4 Machining Operation	0.12 gm/24 hr 2.99 gm/yr	0.12 gm/24 hr 2.99 gm/y

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Plutonium Facility TA-55-PF-4 Foundry Operation	3.49 x 10 <sup>-05</sup> gm/24 hr  8.73 x 10 <sup>-04</sup> gm/yr	3.49 x 10 <sup>-05</sup> gm/24 hr  8.73 x 10 <sup>-04</sup> gm/y		
1 gm = gram				
<b>A703 Applicable Requirements – Beryllium Activities</b>  A. The permittee shall comply with all applicable sections of the requirements listed in Table 703.A.	LANL beryllium operations meet the requirements of 40 CFR Part 61, Subpart C, and NSR Permit Numbers 632, 634 and 1081.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Part A Table 703.A: Applicable Requirements</b>				
<b>Applicable Requirements</b>	<b>Federally Enforceable</b>	<b>Unit No.</b>		
NSR Permits 632; 634-M2; 1081-M1, 1081M1-R1, 1081-M1-R3, 1081-M1-R5, and 1081-M1-R6	X	All Beryllium Sources Listed in Table 700.A per applicable permit		
40 CFR 61, Subpart C	X	All Beryllium Sources Listed in Table 700.A		
<b>A704 Operational Limitations – Beryllium Activities</b>  A. The equipment/operations in this source category are authorized to operate any time during the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with its hours of operation.				
<b>A707 Other – Beryllium Activities</b>  A. Operational Requirements – Beryllium Activities	TA-3-66 Metallographic operations and electroplating/chemical milling operations are conducted in aqueous solution or lubricant bath. Emissions from machining and arc melt/casting operations are exhausted through a HEPA filtration	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	<p>system prior to entering the atmosphere.</p> <p>TA-3-141 The continuous emission monitor is maintained in accordance with LANL's quality program. Beryllium processing records are available on-site for inspection. No process limits were exceeded during this certification period.</p> <p>All processes are exhausted through a HEPA filtration system prior to entering the atmosphere. Powder operations, other than closed glovebox operations, and machining operations, other than the processes used in metallographic preparation, are exhausted through a cartridge filtration system and then through the HEPA filtration system. Metallographic preparations are conducted in lubricating baths or equivalent.</p> <p>TA-35-213 All processes are exhausted through a HEPA filtration system prior to entering the atmosphere. Beryllium operations consist of only beryllium machining and associated cleanup activities.</p> <p>TA-55-PF4 All beryllium activities are ducted through the facility's pollution control equipment and out the north or south stack of PF-4. Weld cutting, weld dressing, and metallography operations are controlled using four (4) HEPA filters with a control efficiency of 99.95% each. The non-accessible filter is replaced when the pressure differential across the filter indicates breakthrough or excessive loading.</p> <p>No process limits were exceeded during this</p>			

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	certification period.  The electric furnace did not operate during this certification period.			

Source	Operating Requirements	Process Limits	Control Equipment Requirements
Sigma Facility TA-3-66	Beryllium operations will consist of registered metallographic operations, electroplating /chemical milling, and relocated machining, and arc melting/casting sources.	None	Metallographic operations and electroplating /chemical milling operations shall be conducted in aqueous solution or lubricant bath. Emissions from machining and arc melting/casting operations shall be exhausted through a HEPA filtration system prior to entering the atmosphere.
Beryllium Technology Facility TA-3-141	The continuous emission monitor will be maintained in accordance with the Laboratory's quality program.	Beryllium processed by the facility will not exceed 10,000 pounds per calendar year. Beryllium processed by the facility will not exceed 1000 pounds per day.	All processes shall be exhausted through a HEPA filtration system prior to entering the atmosphere. Powder operations, other than closed glovebox operations, and machining operations, other than the processes used in metallographic preparation shall be exhausted through a cartridge filtration system then through the HEPA filtration system. Metallographic preparation activities shall be conducted in lubricating baths or equivalent. (NSR permit 634-M2)
Target Fabrication Facility TA-35-213	Beryllium operations will consist of only beryllium machining and associated cleanup activities.	None	All processes shall be exhausted through a HEPA filtration system prior to entering the atmosphere.
Plutonium Facility TA-55-PF4	Regulated beryllium activities will be ducted through the pollution control equipment and	44 pounds of beryllium (20 kg) in any 24 hour period; 1100 pounds/year	Weld cutting, weld dressing, metallography, and electric furnace operations shall be controlled with 4 HEPA filters with a control efficiency of 99.95% each.

1. Permit Condition # and Permit Condition:		2. Method(s) or other information or other facts used to determine the compliance status:		3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	<p>out the north or south stack of PF-4. (NSR Permit 1081-M1-R3, Specific Condition 1.b., partial, revised) The electric furnace shall be enclosed in a glove box, have a maximum operating temperature of 1600 degrees centigrade, and an inside volume space less than 1.1 cubic feet. (NSR Permit 1081-M1-R6, Specific Condition 1.d., partial, revised)</p>	<p>(500 kg/year) using a rolling total. (NSR Permit 1081-M1-R3, Specific Condition 1.c.)</p>	<p>(NSR Permit 1081-M1-R1, Condition 3, partial, revised) The non-accessible filters shall be replaced when the pressure drop across the filter either falls to levels indicating filter breakthrough or increases to levels indicative of excessive loading. (NSR Permit 1081-M1-R1, Condition 3, partial, revised)</p>			
<p><b>A707 Other – Beryllium Activities</b></p> <p>B. Emissions Monitoring Requirements – Beryllium Activities</p>		<p>TA-3-66 Log books are maintained for the number of metallographic specimens used in the metallographic operation and the weight or volume of samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations. The log books are kept on-site and are available for inspection.</p> <p>TA-3-141 The facility exhaust stack has a built-in sampling system used to continuously sample beryllium emissions. Cartridge and HEPA filters are equipped with differential pressure gauges that measure differential pressure when exhaust fans are operating.</p> <p>TA-35-213 A copy of stack emission test results as</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>	

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	<p>well as other data needed to determine total emissions are retained at the source and are available for inspection. Log books documenting beryllium processing are on-site and are available for inspection.</p> <p>TA-55-PF4 The HEPA filtration system contains a differential pressure gauge that measures differential pressure across the HEPA filters while the exhaust fans are in operation. The control efficiency is verified by daily HEPA filter pressure drop tests. Annual HEPA filter challenge tests are performed to verify filter control efficiency. The HEPA filter challenge tests were performed in August and September of 2018.</p> <p>The electric furnace did not operate during this certification period</p>			

Source	Monitoring Requirements
Sigma Facility TA-3-66	A log shall be maintained during operations, which shows the number of metallographic specimens used in the metallographic operation and the weight or volume of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations.
Beryllium Technology Facility TA-3-141	Facility exhaust stack will be equipped with a continuous emission monitor used to measure beryllium emissions. Cartridge and HEPA filters shall be equipped with differential pressure gauges that measure the differential pressure across the cartridge and HEPA filters while the exhaust fans are in operation. (NSR permit 634-M2)
Target Fabrication Facility TA-35-213	Records of the stack emission test results (see Condition 2 of NSR Permit No. 632) and other data needed to determine total emissions shall be retained at the source and made available for inspection by the Department.
Plutonium Facility	The HEPA filtration systems shall be equipped with a differential pressure gauge that measures the differential pressure (inches of water) across the HEPA filters while the exhaust fans are in



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
TA-55-PF4	operation. (NSR Permit 1081-M1-R3, Condition 11) Control efficiency shall be verified by daily HEPA filter pressure drop tests and annual HEPA filter challenge tests of accessible filters. (NSR Permit 1081-M1-R1, Condition 3, partial, revised) The furnace temperature shall be continuously monitored and the flow rate from the glove box containing the furnace shall be measured once during each metal melt operation. (NSR Permit 1081-M1-R6, Condition 11, revised)			
<b>A707 Other – Beryllium Activities</b>  C. Recordkeeping Requirements – Beryllium Activities	TA-3-66 Recordkeeping for this source is specified in Condition A707.B.  TA-3-141 Inventory records are maintained to demonstrate compliance with beryllium process limits. Records of pressure drop across the cartridge and HEPA filters are performed daily when the exhaust fans are in operation and the facility is occupied. Control equipment maintenance and repair activities are recorded.  TA-35-213 Recordkeeping for this source is specified in Condition A707.B.  TA-55-PF4 A copy of the stack emission test results are retained at the source and available for inspection. HEPA filter challenge tests are performed annually. Filter replacement and control equipment maintenance and repair records are kept and available on-site for inspection. Process records are available that contain the number and weight of classified parts processed during a 24-hour period and annual rolling total.  The electric furnace did not operate during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Source</b> Sigma Facility TA-3-66 Beryllium Technology Facility TA-3-141 Target Fabrication Facility TA-35-213 Plutonium Facility TA-55-PF4	<b>Recordkeeping Requirements</b> Recordkeeping for this source is specified in Condition A707.B. Generate and maintain beryllium inventory records to demonstrate compliance with the 10,000 pounds of beryllium per calendar year and the 1000 pounds of beryllium per day processing limit. Record pressure drop across the cartridge and HEPA filters once per day that the exhaust fans are in operation and the facility is occupied. Record control equipment maintenance and repair activities. (NSR permit 634-M2) Recordkeeping for this source is specified in Condition A707.B. Stack emission test results and facility operating parameters including a daily record of the pressure drop measured across each appropriate HEPA plenum filtration stage, when the exhaust fans are operating. (NSR Permit 1081-M1-R3, Condition 9, partial, revised) A copy of the annual HEPA test, a log of the daily pressure drop readings and a control equipment maintenance log shall be kept. This documentation shall be provided upon request. (NSR Permit 1081-M1-R1, Condition 3, partial, revised) A log of the filter replacement shall be kept and shall be made available to the Department personnel upon request. (NSR Permit 1081-M1-R1, Condition 3, partial, revised) The permittee shall keep records of the number and weight of classified parts processed during a 24-hour period and year using a rolling total. Records shall be made available to properly cleared Department personnel upon request. (NSR Permit 1081-M1-R3, Condition 9, partial, revised) The permittee shall for each use of the furnace record the following operating parameters: metal type, theoretical melting point of the metal, metal melt duration once melting is commenced, maximum furnace temperature and glove box flow rate. (NSR Permit 1081-M1-R6, Condition 9, partial, revised) A record of the furnace's internal volume shall be maintained at the facility. (NSR Permit 1081-M1-R6, Condition 9, partial, revised)			
<b>A707 Other – Beryllium Activities</b> D. Reporting Requirements – Beryllium Activities	For all beryllium sources, reports are submitted in accordance with permit conditions A109 and in accordance B110. For more information, see Section A605 in this report. There were no new or modified emission sources	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	<p>during this certification period.</p> <p>TA-3-141 Quarterly beryllium reports, containing continuous monitoring system data from the Beryllium Technology Facility, are also submitted to NMED. Reports during this certification period were submitted within 60 days following each calendar quarter.</p> <p>The following reports were submitted in this compliance period:</p> <p>Fourth quarter of 2017 was submitted on January 11, 2018 (SBR20180001)</p> <p>First quarter of 2018 was submitted on April 18, 2018 (SBR20180006)</p> <p>Second quarter of 2018 was submitted on August 17, 2018 (SBR20180008)</p> <p>Third quarter of 2018 was submitted on October 24, 2018 (SBR20180011)</p>			

Source	Reporting Requirements
Sigma Facility TA-3-66	The permittee shall submit reports described in Section A109 and in accordance with Section B110.
Beryllium Technology Facility TA-3-141	<p>Anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date.</p> <p>Actual date of initial startup of each new or modified source within fifteen (15) days after the startup date.</p> <p>Provide 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.</p> <p>Notify the Department within 60 days after each calendar quarter of the facility's compliance status with the permitted emission rate from the continuous monitoring system.</p> <p>Provide any data generated by activities described in the Quality Assurance Project Plan (QAPP) that will assist the Air Quality Bureau's Enforcement Section in determining the reliability of the methodology used for demonstrating compliance with the permitted emission rate within 45 days of such a request.</p> <p>The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>
Target Fabrication	The permittee shall submit reports described in Section A109 and in accordance with Section

1. Permit Condition # and Permit Condition:		2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Facility TA-35-213	B110.				
Plutonium Facility TA-55-PF4	Stack emission test results and facility operating parameters will be made available to Department personnel upon request.  Reports may be required to be submitted to the Department if inspections of the source indicate noncompliance with this permit or as a means of determining compliance. The permittee shall submit reports described in Section A109 and in accordance with Section B110.				

<b>A800 Regulated Sources – External Combustion</b> A. Table 800.A lists all of the process equipment authorized for this source category.	There were no changes to the list of permitted boilers during this compliance certification period. RLUOB-BHW-4 has not been installed.	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
		<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No

**Table 800.A: Regulated Sources List**

Emission Unit <sup>3</sup>	Location/ Building	Manufacturer/ Model/Serial Number	Date of Construction, Modification, or Reconstruction <sup>1</sup>	Maximum Heat Input (nameplate) <sup>2</sup> MMBtu/hr
TA-16-1484-BS-1	TA-16-1484	Sellers 183H.P.-SH-LN390 S/N 100848-B	1995	7.47
TA-16-1484-BS-2	TA-16-1484	Sellers 183H.P.-SH-LN390 S/N 100848-A	1995	7.47
TA-53-365-BHW-1	TA-53-365	Sellers 15 Seniors-2-200-w S/N 99031-1	1988	8.37
TA-53-365-BHW-2	TA-53-365	Sellers 15 Seniors-2-200-w S/N 99031-2	1988	8.37

1. Permit Condition # and Permit Condition:		2. Method(s) or other information or other facts used to determine the compliance status:		3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
TA-55-6-BHW-1	TA-55-6	Sellers 350 H.P. W-LN490 S/N 101319-B	2001	14.6		
TA-55-6-BHW-2	TA-55-6	Sellers 350 H.P. W-LN490 S/N 101319-A	1998	14.6		
RLUOB-BHW-1	TA-55-440	Unilux ZF1100W SN A1874	2009	11.0		
RLUOB-BHW-2	TA-55-440	Unilux ZF1100W SN A1875	2009	11.0		
RLUOB-BHW-3	TA-55-440	Unilux ZF1100W SN A1876	2009	11.0		
RLUOB-BHW-4	TA-55-440	TBD	TBD	11.0		

- 1 Construction, Modification, or Reconstruction as defined according to 40 CFR 60.
- 2 Emission estimates from these units shall be based on the maximum heat input rating, derated for altitude.
- 3 Emission Units in this table are all boilers.

<b>A801 Control Equipment – External Combustion</b>  A. Table 801.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category. Each emission point is identified by the same number that was assigned to it in the permit application.	No new pollution control equipment was added and no changes were made to this source category during this certification period. Unit RLUOB-BHW-4 has not been installed.	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
		<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No

**Table 801.A: Control Equipment List**

Control	Location/Building	Control	Pollutant
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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
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Equipment Unit No. <sup>1</sup>		Description	being controlled
TA-16-1484-BS-1	TA-16-1484	Low-NOx Burner	NOx
TA-16-1484-BS-2	TA-16-1484	Low-NOx Burner	NOx
TA-53-365-BHW-1	TA-53-365	none	none
TA-53-365-BHW-2	TA-53-365	none	none
TA-55-6-BHW-1	TA-55-6	Low-NOx Burner	NOx
TA-55-6-BHW-2	TA-55-6	Low-NOx Burner	NOx
RLUOB-BHW-1	TA-55-440	Low-NOx Burner <sup>2</sup>	NOx
RLUOB-BHW-2	TA-55-440	Low-NOx Burner	NOx
RLUOB-BHW-3	TA-55-440	Low-NOx Burner	NOx
RLUOB-BHW-4	TA-55-440	Low-NOx Burner	NOx

1 Control for unit number refers to a unit number from the Regulated Sources List

2 Low-NOx burners are required for Units RLUOB-BHW-1 through -4 by NSR Permit 2195N-R2, Specific Condition 1.f.

<b>A802 Emission Limits – External Combustion</b>  A. Table 802.A lists specific emission units and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 40 CFR 60, Subpart Dc).	Emissions are calculated and reported on a semi-annual basis in accordance with permit condition A109.B. Comparison against the allowable emission limits is performed at each of these reporting periods. Allowable emission limits were not exceeded during this certification period.	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
		<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No

**Table 802.A: Allowable Emissions**

Unit No.	<sup>1</sup> NO <sub>x</sub> tpy	CO tpy	VOC tpy	SO <sub>2</sub> tpy	TSP tpy	PM <sub>10</sub> tpy
Combined annual emissions for all units listed in Table 800.A <sup>2</sup>	80.0	80.0	50.0	50.0	50.0	50.0

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO<sub>2</sub>

2 Excludes TA-3-22 Power Plant addressed in Section A1300.

<b>A802 Emission Limits – External</b>	Emissions are calculated and reported on a semi-	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Combustion</b>  B. Table 802.B lists specific emission units and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 40 CFR 60, Subpart Dc; NSR Permit 2195N-R2)	annual basis in accordance with permit condition A109.B. Comparison against the allowable emission limits is performed at each of these reporting periods. Allowable emission limits were not exceeded during this certification period.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>

**Table 802.B: Allowable Emissions**

Unit No.	<sup>1</sup> NO <sub>x</sub> pph	NO <sub>x</sub> tpy	CO pph	CO tpy	VOC pph	VOC tpy	SO <sub>2</sub> pph	SO <sub>2</sub> tpy	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy	PM <sub>2.5</sub> pph	PM <sub>2.5</sub> tpy
RLUOB-BHW-1 (GAS)	0.7	2.9	1.1	4.8	-- <sup>2</sup>	--	0.1	0.3	0.1	0.4	0.1	0.4	0.1	0.4
RLUOB-BHW-1 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2	
RLUOB-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
RLUOB-BHW-2 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2	
RLUOB-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
RLUOB-BHW-3 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2	

1. Permit Condition # and Permit Condition:					2. Method(s) or other information or other facts used to determine the compliance status:							3. What is the frequency of data collection used to determine compliance?		4. Was this facility in compliance with this requirement during the reporting period?		5. Were there any deviations associated with this requirement during the reporting period?
RLUOB-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		
RLUOB-BHW-4 (OIL)	1.6		0.5		--	--	5.8		0.3		0.2		0.2			
All boilers – Oil <sup>4</sup>	N/A	2.9	N/A	0.9	--	--	N/A	10.4	N/A	0.5	N/A	0.3	N/A	0.3		
Combined Total <sup>3</sup>		14.5		20.1		--		11.6		2.1		1.9		1.9		

1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO<sub>2</sub>

2 The "--" symbol indicates a value that was considered negligible and not permitted under NSR 2195N-R2.

3 The annual tpy combined emission totals represent enforceable emission limit caps for all 4 boilers combined, fired with any combination of allowed fuel types.

4 Tpy emission cap for any combination of oil fired boilers.

<p><b>A802 Emission Limits – External Combustion</b></p> <p>C. Units RLUOB-BHW-1 through - 4 shall not emit oxides of nitrogen in excess of 30 ppmv, corrected to 3% oxygen on a dry basis. This emissions limitation applies to natural gas fuel only. (NSR Permit 2195N-R2, Specific Condition 1.f., partial, revised)</p>	<p>Nitrogen oxides (NO<sub>x</sub>) concentrations were analyzed during the initial compliance test for the RLUOB boilers: RLUOB-BHW-1; RLUOB-BHW-2; and RLUOB-BHW-3. NO<sub>x</sub> emissions from the tested boilers were well below the 30 ppmv limit on a dry basis. Unit RLUOB-BHW-4 has not been installed.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>A803 Applicable Requirements – External Combustion</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed</p>	<p>Emission units listed in Table 803.A meet the applicable requirements listed. RLUOB-BHW-4 has not been installed. Monthly fuel monitoring is recorded on all listed emission units. The fuel monitoring records are collected monthly and</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
in Table 803.A.	maintained on-site.			
<b>Table 803.A: Applicable Requirements</b>				
<b>Applicable Requirements</b>	<b>Federally Enforceable</b>	<b>Unit No.</b>		
NSR Permit 2195N-R2	X	RLUOB-BHW-1 through -4		
20.2.61 NMAC Smoke and Visible Emissions	X	All combustion sources		
40 CFR 60, Subpart Dc	X	TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1 through -4		
<b>A804 Operational Limitations – External Combustion</b>  A. All external combustion equipment except Units RLUOB-BHW-1 through -4 when operating with fuel oil is authorized to operate any time during the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with its hours of operation.	Fuel oil was not used during this certification period by units RLUOB-BHW-1, RLUOB-BHW-2 and RLUOB-BHW-3. Unit RLUOB-BHW-4 has not been installed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A804 Operational Limitations – External Combustion</b>  B. Units RLUOB-BHW-1 through -4 shall be operated on fuel oil for no more than 48 hours per year per boiler for non-emergency maintenance and readiness testing. This condition establishes exemption from 40 CFR 63, Subpart JJJJJ.	Hours of operation for each boiler are tracked by facility personnel. Fuel oil was not used during this certification period. RLUOB-BHW-4 has not been installed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>A804 Operational Limitations – External Combustion</b></p> <p>C. Total annual fuel oil consumption for Units RLUOB-BHW-1 through -4 shall not exceed 289,100 gallons on a rolling 365-day total basis.</p>	<p>Total annual fuel oil use is tracked using a rolling 365-day total basis and is compared to the fuel use limit. Fuel oil was not used during this certification period. RLUOB-BHW-4 has not been installed.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>A805 Fuel Sulfur Requirements – External Combustion</b></p> <p>A. All Boilers and Heaters (except Units RLUOB-BHW-1 through -4)</p> <p><b>Requirement:</b> All boilers and heaters, except Units RLUOB-BHW-1 through -4 and the Power Plant addressed in Section A1300 shall combust only natural gas containing no more than 2 grains of total sulfur per 100 dry standard cubic feet.</p>	<p>A natural gas transportation contract is in place, and states that gas provided to LANL will be pipeline quality and contain no more than three quarters (3/4) grains of total sulfur per one hundred (100) dry standard cubic feet.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Monitoring:</b> None.</p> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel gas analysis, specifying the allowable limit or less. If fuel gas analysis is used, the analysis shall not be older than one year.</p>	<p>A copy of LANL's natural gas transportation contract is maintained on-site.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
accordance with Section B110.	conditions A109 and B110. For more information, see comments in Section A605 of this report.			
<p><b>A805 Fuel Sulfur Requirements – External Combustion</b></p> <p>B. Units RLUOB-BHW-1 through -4</p> <p><b>Requirement:</b> Units RLUOB-BHW-1 through -4 shall combust either natural gas containing no more than 2.0 grains of total sulfur per 100 dry standard cubic feet or No. 2 fuel oil containing no more than 0.5 wt% total sulfur. (NSR Permit 2195N-R2, Specific Condition 1.c.)</p>	<p>A natural gas transportation contract is in place, and states that gas provided to LANL will be pipeline quality and contain no more than three quarters (3/4) grains of total sulfur per one hundred (100) dry standard cubic feet.</p> <p>Fuel oil is under a purchase contract and only Ultra Low Sulfur Diesel (ULSD) is delivered to the facility.</p> <p>ULSD contains less than 0.0015 wt% total sulfur.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> None.</p> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the natural gas limit and/or fuel oil limit on total sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the allowable limit or less. If a fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195N-R2, Specific Condition 3.c., revised) Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>	<p>A copy of the transportation contract and purchase contract are maintained on-site. No fuel oil was purchased for the RLUOB boilers during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis, and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A806 20.2.61 NMAC Opacity – External Combustion</b></p> <p>A. All Boilers and Heaters (except Units RLUOB-BHW-1 through -4)</p> <p><b>Requirement:</b> Exhaust emissions from these external combustion sources shall not exceed 20% opacity averaged over a 10-minute period.</p>	<p>LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation.</p> <p>No opacity measurements and corresponding opacity readings were required during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.</p>	<p>Use of natural gas for combustion meets the requirement at Condition A805.A.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.</p>	<p>A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed.</p> <p>No opacity measurements and corresponding opacity readings were required during this</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	certification period.			
<p><b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A806 20.2.61 NMAC Opacity – External Combustion</b></p> <p>B. Units RLUOB-BHW-1 through -4: Natural Gas-Fired</p> <p><b>Requirement:</b> Exhaust emissions from these external combustion sources shall not exceed 20% opacity averaged over a 10-minute period.</p>	<p>LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation.</p> <p>No visible emissions were observed during steady state operations during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A805.A constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.</p>	The natural gas used by these units meets the requirement of Condition A805.A.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings.</p>	A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
	No opacity measurements and corresponding opacity readings were required during this certification period.			
<b>Reporting:</b> The permittee shall report dates of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A806 20.2.61 NMAC Opacity – External Combustion</b>  C. Units RLUOB-BHW-1 through -4: Fuel Oil-Fired  <b>Requirement:</b> Exhaust emissions from these external combustion sources shall not exceed 20% opacity averaged over a 10-minute period.	LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limits.  No fuel oil was used during this certification period and therefore no opacity measurements were taken.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> The permittee shall perform a least one (1) opacity observation each day that fuel oil is used to fire any of Units RLUOB-BHW-1 through -4. Opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. (NSR Permit 2195N-R2, Specific Condition 3.d., revised)	No fuel oil was used in these units during this certification period, therefore no opacity measurements were taken during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Recordkeeping:</b> The permittee shall record dates of any opacity measurements and the corresponding opacity readings. (NSR Permit 2195N-R2, Specific Condition 4.b., revised)	The opacity form includes the date of measurement and opacity observed. No fuel oil was burned during this certification period, and therefore, no opacity readings were taken and no records were generated.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall report dates	No fuel oil was used during this certification period	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
of any opacity measurements and the corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	and therefore no opacity measurements were taken.  Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<p><b>A807 Other – External Combustion</b></p> <p>A. Natural Gas Fuel Usage (Sources listed in Table 800.A except RLUOB-BHW-1 through -4)</p> <p><b>Requirement:</b> The combined natural gas fuel usage shall be limited to 870 MMscf/y. This limitation shall apply to all boilers and heaters listed in Table 800.A except Units RLUOB-BHW-1 through -4, but including all other boilers and heaters at the Facility that qualify as Title V Insignificant Activities.</p>	For units listed under this permit condition, a 12-month rolling total of natural gas used is calculated and recorded each month. The rolling total is compared to the fuel use limit each month. Natural gas usage limits were not exceeded during this certification period.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Monitoring:</b> The permittee shall monitor the monthly total volumetric flow of natural gas to Units TA-55-6-BHW-1 and TA-55-6-BHW-2 through use of a totalizing flow meter.</p>	Units TA-55-6-BHW-1 and TA-55-6-BHW-2 have totalizing volumetric flow meters in place to monitor monthly natural gas use.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Recordkeeping:</b> The permittee shall:</p> <p>1) Calculate the monthly rolling 12-month total natural gas fuel usage for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4.</p>	<p>1) Monthly rolling 12-month total natural gas fuel use is calculated for the permitted units listed in Table 800.A.</p> <p>2) The actual emission rate is calculated for the units listed in Table 800.A. This calculation uses actual fuel use data from individual unit flow meters and facility-wide metered natural gas.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>2) Calculate the actual emissions rate for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4. The calculation shall be based on the actual fuel usage of Units equipped with individual flow meters and the Facility-Wide metered or estimated natural gas usage.</p> <p>3) Calculate the semiannual and annual total emissions rate (tons/year) for this source category and compare them to the emission limits in Table 802.A. The permittee shall maintain records in accordance with Section B109.</p>	<p>3) The emissions rate is calculated every six months and annually for this source category, and compared to the permit limits. Records are maintained in accordance with Section B109.</p>			
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A807 Other – External Combustion</b></p> <p>B. Natural Gas and Fuel Oil Usage (Units RLUOB-BHW-1 through -4)</p> <p><b>Requirement:</b> The permittee shall comply with the emission limits in Table 802.B for each fuel type.</p>	<p>The initial compliance test was used to demonstrate compliance with the emission limits for natural gas use. Vendor data are also used to determine compliance with emission limits for fuel oil and natural gas. All concentrations and emission rates were below permitted limits in Table 802.B.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> The permittee shall:</p> <p>1) Monitor the monthly total volumetric flow of natural gas to Units RLUOB-BHW-1 through -4 using a totalizing flow meter. (NSR Permit 2195N-R2, Specific Condition</p>	<p>1) A totalizing flow meter is in place and measures natural gas used by the RLUOB boilers.            2) Daily fuel oil consumption is monitored by facility personnel using meter readings from each</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
3.a., partial, revised) 2) Monitor the daily fuel oil consumption during which any of the 4 RLUOB boilers are fired with this fuel type. (NSR Permit 2195N-R2, Specific Condition 3.a, partial, revised) 3) Monitor the hours of operation for each boiler when fired on fuel oil and during non-emergency maintenance and readiness testing.	boiler. No fuel oil was burned during this certification period. 3) The hours of operation of each boiler are recorded by facility personnel each time a boiler is run on fuel oil. The purpose of running the boilers is also recorded.			
<b>Recordkeeping:</b> The permittee shall: 1) Calculate and record the annual fuel oil usage for Units RLUOB-BHW-1 through -4 as a daily rolling 365-day total. 2) Calculate and record the semiannual and calendar year total emissions rate (tons/year) for each fuel type and for the combination of both fuels compare to the emission limits in Table 802.B. 3) Record the annual hours of operation of each boiler when fired on fuel oil during non-emergency maintenance and readiness testing and compare to the limitation at Condition A804.B. 4) The permittee shall maintain records in accordance with Section B109.	1) Annual fuel oil usage is calculated and recorded on a daily rolling 365-day total. No fuel oil was burned during this certification period. 2) The emissions rate is calculated on a semi-annual and annual basis for each fuel type and for both fuels combined. Emissions are compared to permit limits and data are provided to NMED in accordance with Permit condition A109. 3) Annual hours of operation for each boiler are recorded when fired on fuel oil during non-emergency use. The total hours are compared to the hour limit in permit condition A804.B. No fuel oil was used during this certification period and therefore no records were generated. 4) Records are maintained in accordance with Section B109.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis as described in Section A109 and in accordance with Section B110. See Section A109 in this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A807 Other – External Combustion</b>  C. 40 CFR 60, Subpart Dc (Units TA-	Units TA-55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1, RLUOB-BHW-2, and RLUOB-BHW-3 meet the requirements of 40 CFR Part 60,	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>55-6-BHW-1, TA-55-6-BHW-2, RLUOB-BHW-1 through -3)</p> <p><b>Requirement:</b> The units are subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:</p> <p>1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).</p>	<p>Subparts A and Dc. Notification requirements were met through source startup notifications and initial permit applications.</p>			
<p><b>Monitoring:</b> The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).</p>	<p>The amount of fuel oil used is monitored and recorded on a monthly basis. Fuel sulfur requirements are tracked and addressed in a fuel oil purchase contract, delivery receipts, and the natural gas transportation contract. No fuel oil was purchased during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40 CFR 60.48c(c), (f) and (g) 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.</p>	<p>Fuel sulfur content information and fuel use records are maintained on-site for at least five (5) years as required by the operating permit.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Reporting:</b> The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(4) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period</p>	<p>Notification requirements were met through source startup notifications and initial permit applications.</p> <p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information,</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
may be modified to coincide with the Semi-Annual reporting period in Section A109. The permittee shall report in accordance with Section B110.	see comments in Section A605 of this report.			
<p><b>A807 Other – External Combustion</b></p> <p>D. 40 CFR 60, Subpart Dc (New Unit RLUOB-BHW-4)</p> <p><b>Requirement:</b> This unit is subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:</p> <p>1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d), and (g). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).</p> <p>2. For new boiler RLUOB-BHW-4, the permittee shall demonstrate initial compliance with the SO<sub>2</sub> standard through a certification from the fuel supplier per 40 CFR 60.44c(h).</p>	LANL purchases only fuel oil with ultra low sulfur content; fuel oil was not used during this certification period. RLUOB-BHW-4 has not been installed.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> The permittee shall comply with the fuel supplier certification requirements in 40 CFR 60.46c(e). The permittee shall monitor fuel usage to meet the recordkeeping requirements of 40 CFR 60.48c(g).</p>	RLUOB-BHW-4 has not been installed. When installed, the requirements, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in the current permit.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40</p>	RLUOB-BHW-4 has not been installed. When installed, the requirements, monitoring,	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
CFR 60.48c(c), (f) and (g) and 40 CFR 60.7(b) and (f) and maintain the records according to §60.48c(i) except when records are required to be maintained for a longer time period in accordance with Section B109.	recordkeeping and reporting will be conducted in accordance with the requirements listed in the current permit.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<b>Reporting:</b> The permittee shall comply with the initial notification requirements of 40 CFR 60.48c(a) and 40 CFR 60.7(a)(1), (a)(3) and (g) and the periodic reporting requirements of 40 CFR 60.48c(b), (d), (e)(11) and (f). Reports shall be submitted according to §60.48c(j). The reporting period may be modified to coincide with the Semi-Annual reporting period in Section A109.	RLUOB-BHW-4 has not been installed. When installed, the requirements, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in the current permit.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>A807 Other – External Combustion</b>  E. Initial Compliance Testing (Units RLUOB-BHW-4)  <b>Requirement:</b> Initial compliance tests are required for boiler, Unit RLUOB-BHW-4. The tests shall be conducted for NOx and CO while burning natural gas fuel only. This condition applies only if boiler Unit RLUOB-BHW-4 is not an identical make and model to boiler units RLUOB-BHW-1 through -3. (NSR Permit 2195N-R2, Specific Condition 6.a., revised)	Unit RLUOB-BHW-4 has not been installed. Once installed, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in the current permit.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>Monitoring:</b> The permittee shall conduct EPA Method tests for CO and NOx within six (6) months of any new boiler start up. Method 19 may be used for determining stack flow rates. This requirement supersedes	Unit RLUOB-BHW-4 has not been installed. Once installed, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in the current permit.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Condition B111.A(2). Initial compliance testing shall be conducted in accordance with Section B111.				
<b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.	Unit RLUOB-BHW-4 has not been installed. Once installed, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in the current permit.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall report in accordance with Section B110 and Section B111.	Unit RLUOB-BHW-4 has not been installed. Once installed, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in the current permit.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A807 Other – External Combustion</b></p> <p>F. Operational Inspection (Sources listed in Table 800.A)</p> <p><b>Requirement:</b> Compliance with the allowable emission limits in Table 802.A shall be demonstrated by performing periodic inspections to ensure proper operations.</p>	LANL conducts annual operational inspections and preventive maintenance on the permitted boilers listed in the current permit to ensure proper operations.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> The permittee shall conduct annual operational inspections to determine that the boilers are operating properly. The operational inspections shall include operational checks for indications of insufficient excess air, or too much excess combustion air. These operational checks shall include observation of common physical indications of improper combustion, including indications specified by the boiler manufacturer, and indications based on operational experience with these units.</p>	<p>LANL has on-site facility-wide annual boiler maintenance procedures for hotwater boilers and steam boilers in accordance with the recommended manufacturer's specifications. LANL's fireside-waterside procedures include annual operational inspections to ensure proper combustion.</p> <p>Annual operational inspections were performed in July, August, and September of 2018 for all the permitted boilers. The boiler inspection reports are available on-site and will be furnished upon request.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?									
<b>Recordkeeping:</b> The permittee shall maintain records of operational inspections, describing the results of all operational inspections noting chronologically any adjustments needed to bring the boilers into compliance. The permittee shall maintain records in accordance with Section B109.	The annual inspections were performed in July, August, and September of 2018. The records of operational inspections and preventive maintenance are maintained in the compliance folders and e-files stored on air quality servers.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
<b>Reporting:</b> The permittee shall report in accordance with Section B110.  Within ninety (90) days of permit issuance, the permittee shall submit for Department approval a procedure which the permittee will use to carry out the operational inspections. The permittee may at any time submit revisions for Department approval.	LANL submitted a procedure that will be used to carry out the operational inspections. This procedure was submitted to NMED AQB on May 13, 2015 within 90 days after permit issuance. No revisions are proposed to this procedure in this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
<b>A900 Regulated Sources – Chemical Usage</b>  A. Table 900.A lists all of the process equipment authorized for this source category.	No new process equipment was added and no changes were made to this source category during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
<b>Table 900.A: Regulated Sources List</b>													
<table border="1"> <thead> <tr> <th data-bbox="134 1110 422 1162">Unit No.</th> <th data-bbox="422 1110 1024 1162">Source Description/Location</th> <th data-bbox="1024 1110 1346 1162">Emission Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="134 1162 422 1219">LANL-FW-CHEM</td> <td data-bbox="422 1162 1024 1219">Chemical Usage, Facility-wide (except RLUOB)</td> <td data-bbox="1024 1162 1346 1219">VOC, HAPs, TAPs</td> </tr> <tr> <td data-bbox="134 1219 422 1308">RLUOB-CHEM</td> <td data-bbox="422 1219 1024 1308">Chemical Usage, Bldg. TA-55-400 (the laboratory portion only of this RLUOB building)</td> <td data-bbox="1024 1219 1346 1308">VOC, HAPs, TAPs</td> </tr> </tbody> </table>					Unit No.	Source Description/Location	Emission Type	LANL-FW-CHEM	Chemical Usage, Facility-wide (except RLUOB)	VOC, HAPs, TAPs	RLUOB-CHEM	Chemical Usage, Bldg. TA-55-400 (the laboratory portion only of this RLUOB building)	VOC, HAPs, TAPs
Unit No.	Source Description/Location	Emission Type											
LANL-FW-CHEM	Chemical Usage, Facility-wide (except RLUOB)	VOC, HAPs, TAPs											
RLUOB-CHEM	Chemical Usage, Bldg. TA-55-400 (the laboratory portion only of this RLUOB building)	VOC, HAPs, TAPs											
<b>A902 Emission Limits – Chemical Usage</b>  A. Table 902.A lists the emission units,	Emissions are calculated and reported on a semi-annual basis in accordance with permit condition A109.B. Comparison against the allowable	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC, NSR Permit 2195N-R2).	emission limits is performed at each of these certification periods. Allowable emission limits were not exceeded during this certification period.			

**Table 902.A: Allowable Emissions**

Unit No.	VOC/HAPs tpy
LANL-FW-CHEM	-- <sup>1</sup>
RLUOB-CHEM	3.75 <sup>1</sup>

<sup>1</sup> The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in Table 106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs. Any VHAPs that are also defined as a VOC shall be included in the VOC total.

<p><b>A903 Applicable Requirements – Chemical Usage</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 903.A.</p>	<p>Chemical use is tracked and emissions are calculated monthly to determine TAP emissions for RLUOB-CHEM. If TAP emissions are expected to exceed screening levels, an NSR permit revision would be requested.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
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**Table 903.A: Applicable Requirements**

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit 2195N-R2	X	RLUOB-CHEM

**A904 Operational Limitations – Chemical Usage**

A. The Chemical Usage source category is authorized for continuous operation. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with continuous hours of operation.

<b>A904 Operational Limitations – Chemical</b>	Chemical use is tracked and emissions are calculated monthly to determine TAP emissions for	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
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1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>Usage</b></p> <p>B. For Unit RLUOB-CHEM, the permittee shall obtain a NSR permit revision prior to the use of any TAP that is expected to be emitted in excess of the stack-height-corrected screening levels at 20.2.72.502 NMAC. (NSR Permit 2195N-R2, Specific Condition 1.i, revised)</p>	<p>RLUOB-CHEM. If TAP emissions are expected to exceed screening levels, an NSR permit revision would be requested.</p>	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<p><b>A907 Other – Chemical Usage</b></p> <p>A. Emission calculations (Unit LANL-FW-CHEM)</p> <p><b>Requirement:</b> The permittee shall comply with the facility-wide VOC and HAP emission limits at Table 106.B.</p>	<p>Facility-wide emissions did not exceed the VOC or HAP emission limits in Table 106.B.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Monitoring:</b> The permittee shall monitor facility-wide chemical purchasing and site location using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a semi-annual basis, and categorized as VOC, HAP, or a combination of these categories.</p>	<p>Facility-wide chemical purchases are monitored using LANL's electronic chemical tracking system. The chemical purchase information is used to calculate emissions. Chemical emission information is submitted to NMED every six months in accordance with permit condition A109.B.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Recordkeeping:</b> The permittee shall record the quantity of total VOC emitted and the quantity of each individual and total HAPs on a semi-annual basis. These records shall be maintained in accordance with Section B109.</p>	<p>Records of facility-wide VOC and HAPs emissions are submitted with the Semi-Annual Emissions Report and the records are maintained at the site.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect</p>	<p>Facility-wide VOC and HAPs emissions are calculated, recorded, and reported on a semi-annual basis in accordance with permit conditions</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.	A109.B, B109, and B110. The Semi-Annual Emissions Report includes individual HAPs emitted in a quantity greater than 0.5 tons per year.  The Semi-Annual Emissions Report for July 1 - December 31, 2017, was submitted on March 27, 2018 (SBR20180005). The Semi-Annual Emissions Report for January 1 - June 30, 2018, was submitted on September 25, 2018 (SBR20180008), both within 90 days of the end of the reporting period.			
<b>A907 Other – Chemical Usage</b>  B. Emission calculations (Unit RLUOB-CHEM)  <b>Requirement:</b> The permittee shall comply with the source-specific VOC emission limit at Table 902.A and the facility-wide VOC and HAP emission limits at Table 106.B. (NSR Permit 2195N-R2, Specific Condition 2.a., revised)	Source specific VOC and facility-wide VOC and HAP emissions are in compliance with emission limits set in Tables 902.A and 106.B in NSR Permit 2195N-R2.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> The permittee shall monitor chemical purchasing for the RLUOB-CHEM facility using an electronic chemical tracking system. The quantity of chemicals that are vented to the atmosphere shall be estimated on a monthly basis, and categorized as VOC, HAP, TAP, or a combination of these categories. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)	Chemical purchasing for the RLUOB-CHEM facility are monitored using LANL's electronic chemical tracking system.  The quantities of chemicals that are vented to the atmosphere are estimated on a monthly basis and are categorized as VOC, HAP, TAP, or a combination of these categories.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Recordkeeping:</b> The permittee shall record the quantity of total VOC and TAP, each	The quantity of total VOC and TAP, individual HAP, and the total HAPs emitted are recorded on a	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?						
individual HAP, and the total HAPs emitted on a monthly rolling, 12-month total basis. These records shall be maintained in accordance with Section B109. (NSR Permit 2195N-R2, Specific Condition 4.c., revised)	monthly rolling, 12-month total basis. Records are maintained in accordance with Section B109.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>						
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110. With respect to individual HAPs, reports shall include any HAP emitted in a quantity greater than 0.5 tons per year.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. The Semi-Annual Emission Report includes individual HAPs emitted in a quantity greater than 0.5 tons per year. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>						
<b>A1000 Regulated Sources – Degreasers</b>  A. Table 1000.A lists all of the process equipment authorized for this source category.	No new process equipment was added to this source category during this certification period. An exemption notice was submitted on April 9, 2018 and was approved by NMED on May 8, 2018 for a non-halogenated solvent to be used in the degreaser. LANL intends to keep the flexibility to use the halogenated solvent in the future and therefore is continuing to comply with all permit requirements, regardless of which solvent is being used.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>						
<b>Table 1000.A: Regulated Sources List</b>										
<table border="1"> <thead> <tr> <th data-bbox="134 1122 342 1208">Unit No.</th> <th data-bbox="342 1122 688 1208">Source Description/Location</th> <th data-bbox="688 1122 1022 1208">Emissions Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="134 1208 342 1265">TA-55-DG-1</td> <td data-bbox="342 1208 688 1265">Ultrasonic Cold Batch</td> <td data-bbox="688 1208 1022 1265">VOCs, HAPs</td> </tr> </tbody> </table>					Unit No.	Source Description/Location	Emissions Type	TA-55-DG-1	Ultrasonic Cold Batch	VOCs, HAPs
Unit No.	Source Description/Location	Emissions Type								
TA-55-DG-1	Ultrasonic Cold Batch	VOCs, HAPs								
<b>A1002 Emission Limits –Degreasers</b>  A. Table 1002.A lists the emission units, and their allowable emission limits.	Emissions are calculated and reported on a semi-annual basis in accordance with permit condition A109.B. Comparison against the allowable emission limits is performed at each of these	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>						

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
(40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC).	reporting periods. Allowable emission limits were not exceeded during this certification period.			
<b>Table 1002.A: Allowable Emissions</b>				
<b>Unit No.</b>		<b>VOC/HAPs tpy</b>		
TA-55-DG-1		-- <sup>1</sup>		
1 The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in Table 106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined total HAPs. Any VHAPs that are also defined as a VOC shall be included in the VOC total.				
<b>A1003 Applicable Requirements – Degreasers</b>		<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
A. The permittee shall comply with all applicable sections of the requirements listed in Table 1003.A.	The LANL degreaser operation met all applicable requirements of 40 CFR Part 63, Subpart T during this certification period.	<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No
<b>Table 1003.A: Applicable Requirements</b>				
<b>Applicable Requirements</b>	<b>Federally Enforceable</b>	<b>Unit No.</b>		
40 CFR 63, Subpart T National Emission Standards for Halogenated Solvent Cleaning	X	TA-55-DG-1		
<b>A1004 Operational Limitations – Degreasers</b>				
A. The Degreasers source category is authorized for continuous operation. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with continuous hours of operation.				
<b>A1007 Other – Degreasers</b>		<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
A. Operational Requirements (Degreasers)	1) The degreaser is kept closed with a tight fitting cover when it is not being used.	<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No
<b>Requirement:</b> The permittee shall comply with the applicable requirements according	2) A freeboard ratio of 0.75 or greater is maintained.			
	3) All waste solvent and solvent contaminated			

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>to 40 CFR 63, Subpart T, including, but not limited to:</p> <ol style="list-style-type: none"> <li>1) Ensure the degreaser is closed with a tight fitting cover whenever not in use, and</li> <li>2) Maintain a freeboard ratio of 0.75 or greater, and</li> <li>3) Collect and store all waste solvent and wipe rags in closed containers, and</li> <li>4) Perform flushing within the freeboard area only, and</li> <li>5) Allow cleaned parts to drip for 15 seconds or until dripping stops, and</li> <li>6) Do not exceed the fill line on the solvent level, and</li> <li>7) Wipe up spills immediately, and</li> <li>8) Do not create observable splashing with agitation device, and</li> <li>9) Ensure that the degreaser is not exposed to drafts greater than 40 meters/min, and</li> <li>10) Do not clean sponges, fabric, wood, or paper.</li> </ol>	<p>wipe rags are collected and stored in closed containers.</p> <ol style="list-style-type: none"> <li>4) Flushing operations are performed only within the freeboard area.</li> <li>5) Cleaned parts are allowed to drip for 15 seconds or until dripping stops.</li> <li>6) The fill line has not been exceeded.</li> <li>7) Spills are wiped up immediately.</li> <li>8) Administrative controls are in place to prevent observable splashing with an agitation device.</li> <li>9) The degreaser is located in a glove box with a set ventilation flow rate. Exhaust flows do not exceed 40 meters/min.</li> <li>10) Sponges, fabric, wood, or paper are not cleaned in the degreaser.</li> </ol>			
<p><b>Monitoring:</b> The permittee shall monitor and record the amount of solvent added to the degreaser.</p>	<p>A Degreaser Recordkeeping database is used to track the amount of degreaser solvent added, removed, and lost.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall:</p>	<p>A Degreaser Recordkeeping database is used to track the amount of degreaser solvent added,</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>1) Calculate the actual emissions rate (pounds/month) of VOC and HAPs based on the quantity of solvent lost to evaporation on a monthly basis.</p> <p>2) Calculate the semi-annual emissions rate (tons/year) for this source category and add to the facility-wide emission rates in Table 106.B.</p> <p>3) Maintain records of the degreaser solvent content and quantity added and work practice checklists.</p> <p>4) The permittee shall maintain records in accordance with Section B109.</p>	<p>removed, and lost. This system is used to calculate emissions.</p> <p>1) The actual emission rate (pounds/month) of VOC and HAPs is automatically calculated by the database when data is entered on a monthly basis.</p> <p>2) The semi-annual emissions (tons/year) are also calculated by the database. These emissions are included in the facility-wide totals.</p> <p>3) Checklists for work practice standards have been completed for this certification period. Records of solvent content and quantity added are maintained on-site.</p> <p>4) Records for this source category are maintained in accordance with Section B109.</p>	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>A1100 Regulated Sources – Internal Combustion</b></p> <p>A. Table 1100.A lists all of the process equipment authorized for this source category.</p>	<p>No new process equipment was added and no changes were made to this source category during this certification period. Table 1100.A. lists the current internal combustion equipment authorized for this source category.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Table 1100.A: Regulated Sources List</b></p>				

1. Permit Condition # and Permit Condition:			2. Method(s) or other information or other facts used to determine the compliance status:			3. What is the frequency of data collection used to determine compliance?		4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Unit No.	Source Location	Source Type <sup>1</sup>	Generator Make/Model	Generator Serial No.	Capacity	Engine Make/Model	Engine Serial No.	Manufacture Date	
TA-33-G-1P	TA-33	CI-RICE, Portable Generator	Cummins/DFHD	H010276941	1490 hp	Cummins/QS T30-G5-NR1	37199764	2001	
TA-33-G-2	TA-33, TA-36 and TA-39	CI-RICE, Portable Generator	Kohler/20EORZ	2025460	36 hp	YANMAR 4TNE84T-EKRW	52993	2003	
TA-33-G-3	TA-33, TA-36 and TA-39	CI-RICE, Portable Generator	Kohler/20EORZ	2025461	36 hp	YANMAR 4TNE84T-EKRW	52992	2003	
TA-33-G-4	TA-33, TA-36 and TA-39	CI-RICE, Portable Generator	Caterpillar/SR4B	6PK01065	316 hp	Caterpillar/3306	8JJ00615	1999	
RLUOB-GEN-1	TA-55-00585 (RLUOB)	CI-RICE Stationary Generator	Cummins/DFLE-5754172	I06970810	2220 hp	Cummins/KT A50G9	25314401	9/06	
RLUOB-GEN-2	TA-55-0584 (RLUOB)	CI-RICE Stationary Generator	Cummins/DFLE-5754172	I06970811	2220 hp	Cummins/KT A50G9	25314399	9/06	
RLUOB-GEN-3	TA-55-0583 (RLUOB)	CI-RICE Stationary Generator	Cummins/DFLE-5754172	I06970812	2220 hp	Cummins/KT A50G9	33165566	9/06	

1. Permit Condition # and Permit Condition:			2. Method(s) or other information or other facts used to determine the compliance status:			3. What is the frequency of data collection used to determine compliance?		4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
TA-48-GEN-1	TA-48-1	CI-RICE Stationary Generator	Cummins/150DSGAC	L100178636	250 hp	QSB7-G3 NR3	73176927	2010	
TA-55-GEN-1	TA-55-PF10	CI-RICE Stationary Generator	Whisper Watt/DCA 25SSiU4F DF-027012	7150008	40.2 hp	ISUZU Model: BZ-4LE2T	4LE2-298868	2014	
TA-55-GEN-2	TA-55-PF11	CI-RICE Stationary Generator	Whisper Watt/DCA 25SSiU4F DF-027012	7150066	40.2 hp	ISUZU Model: BZ-4LE2T	4LE2-299432	2014	
TA-55-GEN-3	TA-55-371	CI-RICE Stationary Generator	Caterpillar/SR4B-6D	G5C03702	1335 hp	Caterpillar/C 32	SYCO5263	2009	

1. Portable units are subject to NSPS or NESHAP requirements if they fail to meet the definition of a Nonroad engine as defined in 40 CFR 1068.30.

<p><b>A1102 Emission Limits – Internal Combustion</b></p> <p>A. Table 1102.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; NSR permit 2195F-R4 and 2195P)</p>	<p>Emissions are calculated and reported on a semi-annual basis in accordance with permit condition A109.B. Comparison against the allowable emission limits is performed at each of these reporting periods. Allowable emission limits were not exceeded during this certification period.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p><b>Table 1102.A: Allowable Emissions</b></p>				

1. Permit Condition # and Permit Condition:			2. Method(s) or other information or other facts used to determine the compliance status:						3. What is the frequency of data collection used to determine compliance?		4. Was this facility in compliance with this requirement during the reporting period?		5. Were there any deviations associated with this requirement during the reporting period?
Unit No.	NO <sub>x</sub> pph	NO <sub>x</sub> tpy	CO pph	CO tpy	VOC pph	VOC tpy	SO <sub>2</sub> pph	SO <sub>2</sub> tpy	TSP pph	TSP tpy	PM <sub>10</sub> pph	PM <sub>10</sub> tpy	
TA-33-G-1P	40.3	18.1	33.7	15.2	0.7	0.3	5.5	2.5	1.4	0.6	1.4	0.6	
TA-33-G-2	0.83	0.21	0.2	0.1	0.1	-- <sup>1</sup>	--	--	--	--	--	--	
TA-33-G-3	0.83	0.21	0.2	0.1	0.1	-- <sup>1</sup>	--	--	--	--	--	--	
TA-33-G-4	9.33	2.33	5.7	1.4	0.75	0.2	0.6	0.16	--	--	--	--	

<sup>1</sup> The VOC emissions from this source category are included in the facility-wide allowable emissions limit established in condition A106.B: 200 tpy VOC, 8.0 tpy per individual HAP, and 24.0 tpy of combined HAPs.

<b>A1103 Applicable Requirements – Internal Combustion</b>  A. The permittee shall comply with all applicable sections of the requirements listed in Table 1103.A.	LANL is in compliance with the applicable requirements for permitted internal combustion units.	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
		<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No

**Table 1103.A: Applicable Requirements**

Applicable Requirements	Federally Enforceable	Unit No.
NSR Permit 2195F-R4	X	TA-33-G-1P
NSR Permit 2195P and 2195-P3, 2195P-R1 and 2195P-R3	X	TA-33-G-2 through -4
NSR Permit 2195N-R1 (Admin NOE)	X	RLUOB-GEN-1 through -3
20.2.61 NMAC Smoke and Visible Emissions	X	All Internal Combustion Sources
20.2.77 New Source Performance Standards	X	Applicable to RLUOB-GEN-1 through -3, TA-48-GEN-1, TA-55-GEN-1 TA-55-GEN-2 and TA-55-GEN-3



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
40 CFR 60, Subpart A, General Provisions	X		Applicable to RLUOB-GEN-1 through -3, TA-48-GEN-1, TA-48-GEN-1, TA-55-GEN-1 TA-55-GEN-2 and TA-55-GEN-3	
40 CFR 60 Subpart IIII, Stationary CI-RICE	X			
40 CFR 89, Control of Emissions from New and In-Use Nonroad Compression Ignition Engines	X		TA-33-G-2 through -4	
<p><b>A1104 Operational Limitations – Internal Combustion</b></p> <p>A. Hours of Operation and Emission Limits for Unit TA-33-G-1P</p> <p><b>Requirements:</b></p> <p>1) Unit TA-33-G-1P is limited to eight (8) hours of daily operation at full capacity. Operation shall occur between the hours of 7:00 AM and 5:00 PM. (NSR Permit 2195F-R4, Condition A1104.A)</p> <p>2) Unit TA-33-G-1P is limited to the emissions limits stated in Table 1102.A. (NSR Permit 2195F-R4, Condition A1104.A)</p>	<p>Unit TA-33-G-1P operated for a total of 17.7 hours during this certification period.</p> <p>Emissions are lower than the limits stated in Table 1102.A. in NSR permit 2195F-R4.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> The permittee shall monitor the time(s) of operation each day, and the daily and monthly rolling 12-month total hours of operation for Unit TA-33-G-1P using a non-resettable hour meter. Hours that do not represent hours the unit is operated at the TA-33 site may be monitored separately for subsequent subtraction from the daily and monthly rolling 12-month totals</p>	<p>The times of operations are monitored and the generator is equipped with a non-resettable hour meter. The purpose of equipment use at TA-33 and elsewhere are identified in a log sheet.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall maintain the following records and in accordance with Section B109:</p> <p>1) The permittee shall keep records of</p>	<p>1) A log book is located in the trailer that contains the unit. The log book includes hours of operation recorded daily when the equipment operates. The monthly rolling 12-month total hours</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset listed above, as indicated on the non-resettable hour meter. The permittee may record and subtract hours of operation that do not represent operating hours at the TA-33 site.</p> <p>2) The permittee shall calculate the annual emissions of all criteria and hazardous air pollutants from Unit TA-33-G-1P. The permittee may subtract emissions that are not the result of operations at TA-33.</p>	<p>of operation are calculated in a spreadsheet. Operations at areas outside TA-33 are recorded.</p> <p>2) The annual emissions of criteria and HAPs are calculated based on the hours of operation.</p>			
<p><b>Reporting:</b> The permittee shall submit reports in accordance with Section B110.</p>	<p>Reports are submitted as required by permit conditions in accordance with Section B110.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1104 Operational Limitations – Internal Combustion</b></p> <p>B. Hours of Operation and Emission Limits for Units TA-33-G-2 through -4</p> <p><b>Requirements:</b></p> <p>1) Units TA-33-G-2 through -4 are authorized to operate 500 hours per generator per calendar year. (NSR Permit 2195P, Specific Condition 1.b.)</p> <p>2) Units TA-33-G-2 through -4 shall each be certified to be in compliance with applicable non-road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 1.c.)</p>	<p>Compliance with the hourly operational limitations and emission requirements for TA-33-G-2 through -4 are described below:</p> <p>1) The hour meter readings are collected twice a year to verify that the hour limit is not being approached. The operating hour limits for these units were not exceeded during this certification period.</p> <p>2) Manufacturer's certificates of compliance with applicable non-road emission standards are maintained on-site.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Monitoring:</b> The permittee shall monitor the total hours of operation for each genset, Units TA-33-G-2 through -4, using a non-resettable hour meter.	The operating hour readings are collected twice a year to verify the hour limit is not approached. The hour limits for these units were not exceeded during this certification period. The hour meters on these units are non-resettable.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Recordkeeping:</b> The permittee shall: 1) Record the total hours operation of the gensets listed above, as indicated on the non-resettable hour meter. (NSR Permit 2195P, Specific Condition 4.a., revised) 2) Calculate and record the semi-annual emissions of criteria and hazardous air pollutants from each genset, Units TA-33-G-2 through -4. 3) Maintain a copy of the engine certification to the applicable non road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 4.c.)	1) Equipment operating hours are recorded. 2) The emissions of regulated pollutants from Units TA-33-G-2, TA-33-G-3 and TA-33-G-4 are calculated and recorded semi-annually. 3) Certificates of compliance with applicable non-road emission standards are maintained on-site.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A1105 Fuel Sulfur Requirements – Internal Combustion</b>  A. Fuel Sulfur Requirement for Unit TA-33-G-1P  <b>Requirement:</b> Unit TA-33-G-1P while in use at TA-33 shall combust only diesel fuel containing no more than 500 ppmw total sulfur.	Only Ultra Low Sulfur Diesel (ULSD) is used at the facility. A purchase contract is in place to only purchase ULSD which contains less than 15 ppm sulfur.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>Monitoring:</b> None.</p> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.</p>	<p>Only ULSD fuel is used in this unit. LANL has a purchase contract in place to only purchase ULSD fuel containing less than 15 ppm sulfur. A copy of the purchase contract is available on-site. In addition, receipt and/or invoices from fuel suppliers are kept when deliveries are made.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification is submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1106 20.2.61 NMAC Opacity – Internal Combustion</b></p> <p>A. CI-RICE - TA-33-G-1P, TA-33-G-2, TA-33-G-3, TA-33-G-4, RLUOB-GEN-1, RLUOB-GEN-2, RLUOB-GEN-3, TA-48-GEN-1, TA-55-GEN-1 TA-55-GEN-2 and TA-55-GEN-3</p> <p><b>Requirement:</b> Visible emissions from the stacks of the above listed sources shall not</p>	<p>Opacity measurements were not required for generators in this certification period, therefore no visible emissions were observed to exceed 20% opacity in listed sources.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
equal or exceed an opacity of 20 percent.				
<p><b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year as qualified by the Section B108.D monitoring provisions. This requirement excludes Insignificant and Trivial Activities.</p>	<p>Opacity measurements were not required for generators in this certification period. Section B108.D(2) of the permit allows for reduced frequency of opacity monitoring, if the unit operates less than 10% of the monitoring period (calendar quarter). The applicable CI-RICE units operated less than 10% of each monitoring period (less than 219 hours each quarter) during this certification period. If the unit operates greater than 10% of the monitoring period, an opacity observation will be performed, otherwise an opacity observation will be performed within five (5) years of the issuance date of the operating permit.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.</p>	<p>Records are maintained in accordance with Section B109.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Reporting:</b> The permittee shall report date, time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>A standard form is used for all opacity measurements. The form includes the date, time, and results of the Method 9 observations. Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1107 Other – Internal Combustion</b></p> <p>A. 40 CFR 60, Subpart IIII (Emergency Generators Units RLUOB-GEN-1 through -3)</p> <p><b>Requirement:</b> The units are subject to 40</p>	<p>The units are in compliance with the applicable emissions standards and fuel requirements in 40 CFR 60, Subpart IIII in §60.4205(a), §60.4206 and §60.4207(b) and Table 1102.B. Diesel sulfur requirements of 15 ppm are met by the LANL fuel oil contract specifying purchasing ULSD.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(a), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211(a, b, and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.	§60.4211 (a) (b) and (f) - Manufacturer's certifications for nonroad engines are on-site; non-emergency maintenance checks and readiness testing of such units is limited to 100 hours per year per §60.4211(f)(3).			
<p><b>Monitoring:</b> None</p> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	Hours of non-emergency and emergency operation are recorded at the facility during generator operation. The units subject to this condition operated less than 100 hours to date on non-emergency maintenance and readiness checks in accordance with condition in §60.4211(f)(3).	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p>	Hours of operations are reported in accordance with Section B110.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>A1107 Other – Internal Combustion</b></p> <p>B. 40 CFR 60, Subpart IIII (Emergency Generators Unit TA-48-GEN-1, TA-55-GEN-1 TA-55-GEN-2 and TA-55-GEN-3)</p> <p><b>Requirement:</b> The units are subject to 40 CFR 60, Subpart IIII and the permittee shall comply with the applicable emissions standards and fuel requirements in §60.4205(b), §60.4202(a)(2), §60.4206 and §60.4207(b) and Table 1102.B. In addition the permittee shall follow the compliance requirements stated in §60.4211(a, c and f) and the general provisions of 40 CFR 60 Subpart A as required in §60.4218.</p>	<p>The units are in compliance with the applicable emissions standards and fuel requirements in 40 CFR 60, Subpart IIII in §60.4205(b), §60.4202(a)(2), §60.4206 and §60.4207(b) and Table 1102.B.</p> <p>Diesel sulfur requirements of 15 ppm are met by the LANL fuel oil contract specifying purchasing ULSD.</p> <p>§60.4211 (a) (c) and (f) - Manufacturer's certifications for non-road engine are on-site to demonstrate compliance with standards; non-emergency maintenance checks and readiness testing of such units are limited to 100 hours per year per §60.4211(f)(3).</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?												
<p><b>Monitoring:</b> None</p> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	Hours of non-emergency and emergency operation are recorded at the facility during generator operation. The units subject to this condition operated less than 100 hours to date on non-emergency maintenance and readiness checks.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
<p><b>Reporting:</b> The permittee shall comply with all applicable reporting requirements of 40 CFR 60, Subpart A as required in §60.4218 and in accordance with Section B110.</p>	Hours of operations are reported in accordance with Section B110.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
<p><b>A1200 Regulated Sources – Data Disintegrator</b></p> <p>A. Table 1200.A lists all of the process equipment authorized for this source category.</p>	No new process equipment was added and no changes were made to this source category during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
<p><b>Table 1200.A: Regulated Sources List</b></p> <table border="1" data-bbox="197 894 1415 1190"> <thead> <tr> <th>Unit No.</th> <th>Source Description</th> <th>Manufacturer</th> <th>Model No./ Serial No.</th> <th>Manufacture Date</th> <th>Capacity</th> </tr> </thead> <tbody> <tr> <td>TA-52-11</td> <td>Data Disintegrator/ Industrial Shredder</td> <td>Security Engineered Machinery</td> <td>1424/11892</td> <td>9/2002</td> <td>1200 lb/hr</td> </tr> </tbody> </table>					Unit No.	Source Description	Manufacturer	Model No./ Serial No.	Manufacture Date	Capacity	TA-52-11	Data Disintegrator/ Industrial Shredder	Security Engineered Machinery	1424/11892	9/2002	1200 lb/hr
Unit No.	Source Description	Manufacturer	Model No./ Serial No.	Manufacture Date	Capacity											
TA-52-11	Data Disintegrator/ Industrial Shredder	Security Engineered Machinery	1424/11892	9/2002	1200 lb/hr											
<p><b>A1201 Control Equipment – Data Disintegrator</b></p> <p>A. Table 1201.A lists all of the pollution control equipment required for the applicable regulated equipment in this source category.</p>	No new pollution control equipment was added and no changes were made to this source category during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Each emission point is identified by the same number that was assigned to it in the permit application.				

**Table 1201.A: Control Equipment List**

Control Equipment Unit No./Location <sup>1</sup>	Control Description	Efficiency	Pollutant being controlled
TA-52-11	Cyclone and cloth tube filters	98.75%	TSP/PM10

<sup>1</sup> Control for unit number refers to a unit number from the Regulated Sources List

<p><b>A1202 Emission Limits – Data Disintegrator</b></p> <p>A. Table 1202.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; NSR Permit 2195H).</p>	<p>Emissions are calculated and reported on a semi-annual basis in accordance with permit condition A109.B. Comparison against the allowable emission limits is performed at each of these reporting periods. Allowable emission limits were not exceeded during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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**Table 1202.A: Allowable Emissions**

Unit No.	TSP pph	TSP tpy	PM10 pph	PM10 tpy
TA-52-11	2.3	9.9	2.3	9.9

<sup>1</sup> PM10 and TSP emissions limits are after controls.

<p><b>A1203 Applicable Requirements – Data Disintegrator</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 1203.A.</p>	<p>LANL data disintegrator operations meet the requirements of NSR Permit No. 2195H.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--	---	--	--



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?						
<p><b>Table 1203.A: Applicable Requirements</b></p>										
<table border="1"> <thead> <tr> <th data-bbox="132 370 678 483">Applicable Requirements</th> <th data-bbox="678 370 953 483">Federally Enforceable</th> <th data-bbox="953 370 1312 483">Unit No.</th> </tr> </thead> <tbody> <tr> <td data-bbox="132 483 678 540">NSR Permit No: 2195H</td> <td data-bbox="678 483 953 540">X</td> <td data-bbox="953 483 1312 540">TA-52-11</td> </tr> </tbody> </table>					Applicable Requirements	Federally Enforceable	Unit No.	NSR Permit No: 2195H	X	TA-52-11
Applicable Requirements	Federally Enforceable	Unit No.								
NSR Permit No: 2195H	X	TA-52-11								
<p><b>A1204 Operational Limitations – Data Disintegrator</b></p> <p>A. Operational Throughput Limitation (Unit Data Disintegrator)</p> <p><b>Requirement:</b> The Unit Data Disintegrator is limited processing no more than 25,000 boxes or 565 tons per year media. To avoid Compliance Assurance Monitoring (CAM) requirements under 40 CFR 64, the Data Disintegrator shall limit uncontrolled potential PM emissions by limiting media processing no more than 25,000 boxes or 565 tons per year.</p>	<p>A log is kept to ensure that no more than 25,000 boxes or 565 tons per year of media are processed.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
<p><b>Monitoring:</b> The permittee shall perform the monitoring required in Condition A1207.A.</p>	<p>Addressed in Condition A1207.A. Monitoring.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
<p><b>Recordkeeping:</b> The permittee shall perform the recordkeeping required in Condition A1207.A.</p>	<p>Addressed in Condition A1207.A. Recordkeeping.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
<p><b>Reporting:</b> The permittee shall perform the reporting required in Condition A1207.A.</p>	<p>Addressed in Condition A1207.A. Reporting.</p>	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes						

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
		<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<p><b>A1207 Other – Data Disintegrator</b></p> <p>A. Emission calculations (Data Disintegrator)</p> <p><b>Requirement:</b> The permittee shall calculate Data Disintegrator emissions based on the records of the number of boxes of media that are destroyed.</p>	<p>A log is kept to record the number of boxes of media destroyed monthly and is used to calculate emissions on a semi-annual basis.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Monitoring:</b> The permittee shall monitor the quantity of media destroyed on a monthly basis. The total weight shall be based on a previously determined average box weight. This average weight determination shall be maintained as part of the records for this facility.</p>	<p>An operations log is kept to monitor the number of boxes of media that are destroyed each month. The average box weight has been determined and is maintained as part of the facility records.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Recordkeeping:</b> The permittee shall calculate the actual emissions rate (tons per reporting period) for the emission units listed in Table 1200.A on a semi-annual basis. The emission rate in tons per year shall be calculated by summing the emissions from the previous reporting period with the current period. Records shall be maintained in accordance with Section B109.</p>	<p>The actual emissions rate is calculated for the emission unit on a semi-annual basis and is included in the Semi-Annual Emissions Report. These records are maintained on-site. The emission rate in tons per year is calculated by summing the emissions from the previous reporting period with the current period. The emissions are compared to the allowable emissions for the unit. Records are maintained in accordance with Section B109.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>A1207 Other – Data Disintegrator</b></p> <p>B. Cyclone/Cloth Tube Filters (Data Disintegrator)</p> <p><b>Requirement:</b> The permittee shall perform regular maintenance and repair on the cyclone and cloth tube filter(s) per manufacturer's recommendations. (NSR Permit 2195H, Specific Condition 1.d.)</p>	<p>report.</p> <p>Preventive maintenance and repair are performed on the data disintegrator cyclone and cloth tube filter(s) following manufacturer's recommendations.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p><b>Monitoring:</b> N/A</p> <p><b>Recordkeeping:</b> The permittee shall maintain adequate records on site to demonstrate compliance with manufacturer's recommended repair and maintenance schedules for the cyclone and the cloth tube filter(s). (NSR Permit 2195H, Specific Condition 4.a.) Records shall be maintained in accordance with Section B109.</p>	<p>Records of maintenance performed on the cyclone and cloth tube filter(s) are available on-site. Manufacturer recommended repair and maintenance information are also available on-site. Records are maintained in accordance with Section B109.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	<p>Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>
<p><b>A1207 Other – Data Disintegrator</b></p> <p>C. Compliance Testing (Data Disintegrator)</p> <p><b>Requirement:</b> If upon notification by the</p>	<p>No compliance test was required or performed during this certification period.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Department, compliance testing is required, it shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 5 for TSP, and conducted in accordance with 450 CFR 60, Appendix A. 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. (NSR Permit 2195H, Specific Condition 6.b., revised)				
<p><b>Monitoring:</b> N/A</p> <p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.</p>	Records are maintained in accordance with Section B110. No tests were conducted and no records were generated during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification submitted on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1300 Regulated Sources – TA-3 Power Plant</b></p> <p>A. Table 1300.A lists all of the process equipment authorized for this source category.</p>	No new process equipment has been added to this facility during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Table 1300.A: Regulated Sources List</b>				

1. Permit Condition # and Permit Condition:		2. Method(s) or other information or other facts used to determine the compliance status:			3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Unit No.</b>	<b>Source Description</b>	<b>Manufacturer</b>	<b>Model No./ Serial No.</b>	<b>Year of Manufacture</b>	<b>Capacity</b>		
TA-3-22-1	Boiler	Edgemoor Iron Works	4008	1950	178.5 MMBtu/hr		
TA-3-22-2	Boiler	Edgemoor Iron Works	4009	1950	178.5 MMBtu/hr		
TA-3-22-3	Boiler	Union Iron Works	11804	1952	178.5 MMBtu/hr		
TA-3-22-CT-1	Combustion Turbine	Rolls Royce	RB211-6761DLE/	2003	27 MW		
<b>A1301 Control Equipment – TA-3 Power Plant</b>		No new pollution control equipment was added to this facility during this certification period.			<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
A. Table 1301.A lists all the pollution control equipment required for this source category. Each emission point is identified by the same number that was assigned to it in the permit application.							
<b>Table 1301.A: Control Equipment List:</b>							
<b>Control Equipment Unit No.</b>	<b>Control Description</b>	<b>Manufacturer</b>	<b>Year of Manufacture</b>	<b>Pollutant being controlled</b>	<b>Control for Unit No.<sup>1</sup></b>		
F-1	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-1		
F-2	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-2		

1. Permit Condition # and Permit Condition:		2. Method(s) or other information or other facts used to determine the compliance status:			3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
F-3	Flue Gas Recirculation Fan, 1800 rpm	Robinson Industries	2001	NOx	TA-3-22-3		
TA-3-22-CT-1	Rolls-Royce DLE System	Rolls-Royce	2003	NOx	TA-3-22-CT-1		

<sup>1</sup>Control for unit number refers to a unit number from the Regulated Equipment List

<b>A1302 Emission Limits – TA-3 Power Plant</b>  A. Table 1302.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 40 CFR 60, Subparts A and GG; NSR Permit 2195B-M2).	Emissions are calculated and reported on a semi-annual basis in accordance with permit condition A109.B. Comparison against the allowable emission limits is performed at each of these reporting periods. Allowable emission limits were not exceeded during this certification period.	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
		<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No

**Table 1302.A: Allowable Emissions**

Unit No.	NOx <sup>1</sup>		CO		VOC		SOx		TSP		PM10		PM2.5	
	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil	Gas	Oil
TA-3-22-1 (lb/hr)	10.2	11.3	7.0	6.5	1.0	0.3	1.1	9.6	1.3	4.3	1.3	3.0	1.3	2.0
TA-3-22-2 (lb/hr)	10.2	11.3	7.0	6.5	1.0	0.3	1.1	9.6	1.3	4.3	1.3	3.0	1.3	2.0
TA-3-22-3 (lb/hr)	10.2	11.3	7.0	6.5	1.0	0.3	1.1	9.6	1.3	4.3	1.3	3.0	1.3	2.0
Boilers Combined (tpy)	31.5		21.5		2.8		4.9		4.7		4.4		4.2	

1. Permit Condition # and Permit Condition:		2. Method(s) or other information or other facts used to determine the compliance status:			3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
TA-3-22-CT-1 (lb/hr)	23.8	29.0	0.6	1.7	1.9	1.9	1.9
TA-3-22-CT-1 (tpy)	59.4	72.3	1.5	4.2	4.8	4.8	4.8
TA-3-22-CT-1 (ppm)	25 ppmvd @ 15% O <sub>2</sub>	N/A	N/A	N/A	N/A	N/A	N/A
1 Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO <sub>2</sub> .							
<b>A1302 Emission Limits – TA-3 Power Plant</b>					<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
B. NO <sub>x</sub> emissions (all oxides of nitrogen expressed as NO <sub>2</sub> ) from the boilers (Units TA-3-22-1 through -3) shall not exceed 0.3 lb/MMBtu of heat input when burning natural gas or oil as required by 20.2.33 and 20.2.34 NMAC. (NSR Permit 2195B-M2, Specific Condition A106.B)		Results from source compliance tests performed on the boilers demonstrate that nitrogen dioxide emissions do not exceed 0.3 lb/MMBtu of heat input.			<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No
<b>A1302 Emission Limits – TA-3 Power Plant</b>					<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
C. For the Combustion Turbine (Unit TA-3-22-CT-1), the permittee shall comply with the NSPS Subpart GG NO <sub>x</sub> emissions limitation of 110.4 ppmv at 15% O <sub>2</sub> , dry basis (40 CFR 63.332(a)(1) and NSR Permit 2195B-M2, Specific Condition A106.C).		The NO <sub>x</sub> emission concentrations and rates have been measured through emission stack testing and compared to the allowable emission limit for several years. NO <sub>x</sub> concentrations are consistently below the NSPS Subpart GG, NO <sub>x</sub> emission limit. The test reports are available on-site and have been provided to NMED in previous Semi-Annual Monitoring Reports.			<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No
<b>A1302 Emission Limits – TA-3 Power Plant</b>					<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
D. For the Combustion Turbine (Unit TA-3-22-CT-1), the permittee shall comply with the NSPS Subpart GG SO <sub>2</sub> emissions limitation of 0.015% by volume at 15% O <sub>2</sub>		The Combustion Turbine only uses natural gas. The natural gas transportation contract stipulates that gas provided to LANL will be pipeline quality and contain no more than three quarters (3/4) grains of total sulfur per one hundred (100) dry standard cubic feet, which is just under 26 ppmw.			<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
dry basis or through use of any fuel not exceeding 8000 ppmw total sulfur. (40 CFR 60.333 and NSR Permit 2195B-M2, Specific Condition A106.D)				
<b>A1303 Applicable Requirements – TA-3 Power Plant</b>  A. The permittee shall comply with all applicable sections of the requirements listed in Table 1303.A.	All units listed in this section comply with the requirements listed in Table 1303.A.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Table 1303.A: Applicable Requirements</b>				
<b>Applicable Requirements</b>	<b>Federally Enforceable</b>	<b>Unit No.</b>		
20.2.33 NMAC Gas Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1 through -3		
20.2.34 NMAC Oil Burning Equipment – Nitrogen Dioxide	X	TA-3-22-1 through -3		
20.2.61 Smoke and Visible Emissions	X	All combustion sources		
40 CFR 60, Subpart A	X	TA-3-22-CT-1		
40 CFR 60, Subpart GG	X	TA-3-22-CT-1		
NSR Permit No: 2195B-M2	X	All Power Plant sources		
<b>A1304 Operational Limitations – TA-3 Power Plant</b>  A. This source category is authorized to operate at any time of the day or night on any day of the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with	No change in operation occurred for this source category during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
continuous hours of operation.				
<p><b>A1304 Operational Limitations – TA-3 Power Plant</b></p> <p>B. Units TA-3-22-1 through -3 shall be operated on fuel oil for no more than 48 hours per year per boiler for non-emergency maintenance and readiness testing. This condition establishes exemption from 40 CFR 63, Subpart JJJJJ</p>	<p>Fuel oil was used for maintenance and readiness testing for less than 48 hours during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1305 Fuel Sulfur Requirements – TA-3 Power Plant</b></p> <p>A. Boilers (Units TA-3-22-1 through -3)</p> <p><b>Requirement:</b> External combustion sources at the TA-3 Power Plant shall combust only natural gas containing no more than 2 gr/100 scf total sulfur or No. 2 fuel oil containing no more than 0.05 wt% total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.A)</p>	<p>The natural gas transportation contract states that gas provided to LANL will be pipeline quality with total sulfur content of no more than three quarters (3/4) grains of total sulfur per one hundred (100) standard cubic feet.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> N/A</p> <p><b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous or liquid fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. Alternatively, compliance may be</p>	<p>Fuel oil is under a purchase contract and only Ultra Low Sulfur Diesel (ULSD) is delivered to the facility. ULSD contains less than 0.0015 wt% total sulfur. A copy of the transportation contract and purchase contract are kept on-site. No fuel oil was purchased for the TA-3 power plant during this certification period.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
demonstrated by keeping a receipt or invoice from a commercial fuel supplier with each fuel delivery, which shall include the delivery date, the fuel type delivered, and amount of fuel delivered, and the maximum sulfur content of the fuel.				
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A1305 Fuel Sulfur Requirements – TA-3 Power Plant</b>  B. Combustion Turbine (Unit TA-3-22-CT-1)  <b>Requirement:</b> The combustion turbine at the TA-3 Power Plant shall combust only natural gas containing no greater than 2 gr/100 scf total sulfur. (NSR Permit 2195B-M2, Specific Condition A110.B)	This requirement is met as the natural gas transportation contract states that gas provided to LANL will be pipeline quality with total sulfur content of no more than three quarters (3/4) grains of total sulfur per one hundred (100) dry standard cubic feet.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> N/A <b>Recordkeeping:</b> The permittee shall demonstrate compliance with the limit on total fuel sulfur content by maintaining records of a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, or fuel analysis, specifying the fuel grade and certification or allowable sulfur limit. If fuel analysis is used, the analysis shall not be older than one year. (NSR Permit 2195B-M2, Specific Condition A110.B and 40 CFR 60.334(h))	LANL's natural gas transportation contract is kept on-site.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A1306 20.2.61 NMAC Opacity – TA-3 Power Plant</b>  A. Sources Combusting Natural Gas  <b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.A)	LANL has certified opacity readers on-site who perform opacity readings using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> Use of natural gas fuel meeting the requirement at Condition A1305.A or B constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation and are determined to be not due to condensed water vapor only, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.	Natural gas fuel meets the requirement specified in Condition A1305.A and B. Use of natural gas fuel constitutes compliance with the 20% opacity limit. No visible emissions were observed during steady state operation during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Recordkeeping:</b> The permittee shall record dates of any opacity measures and the corresponding opacity readings.	A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed.  No opacity readings were required during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall report dates of any opacity measures and the	A standard form is used for all opacity measurements. The form includes the date and time	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
corresponding opacity readings. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	of the Method 9 observation and opacity observed. Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<b>A1306 20.2.61 NMAC Opacity – TA-3 Power Plant</b> B. Boilers Combusting No. 2 Fuel Oil <b>Requirement:</b> All combustion units shall not exceed 20% opacity. (NSR Permit 2195B-M2, Specific Condition A111.B)	Certified opacity readers are located on-site who perform opacity readings using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Fuel oil was used during this certification period and the units did not exceed the 20% opacity limit.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>Monitoring:</b> During steady state operation, opacity shall be measured over a 10-minute period in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC. Opacity measurements shall be conducted on a quarterly basis per calendar year whenever the boiler(s) are operational during the monitoring period. This requirement is subject to the monitoring provisions of Condition B108.D.	Opacity is read at least once per quarter when boilers are combusting fuel oil and when required by monitoring provisions in condition B108.D. Opacity readings are measured over a 10-minute period and in accordance with 40 CFR 60, Appendix A, Method 9. A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed. Fuel oil was used during this certification period and two Method 9 opacity measurements were conducted.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>Recordkeeping:</b> The permittee shall maintain records of all Method 9 observations, and in accordance with Section B109.	Records are maintained in accordance with Section B109.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>Reporting:</b> The permittee shall report date,	A standard form is used for all opacity measurements. The form includes the date and time	<input type="checkbox"/> <b>Continuous</b>	<input checked="" type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>Yes</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
time, and results of all Method 9 observations. The permittee shall submit reports described in Section A109 and in accordance with Section B110.	of the Method 9 observation and opacity observed. Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>
<p><b>A1307 Other – TA-3 Power Plant</b></p> <p>A. Emission calculations (TA-3 Power Plant)</p> <p><b>Requirement:</b> The permittee shall comply with the hourly and annual emission limits at Table1302.A. and Conditions A1302.B, C, and D for the combustion turbine and boilers. The boiler annual emission limit shall be expressed as the combined emissions from all 3 boilers. (NSR Permit 2195B-M2, Specific Condition A801.A)</p>	All emissions calculations required by this section are performed for the emission units listed. The emission units did not exceed the hourly or annual emission limits.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<p><b>Monitoring:</b> The permittee shall perform the following calculations on a monthly basis:</p> <p>1) Calculate the average hourly emissions rates (pph) for each emissions unit based on the monthly total fuel consumption and monthly actual hours of operation.</p> <p>2) Calculate the actual annual emissions rates (tpy) for all emissions units based on the monthly rolling 12-month total fuel consumption and the monthly rolling 12-month total hours of operation.</p> <p>3) All NOx emission rates for the boilers shall also be calculated in terms of lb/MMBtu heat input. (NSR Permit 2195B-M2, Specific Condition A801.A)</p>	<p>Emissions spreadsheets are in place that calculate all required emissions and are used for monitoring and reporting purposes.</p> <p>1) The average hourly emission rates are included in the spreadsheet.</p> <p>2) The actual annual emission rates are included in the spreadsheet.</p> <p>3) The emission rates are based on the emission factor for NOx (lbs/MMscf), which is converted to lbs/MMBtu by dividing by 1020 (standard number of MMBtu in an MMscf). The NOx emission rate is a constant of 0.057 lbs/MMBtu unless the Btu value of the fuel changes significantly.</p>	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109.	Records are maintained in accordance with Section B109.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1307 Other – TA-3 Power Plant</b></p> <p>B. Fuel Usage (Boilers, Units TA-3-22-1 through -3)</p> <p><b>Requirement:</b> Combined boiler operation shall not consume more than 1000 MMscf of natural gas and no more than 500,000 gallons of No. 2 fuel oil in any 12-month period. Volumetric natural gas fuel flow shall be measured using gas flowmeters installed on the natural gas fuel inlet to each respective unit (3 separate gas flowmeters). Fuel oil usage shall be measured using a single inventory meter located at a storage tank that is dedicated for use by the TA-3 power plant boilers. (NSR Permit 2195B-M2, Specific Condition A803.A, revised)</p>	<p>The combined boiler natural gas use did not exceed 1,000 MMscf or 500,000 gallons of No. 2 fuel oil in any 12-month period. Volumetric flow is measured using the liquid or gas fuel flowmeters installed on the natural gas fuel inlet to each respective unit and on the combined fuel oil inlet to the boilers, per requirements in NSR Permit 2195B-M2 A803.A. All fuel use data are tracked monthly in a spreadsheet used for emission calculations.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> The liquid fuel flow rate shall be continuously monitored whenever liquid fuel is combusted. The natural gas fuel flow rate for each boiler shall be continuously monitored whenever natural gas is combusted. The hours of operation of each boiler shall be continuously monitored. (NSR	Natural gas fuel meters are in place on each of the boilers. Fuel oil is measured using an inventory meter on the storage tank. Both natural gas and fuel oil are continuously monitored when being combusted. A monthly and 12-month rolling total of both natural gas and fuel oil use are recorded and reviewed monthly to verify usage does not	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Permit 2195B-M2, Specific Condition A803.A, revised)	exceed allowable limits.			
<b>Recordkeeping:</b> The permittee shall record the monthly total of liquid fuel (gallons) for all boilers combined and gaseous fuel (scf) for each boiler on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the hours of operation of each boiler on a monthly basis, to include a monthly total. The record shall include the monthly rolling 12-month total hours of operation for all 3 boilers combined. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A803.A, revised)	<p>Total monthly liquid fuel for all boilers and gaseous fuel for each boiler were recorded on a monthly basis. The annual fuel usage was calculated and recorded on a monthly rolling 12-month total basis. Total hours of operation of each boiler are recorded monthly and included in a monthly rolling 12-month total hours for all boilers combined. Hours of operation of each boiler are continuously monitored.</p> <p>This data is collected monthly from the power plant operations staff. Records are maintained in accordance with Section B109.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A1307 Other – TA-3 Power Plant</b> C. Fuel Usage (Combustion Turbine, Unit TA-2-22-CT-1)  <b>Requirement:</b> The combustion turbine shall not consume more than 1400 MMscf of natural gas in any 12-month period. Volumetric flow shall be measured using a gas fuel flowmeter installed on the fuel inlet of the combustion turbine. (NSR Permit 2195B-M2, Specific Condition A802.A)	A 12-month rolling total for natural gas use is maintained and reviewed to verify usage does not exceed 1400 MMscf. The daily and monthly total fuel use is collected and recorded monthly in a spreadsheet used for calculating emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Monitoring:</b> The natural gas fuel flow rate for the combustion turbine shall be continuously monitored whenever natural gas is combusted. (NSR Permit 2195B-M2, Specific Condition A802.A)	The natural gas flowmeter is installed on the turbine inlet. The fuel flowmeter continuously measures natural gas being delivered to the combustion turbine.	<input checked="" type="checkbox"/> <b>Continuous</b> <input type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>Recordkeeping:</b> The permittee shall record the daily total of gaseous fuel (scf) for the turbine on a monthly basis, to include a monthly total. Annual fuel usage shall be calculated and recorded on a monthly rolling 12-month total basis. The permittee shall record the daily hours of operation of the combustion turbine on a monthly basis, to include a monthly total. The record shall include the monthly total hours and monthly rolling 12-month total hours of operation. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.A)	Daily hours of operation are also collected monthly and entered into the spreadsheet. A 12-month rolling total hours of operation is calculated using this information. Records are maintained in accordance with Section B109.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>
<b>A1307 Other – TA-3 Power Plant</b>  D. Load Requirement (Combustion Turbine, Unit TA-3-22-CT-1)  <b>Requirement:</b> The combustion turbine shall be operated at no less than 80% and no greater than 100% load as determined by the	The combustion turbine load was maintained between 80% and 100% during this certification period. Load range is calculated by the turbine operating system and is manually recorded during each operation.  Startup/shutdown procedures are in place and are followed by the unit operators.	<input type="checkbox"/> <b>Continuous</b> <input checked="" type="checkbox"/> <b>Intermittent</b>	<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
manufacturer's supplied algorithm, except for minimal periods during startup and shutdown conditions. The permittee shall follow the manufacturer's recommended startup/shutdown procedures in order to minimize the duration of these events. (NSR Permit 2195B-M2, Specific Condition A802.B)				
<p><b>Monitoring:</b> The operating load of the combustion turbine shall be monitored once daily during normal operations of that unit. (NSR Permit 2195B-M2, Specific Condition A802.B)</p>	<p>Load range is calculated by the turbine operating system and is manually recorded each hour during operation. The operating load is recorded at least once daily during normal operations. This data is collected in the daily operating log.</p> <p>Startup/shutdown procedures are in place and are followed by the unit operators. Each time the unit is started or shut down, the data is entered into a daily operating log, which is maintained on-site. The record includes the date, start/end times, and duration.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Recordkeeping:</b> The permittee shall record the daily monitored operating load for the combustion turbine. The permittee shall maintain a record of the manufacturer's recommended startup/shutdown procedure and the manufacturer's criteria for the determination of turbine load. The permittee shall maintain a record for each startup/shutdown or malfunction event for the combustion turbine. The record shall include the date, the start/end time and duration for each event, which is defined as the length of time the combustion turbine is operating at less than 80% or greater than 100% load. For any malfunction event, the record shall also</p>	<p>The operating load is recorded at least once daily during normal operations. This data is collected in the daily operating log. Startup/shutdown procedures are in place and are followed by the unit operators. Each time the unit is started or shut down, the data is entered into a daily operating log, which is maintained on-site. The record includes the date, start/end times, and duration. Records are maintained in accordance with Section B109.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
include the nature of the malfunction and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.B)				
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1307 Other – TA-3 Power Plant</b></p> <p>E. Control Device Operation (Boilers, Units TA-3-22-1 through -3)</p> <p><b>Requirement:</b> Each boiler (Units TA-3-22-1 through -3) shall only be operated with a properly operating flue gas recirculation fan (Units F-1 through -3, respectively). Any malfunction of the flue gas recirculation system during boiler operation may be subject to the excess emissions requirements of 20.2.7 NMAC. (NSR Permit 2195B-M2, Specific Condition A803.B)</p>	<p>On December 29, 2018 from approximately 2:00am-9:30am, Boiler 1 (Unit TA-3-22-1) operated without the FGR fan operating. Upon identification of the FGR fan malfunction, Boiler 1 was immediately taken off-line and shutdown. Maintenance personnel were called in for emergency repairs.</p> <p>Boiler 1 was operating at less than 25% load from 2:00 am – 9:30am. Emissions were calculated using emission factors from stack test results conducted prior to installation of the FGR fans. Due to the low load and low gas flow rate during the time period of the FGR fan malfunction this deviation did not result in excess emissions above the allowed lb/hr limits in the Title V permit.</p> <p>While units TA-22-2 and TA-22-3 were operating, the associated Flue Gas Recirculation (FGR) fan was on at all times. A fan speed indicator is located on the control panel in the operator control room. This fan speed is monitored and recorded during boiler operation.</p>	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Monitoring:</b> The flue gas recirculating fans shall be inspected for proper operation and maintenance once during each calendar month that the unit was operating. (NSR Permit 2195B-M2, Specific Condition A803.B)	The FGR fans are inspected for proper operation and maintenance each month the unit is operating.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Recordkeeping:</b> The permittee shall record all inspections of the flue gas recirculating fans and any event during which a fan malfunctions. The record shall include the date, time, name of operator conducting the inspection, and any discrepancies noted. For malfunction events, the record shall also include the nature and duration of the malfunction, and any corrective action taken. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A803.B)	All inspections of the flue gas recirculating fans were recorded.  The FGR fan for Boiler 1 (TA-3-22-1) had a malfunction which resulted in a deviation during this certification period which has been reported above in Condition A1307.E and in ACC Part 2 Deviation Summary Report. The malfunction was recorded in the operator's log, which included the date, time, name of operator, duration, nature, and corrective actions taken.  All inspection records contain the required data found in this section. Records are maintained in accordance with Section B109.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A1307 Other – TA-3 Power Plant</b>  F. Control Device Operation (Combustion Turbine, Unit TA-3-22-CT-1)  <b>Requirement:</b> The combustion turbine shall be equipped with Rolls-Royce Dry Low	The combustion turbine is equipped with the Dry Low Emissions (DLE) control technology. The DLE control was evaluated during unit start-up and determined to be working as designed. Manufacturer data are available on the DLE system.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
Emissions (DLE) control technology (pre-mix, lean-burn series staged combustion system) to control NOx emissions. (NSR Permit 2195B-M2, Specific Condition A802.C)				
<p><b>Monitoring:</b> N/A</p> <p><b>Recordkeeping:</b> The permittee shall maintain a record of the DLE system associated with the combustion turbine. The permittee shall maintain records in accordance with Section B109. (NSR Permit 2195B-M2, Specific Condition A802.C)</p>	Records of the DLE system associated with the combustion turbine were all maintained in accordance with Section B109.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B110.</p>	Emissions and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109 and B110. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1307 Other – TA-3 Power Plant</b></p> <p>G. 40 CFR 60, Subparts A and GG (Combustion Turbine, Unit TA-3-22-CT-1)</p> <p><b>Requirement:</b> The combustion turbine is subject to 40 CFR 60, Subpart GG and the permittee shall comply with the applicable requirements of 40 CFR 60, Subpart A and Subpart GG. (NSR Permit 2195B-M2, Specific Condition A802.D)</p>	The combustion turbine is in compliance with 40 CFR Part 60 Subpart A and 40 CFR Part 60 Subpart GG.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> The permittee shall comply with the monitoring and testing requirements of 40 CFR 60.334 and 60.335. (NSR Permit 2195B-M2, Specific Condition A802.D)</p>	The combustion turbine is in compliance with the monitoring and test requirements of 40 CFR 60.334 and 60.335.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<b>Recordkeeping:</b> The permittee shall comply with the recordkeeping requirements of 40 CFR 60.334 and 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)	The combustion turbine is in compliance with the monitoring, notification, and record keeping requirements of 40 CFR 60.334 and 40 CFR 60.7.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall comply with the reporting requirements of 40 CFR 60.7. (NSR Permit 2195B-M1-R2, Specific Condition A802.D)	The combustion turbine is in compliance with the reporting requirements of 40 CFR 60.7.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A1307 Other – TA-3 Power Plant</b>  H. Periodic Emissions Tests (Combustion Turbine, Unit TA-3-22-CT-1)  <b>Requirement:</b> The permittee shall comply with the allowable emission limits at Table A1302.A, including the NOx ppmv limitation. (NSR Permit 2195B-M2, Specific Condition A802.E)	The facility is in compliance with the allowable emission limits in Table A1302.A, including the NOx ppmv limitation, as demonstrated in the monitoring and reporting sections below.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Monitoring:</b> The permittee shall test using a portable analyzer or EPA Reference Methods subject to the requirements and limitations of Section B108, General Monitoring Requirements. For periodic testing of NOx and CO emissions tests shall be carried out as described below.  Test results that demonstrate compliance with the NOx and CO emission limits shall also be considered to demonstrate compliance with the VOC emission limits.  (1) The test period shall be annually, based on	The test followed the requirements and limitations required in Section B108. A combustion analyzer is used for this periodic emissions test. Instrument and calibration data are included in the final test report. An ORSAT or other similar gas absorption analyzer is not used.  Results from the test demonstrate compliance with NOx and CO emission limits and thus the VOC emission limits. No limits were exceeded.  1) An annual emission stack test was last	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>a calendar year.</p> <p>(2) The tests shall continue based on the existing testing schedule.</p> <p>(3) All subsequent monitoring shall occur in each succeeding monitoring period. No two monitoring events shall occur closer together in time than 25% of a monitoring period.</p> <p>(4) The permittee shall follow the General Testing Procedures of Section B111.</p> <p>(5) Performance testing required by 40 CFR 60, Subpart GG or 40 CFR 60, Subpart KKKK may be used to satisfy these periodic testing requirements if they meet the requirements of this condition and are completed during the specified monitoring period.</p>	<p>conducted on December 16, 2014; the test results demonstrated that the actual emissions were less than the allowable emissions. The next test is scheduled for January 10, 2019.</p> <p>2) No additional stack testing was required during this certification period.</p> <p>3) The tests are performed annually if required, or at a frequency as specified in General Condition B108.D based on the percentage of time the unit has operated.</p> <p>4) The last test was performed following the monitoring requirements required in Section B108 and general testing procedures found in Section B111. Records of periodic emissions test include all data required by this section.</p> <p>5) Performance testing met the requirements of this condition and were completed during the specified monitoring period.</p>			
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109. The permittee shall also record the results of the periodic emissions tests, including the turbine's fuel flow rate and horsepower at the time of the test, and the type of fuel fired (natural gas, field gas, etc.).</p> <p>If a combustion analyzer is used to measure excess air in the exhaust gas, records shall be kept of the make and model of the instrument and instrument calibration data. If an ORSAT apparatus or other gas absorption analyzer is used, the permittee shall record all calibration results.</p> <p>The permittee shall also keep records of all</p>	<p>The test followed the requirements and limitations required in Section B109. Records are kept of the periodic emissions test results, including the turbine's fuel flow rate and horsepower, and the type of fuel fired.</p> <p>A combustion analyzer is used for this periodic emissions test. Instrument and calibration data are included in the final test report. An ORSAT or other similar gas absorption analyzer is not used.</p> <p>Raw data and calculations are included in the test report.</p>	<p><input type="checkbox"/> Continuous</p> <p><input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?						
raw data used to determine exhaust gas flow and of all calculations used to determine flow rates and mass emissions rates.										
<b>Reporting:</b> The permittee shall report in accordance with Section B109, B110, and B111.	Emission and monitoring reports are submitted on a semi-annual basis and compliance certification on an annual basis in accordance with permit conditions A109, B110, and B111. For more information, see comments in Section A605 of this report.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
<b>A1400 Regulated Sources – Open Burning</b>  A. Table 1400.A lists all of the process equipment authorized for this source category.	No open burning occurred during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
<p><b>Table 1400.A: Regulated Sources List</b></p> <table border="1"> <thead> <tr> <th data-bbox="207 792 480 833">Unit No./Location</th> <th data-bbox="480 792 1031 833">Source Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="207 833 480 898">Facility-Wide Open Burning</td> <td data-bbox="480 833 1031 898">All open lands within LANL property boundary</td> </tr> </tbody> </table>					Unit No./Location	Source Description	Facility-Wide Open Burning	All open lands within LANL property boundary		
Unit No./Location	Source Description									
Facility-Wide Open Burning	All open lands within LANL property boundary									
<b>A1402 Emission Limits – Open Burning</b>  A. Table 1402.A lists the emission units, and their allowable emission limits. (40 CFR 50; Paragraphs 1, 7, and 8 of 20.2.70.302.A NMAC; 20.2.60 NMAC; 20.2.65 NMAC).	No open burning occurred during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
<p><b>Table 1402.A: Allowable Emissions</b></p> <table border="1"> <thead> <tr> <th data-bbox="207 1162 522 1219">Unit No.</th> <th data-bbox="522 1162 970 1219">Individual HAP<sup>1</sup> (tpy)</th> <th data-bbox="970 1162 1354 1219">Total HAPs<sup>1</sup> (tpy)</th> </tr> </thead> <tbody> <tr> <td data-bbox="207 1219 522 1308">Facility-Wide Open Burning</td> <td data-bbox="522 1219 970 1308">8.0</td> <td data-bbox="970 1219 1354 1308">24.0</td> </tr> </tbody> </table> <p>1 Individual and Total HAPs emitted by Open Burning are included in the facility-wide HAP emission limits at Table 106.B.</p>					Unit No.	Individual HAP <sup>1</sup> (tpy)	Total HAPs <sup>1</sup> (tpy)	Facility-Wide Open Burning	8.0	24.0
Unit No.	Individual HAP <sup>1</sup> (tpy)	Total HAPs <sup>1</sup> (tpy)								
Facility-Wide Open Burning	8.0	24.0								
<b>A1403 Applicable Requirements – Open</b>	No open burning occurred during this certification	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>Burning</b></p> <p>A. The permittee shall comply with all applicable sections of the requirements listed in Table 1403.A.</p>	period.	<input checked="" type="checkbox"/> <b>Intermittent</b>	<input type="checkbox"/> <b>No</b>	<input checked="" type="checkbox"/> <b>No</b>

**Table 1403.A: Applicable Requirements**

Applicable Requirements	Federally Enforceable	Unit No.
20.2.60 NMAC Open Burning	X	Facility-Wide Open Burning
20.2.65 NMAC Smoke Management	X	Facility-Wide Open Burning

**A1404 Operational Limitations – Open Burning**

A. This source category is authorized to operate at any time of the day or night on any day of the year. No monitoring, recordkeeping, or reporting requirements are required to demonstrate compliance with continuous hours of operation.

**A1407 Other – Open Burning**

A. Operational

**Requirement:** The permittee shall comply with the applicable requirements of 20.2.60 NMAC and 20.2.65 NMAC, including, but not limited to:

1) Prior to initiating a burn consisting of vegetative material, the permittee shall submit to the Department a sampling and analysis plan and upon approval conduct

No open burning occurred during this certification period.

**Continuous**  
 **Intermittent**

**Yes**  
 **No**

**Yes**  
 **No**



1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p>representative sampling of the intended burn material and analyze samples for radionuclides, target analyte list (TAL) inorganic elements, polychlorinated biphenyls (PCBs), and high explosives (HE); and</p> <p>2) The permittee shall submit to the Department a background concentration report for the contaminants listed in Condition A1407.A, Requirement (1). The report shall indicate locations where background concentrations were taken and compare sample results with background concentrations of the constituents; and</p> <p>3) The permittee shall not burn vegetative material which includes any contaminant above the relevant background concentration; and</p> <p>4) Upon receiving Department approval, the permittee shall conduct public notification in a display ad in at least four newspapers: Los Alamos Monitor, Rio Grande Sun, Santa Fe New Mexican, and the Albuquerque Journal, no less than 21 days in advance of a planned burn.</p>				
<p><b>Monitoring:</b> The permittee shall monitor all open burning as required by Department regulation or burn approval.</p>	<p>No open burning occurred during this certification period.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Recordkeeping:</b> The permittee shall maintain records of all sampling and analysis plans and any representative sampling</p>	<p>No open burning occurred during this certification period.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?		
conducted. Records shall be kept in accordance with Section B109.		<input checked="" type="checkbox"/> Intermittent	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No		
<b>Reporting:</b> The permittee shall submit reports as outlined in the Condition 1407.A Requirements, as described in Section A109, and in accordance with Section B110.	No open burning occurred during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>EVAPORATIVE SPRAYERS</b>  <b>A1500 Regulated Sources – Evaporative Sprayers</b>  A. Table A1500.A lists all of the process equipment for this source category	Water spray evaporators TA-60-EVAP-4 and 5 were installed and began operation on August 28, 2018 during this certification period.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>Table A1500.A: Regulated Sources List</b>						
<b>Unit No.</b>	<b>Source Description</b>	<b>Make Model</b>	<b>Serial No.</b>	<b>Maximum Capacity/ Permitted Capacity</b>	<b>Manufacture Date</b>	<b>Construction Date</b>
TA-60-EVAP-1	Water spray evaporator	SMI Evaporative Solutions SMI 120	0053	9 gal per min/ 7.51 gal per min	2016	July 2016
TA-60-EVAP-2	Water spray evaporator	SMI Evaporative Solutions SMI 120	0054	9 gal per min/ 7.51 gal per min	2016	July 2016
TA-60-EVAP-3	Water spray evaporator	SMI Evaporative Solutions SMI 120	0055	9 gal per min/ 7.51 gal per min	2016	July 2016
TA-60-EVAP-4	Water spray evaporator	SMI Evaporative Solutions SMI 120	TBD	9 gal per min/ 7.51 gal per min	TBD	TBD
TA-60-EVAP-5	Water spray evaporator	SMI Evaporative Solutions SMI 120	TBD	9 gal per min/ 7.51 gal per min	TBD	TBD
<b>A1502 Emission Limits – Evaporative Sprayers</b> A. The federally enforceable work practice standards in Conditions A1507.A and B establish the emissions allowable	The facility is in compliance with the standards in A1507.A and B that establish the HAP emission limits in Table 106B. HAP emissions were below the individual and total facility-wide emissions limits as demonstrated in the monitoring,		<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
under the permit (20.2.70.7.H and I NMAC) since separate numerical pph and tpy emission limits for TSP, PM10, VOCs, and HAPs from the evaporators are not appropriate for this operating scenario. Hazardous air pollutants (HAPs) from the evaporative coolers are included in and subject to the individual and total HAP facility-wide emission limits in Table 106.B.	recordkeeping and reporting sections in the Semi-Annual Monitoring Reports.			
<p><b>A1503 Applicable Requirements – Evaporative Sprayers</b></p> <p>A. There are no additional applicable requirements other than those listed for the entire facility in Table 103.A.</p>	See Table 103.A for additional applicable requirements for the entire facility.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>A1507 Evaporative Sprayers–Work Practice Standards</b></p> <p>A. Operational Requirements (Evaporative Sprayers)</p> <p><b>Requirement:</b> Compliance with the allowable emission limits in Table 106.B shall be demonstrated by calculating the annual total HAPs emissions in tons per year. The emissions shall be calculated based on the most recent water analysis and hours of operation for the evaporative sprayers.</p>	The facility is in compliance with the allowable emissions limits in Table 106.B by calculating the annual total HAP emissions in tons per year. The most recent water analysis results and hours of operation are used to calculate the emissions.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p><b>Monitoring:</b> The permittee shall conduct an analysis of the basin water, including analytical results (water concentrations) for all HAPs and TAPs, at the Sanitary Effluent Reclamation Facility (SERF) every two</p>	The facility conducts analysis of the basin water for HAPs and TAPs every two years effective 2018. Basin water sampling was conducted during this certification period on June 19, 20, and 21, 2018.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
years beginning no later than calendar year 2018. The permittee shall monitor the hours of operation for each sprayer.	The hours of operation are monitored and tabulated.			
<b>Recordkeeping:</b> The permittee shall record a monthly rolling, 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors for the HAPs shall be based on the values from the most recent water analysis.	Records are kept on-site and include the monthly rolling and 12-month total of HAPs emissions based on the sum of emissions from all the evaporative sprayers. The emission factors are based on the values from the most recent water analysis.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Reporting:</b> The permittee shall submit reports described in Section A109 and in accordance with Section B111. An electronic copy of the required water analysis including analytical results (water concentrations) for all HAPs, TAPs, and the total dissolved solids (TDS) shall be sent to AQB with the Semi-annual Monitoring Report specified in A109.A for any year in which the water sampling is conducted.	Reporting is done in accordance with the Title V requirements specified in Section A109.A and Section B111. Water analysis results will be included in the Semi-Annual Monitoring Report for any year in which the water sampling is conducted. Basin water sampling was conducted during this certification period on June 19, 20, and 21, 2018.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>A1507 Evaporative Sprayers–Work Practice Standards</b>  B. Maintenance and Repair Requirements  <b>Requirement:</b> Compliance with the allowable emission limits in Table 106.A shall be demonstrated by properly maintaining and repairing the units.	Compliance with the allowable emissions limits is demonstrated by properly maintaining and repairing the units.	<input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. Permit Condition # and Permit Condition:	2. Method(s) or other information or other facts used to determine the compliance status:	3. What is the frequency of data collection used to determine compliance?	4. Was this facility in compliance with this requirement during the reporting period?	5. Were there any deviations associated with this requirement during the reporting period?
<p><b>Monitoring:</b> Maintenance and repair shall meet the minimum manufacturer's or permittee's recommended maintenance schedule. Activities that involve maintenance, adjustment, replacement, or repair of functional components with the potential to affect the operation of an emission unit shall be documented as they occur.</p>	<p>Equipment maintenance and repair are conducted in accordance with the manufacturer's recommended schedule and LANL procedures, and documented in Table 106.A.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Recordkeeping:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.</p>	<p>Records are maintained in accordance with Section B109. Maintenance and repair records are kept on-site, and include maintenance and repairs activities, and the maintenance schedule.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Reporting:</b> The permittee shall maintain records in accordance with Section B109, including records of maintenance and repairs activities and a copy of the manufacturer's or permittee's recommended maintenance schedule.</p>	<p>Records are maintained in accordance with Section B109. Maintenance and repair records are kept on-site, and include maintenance and repairs activities, and the maintenance schedule.</p>	<p><input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>

## PART 1 B General Conditions

1. Have these General Conditions been met during this reporting period?  <i><u>If the section Heading is marked as N/A no remarks are required.</u></i> <i><u>Check only one box per subject heading.</u></i> <i><u>Explain answers in remarks row under subject heading.</u></i>	2. Was this facility in compliance with this requirement during the reporting period?	3. Does not apply
<b>B100 <u>Introduction</u></b> A. N/A	<input type="checkbox"/> Yes Explain Below	<input type="checkbox"/> No Explain Below
<b>REMARKS:</b>		
<b>B101 <u>Legal</u></b>  A. Permit Terms and Conditions (20.2.70 sections 7, 201.B, 300, 301.B, 302, 405 NMAC) <ol style="list-style-type: none"> <li>(1) The permittee shall abide by all terms and conditions of this permit, except as allowed under Section 502(b)(10) of the Federal Act, and 20.2.70.302.H.1 NMAC. Any permit noncompliance is grounds for enforcement action, and significant or repetitious noncompliance may result in termination of this permit. Additionally, noncompliance with federally enforceable conditions of this permit constitutes a violation of the Federal Act. (20.2.70.302.A.2.a NMAC)</li> <li>(2) Emissions trading within a facility (20.2.70.302.H.2 NMAC)               <ol style="list-style-type: none"> <li>(a) The Department shall, if an applicant requests it, issue permits that contain terms and conditions allowing for the trading of emissions increases and decreases in the permitted facility solely for the purpose of complying with a federally enforceable emissions cap that is established in the permit in addition to any applicable requirements. Such terms and conditions shall include all terms and conditions required under 20.2.70.302 NMAC to determine compliance. If applicable requirements apply to the requested emissions trading, permit conditions shall be issued only to the extent that the applicable requirements provide for trading such increases and decreases without a case-by-case approval.</li> <li>(b) The applicant shall include in the application proposed replicable procedures and permit terms that ensure the emissions trades are quantifiable and enforceable. The Department shall not include in the emissions trading provisions any emissions units for which emissions are not quantifiable or for which there are no replicable procedures to enforce the emissions trades. The permit shall require compliance with all applicable requirements.</li> </ol> </li> <li>(3) It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (20.2.70.302.A.2.b NMAC)</li> </ol>	<input checked="" type="checkbox"/> Yes Explain Below	<input type="checkbox"/> No Explain Below

## **PART 1 B General Conditions**

<p>(4) If the Department determines that cause exists to modify, reopen and revise, revoke and reissue, or terminate this permit, this shall be done in accordance with 20.2.70.405 NMAC. (20.2.70.302.A.2.c NMAC)</p> <p>(5) The permittee shall furnish any information the Department requests in writing to determine if cause exists for reopening and revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. This information shall be furnished within the time period specified by the Department. Additionally, the permittee shall furnish, upon request by the Department, copies of records required by the permit to be maintained by the permittee. (20.2.70.302.A.2.f NMAC)</p> <p>(6) A request by the permittee that this permit be modified, revoked and reissued, or terminated, or a notification by the permittee of planned changes or anticipated noncompliance, shall not stay any conditions of this permit. (20.2.70.302.A.2.d NMAC)</p> <p>(7) This permit does not convey property rights of any sort, or any exclusive privilege. (20.2.70.302.A.2.e NMAC)</p> <p>(8) In the case where an applicant or permittee has submitted information to the Department under a claim of confidentiality, the Department may also require the applicant or permittee to submit a copy of such information directly to the Administrator of the EPA. (20.2.70.301.B NMAC)</p> <p>(9) The issuance of this permit, or the filing or approval of a compliance plan, does not relieve the permittee from civil or criminal liability for failure to comply with the state or Federal Acts, or any applicable state or federal regulation or law. (20.2.70.302.A.6 NMAC and the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2)</p> <p>(10) If any part of this permit is challenged or held invalid, the remainder of the permit terms and conditions are not affected and the permittee shall continue to abide by them. (20.2.70.302.A.1.d NMAC)</p> <p>(11) A responsible official (as defined in 20.2.70.7.AE NMAC) shall certify the accuracy, truth and completeness of every report and compliance certification submitted to the Department as required by this permit. These certifications shall be part of each document. (20.2.70.300.E NMAC)</p> <p>(12) Revocation or termination of this permit by the Department terminates the permittee's right to operate this facility. (20.2.70.201.B NMAC)</p> <p>(13) The permittee shall continue to comply with all applicable requirements. For applicable requirements that will become effective during the term of the permit, the permittee shall meet such requirements on a timely basis. (Sections 300.D.10.c and 302.G.3 of 20.2.70 NMAC)</p> <p><b>B. Permit Shield (20.2.70.302.J NMAC)</b></p>			
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## PART 1 B General Conditions

<p>(1) Compliance with the conditions of this permit shall be deemed to be compliance with any applicable requirements existing as of the date of permit issuance and identified in Table 103.A. The requirements in Table 103.A are applicable to this facility with specific requirements identified for individual emission units.</p> <p>(2) The Department has determined that the requirements in Table 103.B as identified in the permit application are not applicable to this source, or they do not impose any conditions in this permit.</p> <p>(3) This permit shield does not extend to administrative amendments (Subsection A of 20.2.70.404 NMAC), to minor permit modifications (Subsection B of 20.2.70.404 NMAC), to changes made under Section 502(b)(10), changes under Paragraph 1 of subsection H of 20.2.70.302 of the Federal Act, or to permit terms for which notice has been given to reopen or revoke all or part under 20.2.70.405 and 20.2.70.302J(6).</p> <p>(4) This permit shall, for purposes of the permit shield, identify any requirement specifically identified in the permit application or significant permit modification that the department has determined is not applicable to the source, and state the basis for any such determination. (20.2.70.302.A.1.f NMAC)</p> <p>C. The owner or operator of a source having an excess emission shall, to the extent practicable, operate the source, including associated air pollution control equipment, in a manner consistent with good air pollutant control practices for minimizing emissions. (20.2.7.109 NMAC). The establishment of allowable malfunction emission limits does not supersede this requirement.</p>			
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**REMARKS:**  
This compliance certification covers Title V Operating Permit P100-R2M1, P100-R2M2, and P100-R2M3 for the time period January 1 - December 31, 2018.

During 2018, LANL provided all compliance related documentation requested by NMED AQB and those required by construction and operating permits. There was no emissions trading at this facility during this certification period.  
There were no excess emissions during this certification period.  
All required reports and compliance certifications were certified by the Responsible Official.

<p><b>B102 Authority</b></p> <p>A. This permit is issued pursuant to the federal Clean Air Act ("Federal Act"), the New Mexico Air Quality Control Act ("State Act") and regulations adopted pursuant to the State and Federal Acts, including Title 20, New Mexico Administrative Code, Chapter 2, Part 70 (20.2.70 NMAC) - Operating Permits.</p> <p>B. This permit authorizes the operation of this facility. This permit is valid only for the named permittee, owner, and operator. A permit modification is required to change any of those entities.</p>	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below
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## PART 1 B General Conditions

<p>C. The Department specifies with this permit, terms and conditions upon the operation of this facility to assure compliance with all applicable requirements, as defined in 20.2.70 NMAC at the time this permit is issued. (20.2.70.302.A.1 NMAC)</p> <p>D. Pursuant to the New Mexico Air Quality Control Act NMSA 1978, Chapter 74, Article 2, all terms and conditions in this permit, including any provisions designed to limit this facility's potential to emit, are enforceable by the Department. All terms and conditions are enforceable by the Administrator of the United States Environmental Protection Agency ("EPA") and citizens under the Federal Act, unless the term or condition is specifically designated in this permit as not being enforceable under the Federal Act. (20.2.70.302.A.5 NMAC)</p> <p>E. The Department is the Administrator for 40 CFR Parts 60, 61, and 63 pursuant to the Modification and Exceptions of Section 10 of 20.2.77 NMAC (NSPS), 20.2.78 NMAC (NESHAP), and 20.2.82 NMAC (MACT).</p>			
<p><b>REMARKS:</b> No remarks for this section.</p>			
<p><b>B103 <u>Annual Fee</u></b> The permittee shall pay Title V fees to the Department consistent with the fee schedule in 20.2.71 NMAC - Operating Permit Emission Fees. The fees will be assessed and invoiced separately from this permit. (20.2.70.302.A.1.e NMAC)</p>	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below
<p><b>REMARKS:</b> Title V fees for 2017 was submitted to the NMED AQB on April 10, 2018.</p>			
<p><b>B104 <u>Appeal Procedures</u></b> (20.2.70.403.A NMAC)</p> <p>A. 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 a hearing before the Environmental Improvement Board ("board"). The petition shall be made in writing to the 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 a 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</p>	<input type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input checked="" type="checkbox"/> <b>N/A</b> Explain Below

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<p>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:</p> <p style="text-align: center;">Secretary, New Mexico Environmental Improvement Board 1190 St. Francis Drive, Runnels Bldg. Rm N2153 Santa Fe, New Mexico 87502</p>			
<p><b>REMARKS:</b> The appeal procedures in Section B104 were not applicable in this certification period.</p>			
<p><b>B105 <u>Submittal of Reports and Certifications</u></b></p> <p>A. Stack Test Protocols and Stack Test Reports shall be submitted electronically to <a href="mailto:Stacktest.AQB@state.nm.us">Stacktest.AQB@state.nm.us</a> or as directed by the Department.</p> <p>B. Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)</p> <p>C. Compliance Certification Reports, Semi-Annual monitoring reports, compliance schedule progress reports, and any other compliance status information required by this permit shall be certified by the responsible official and submitted to the mailing address below, or as directed by the Department:</p> <p style="padding-left: 20px;">Manager, Compliance and Enforcement Section New Mexico Environment Department Air Quality Bureau 525 Camino de los Marquez, Suite 1 Santa Fe, NM 87505-1816</p> <p>D. Compliance Certification Reports shall also be submitted to the Administrator at the address below (20.2.70.302.E.3 NMAC):</p> <p style="padding-left: 20px;">Chief, Air Enforcement Section US EPA Region-6, 6MM-AP 1445 Ross Avenue, Suite 1200</p>	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below

## PART 1 B General Conditions

Dallas, TX 75202-2733

**REMARKS:**

B105.A. No stack testing was required during this certification period.

B105.B. There were no excess emissions during this certification period. LANL submitted a letter to NMED AQB on February 9, 2018 stating that there were no excess emissions in 2017.

B105.C and D. All required Compliance Certifications and Semi-Annual Emissions and Monitoring Reports were submitted to NMED and EPA on time as required.

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<p><b>B106 <u>NSPS and/or MACT Startup, Shutdown, and Malfunction Operations</u></b></p> <p>A. If a facility is subject to a NSPS standard in 40 CFR 60, each owner or operator that installs and operates a continuous monitoring device required by a NSPS regulation shall comply with the excess emissions reporting requirements in accordance with 40 CFR 60.7(c).</p> <p>B. If a facility is subject to a NSPS standard in 40 CFR 60, then in accordance with 40 CFR 60.8(c), operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.</p> <p>C. If a facility is subject to a MACT standard in 40 CFR 63, then the facility is subject to the requirement for a Startup, Shutdown and Malfunction Plan (SSM) under 40 CFR 63.6(e)(3), unless specifically exempted in the applicable subpart. (20.2.70.302.A.1 and A.4 NMAC)</p>	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below
<p><b>REMARKS:</b>          B106.A. LANL operates equipment subject to 40 CFR 60; P100-R2M1, P100-R2M2, and P100-R2M3 require no continuous emissions monitoring device.          B106.B. There were no excess emissions during SSM during this certification period.          B106.C. LANL does not have equipment that is subject to a MACT standard in 40 CFR 63.</p>			
<p><b>B107 <u>Startup, Shutdown, and Maintenance Operations</u></b></p> <p>A. The establishment of permitted startup, shutdown, and maintenance (SSM) emission limits does not supersede the requirements of 20.2.7.14.A NMAC. Except for operations or equipment subject to Condition B106, the permittee shall establish and implement a plan to minimize emissions during routine or predictable start up, shut down, and scheduled maintenance (SSM work practice plan) and shall operate in accordance with the procedures set forth in the plan. (20.2.7.14.A NMAC)</p>	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below
<p><b>REMARKS:</b>          Per Permit Condition A107 - Allowable SSM emissions limits are not imposed at this time. All SSM emissions are within or less than allowable emission levels. LANL sources do not have increased emissions during routine or predictable startup, shutdown, or maintenance, which require a plan under 20.2.7.14.A. No permit limit or applicable threshold was exceeded during this certification period. Operating and maintenance procedures are in place to minimize emissions during SSM events.</p>			

## **PART 1 B General Conditions**

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<b>B108 General Monitoring Requirements</b> (20.2.70. 302.A and C NMAC)	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below
<p>A. These requirements do not supersede or relax requirements of federal regulations.</p> <p>B. The following monitoring and/or testing requirements shall be used to determine compliance with applicable requirements and emission limits. Any sampling, whether by portable analyzer or EPA reference method, that measures an emission rate over the applicable averaging period greater than an emission limit in this permit constitutes noncompliance with this permit. The Department may require, at its discretion, additional tests pursuant to EPA Reference Methods at any time, including when sampling by portable analyzer measures an emission rate greater than an emission limit in this permit; but such requirement shall not be construed as a determination that the sampling by portable analyzer does not establish noncompliance with this permit and shall not stay enforcement of such noncompliance based on the sampling by portable analyzer.</p> <p>C. If the emission unit is shutdown at the time when periodic monitoring is due to be accomplished, the permittee is not required to restart the unit for the sole purpose of performing the monitoring. Using electronic or written mail, the permittee shall notify the Department's Enforcement Section of a delay in emission tests prior to the deadline for accomplishing the tests. Upon recommencing operation, the permittee shall submit any pertinent pre-test notification requirements set forth in the current version of the Department's Standard Operating Procedures For Use Of Portable Analyzers in Performance Test, and shall accomplish the monitoring.</p> <p>D. The requirement for monitoring during any monitoring period is based on the percentage of time that the unit has operated. However, to invoke monitoring period exemptions at B108.D(2), hours of operation shall be monitored and recorded.</p> <p>(1) If the emission unit has operated for more than 25% of a monitoring period, then the permittee shall conduct monitoring during that period.</p> <p>(2) If the emission unit has operated for 25% or less of a monitoring period then the monitoring is not required. After two successive periods without monitoring, the permittee shall conduct monitoring during the next period regardless of the time operated during that period, except that for any monitoring period in which a unit has operated for less than 10% of the monitoring period, the period will not be considered as one of the two successive periods.</p> <p>(3) If invoking the monitoring period exemption in B108.D(2), the actual operating time of a unit shall not exceed the monitoring period required by this permit before the required monitoring is performed. For example, if the monitoring period is annual, the operating hours of the unit shall not exceed 8760 hours before monitoring</p>			

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<p>is conducted. Regardless of the time that a unit actually operates, a minimum of one of each type of monitoring activity shall be conducted during the five year term of this permit.</p> <p>E. The permittee is not required to report a deviation for any monitoring or testing in a Specific Condition if the deviation was authorized in this General Condition <b>B108</b>.</p> <p>F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.</p> <p>G. When requested by the Department, the permittee shall provide schedules of testing and monitoring activities. Compliance tests from previous NSR and Title V permits 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.</p> <p>H. If monitoring is new or is in addition to monitoring imposed by an existing applicable requirement, it shall become effective 120 days after the date of permit issuance. For emission units that have not commenced operation, the associated new or additional monitoring shall not apply until 120 days after the units commence operation. All pre-existing monitoring requirements incorporated in this permit shall continue to apply from the date of permit issuance. All monitoring periods, unless stated otherwise in the specific permit condition or federal requirement, shall commence at the beginning of the 12 month reporting period as defined at condition A109.B.</p>			
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**REMARKS:**

Sources applicable to B108 General Monitoring Requirements are the TA-03 combustion turbine, the asphalt plant, and applicable CI-RICE generators.

B108.B. The annual stack testing requirement for the TA-03 combustion turbine was last completed on December 16, 2014. No stack testing was required during the current compliance certification period because the unit operated less than 10% of the time (condition B108.D(2)).

B108.C. & D. Opacity readings are taken at the asphalt plant monthly when the plant operates.

Section B108.D.(2) of the permit allows reduced frequency of opacity monitoring if a CI-RICE unit operates less than 10% of the monitoring period (calendar quarter). The applicable CI-RICE units operated less than 10% of each monitoring period (less than 219 hours each quarter) during this

## **PART 1 B General Conditions**

certification period. If the unit operates greater than 10% of the monitoring period, the unit will have an opacity observation performed on it, otherwise an opacity observation will be performed within five (5) years of the issuance date of operating permit P100-R2. Opacity measurements conducted during this certification period will be submitted with the forth coming Semi-Annual Monitoring Report.



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<b>B109</b> <u>General Recordkeeping Requirements</u> (20.2.70.302.D.1 NMAC)	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below
<p>A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC):</p> <ul style="list-style-type: none"> <li>(1) equipment identification (include make, model and serial number for all tested equipment and emission controls);</li> <li>(2) date(s) and time(s) of sampling or measurements;</li> <li>(3) date(s) analyses were performed;</li> <li>(4) the company or entity that performed the analyses;</li> <li>(5) analytical or test methods used;</li> <li>(6) results of analyses or tests; and</li> <li>(7) operating conditions existing at the time of sampling or measurement.</li> </ul> <p>B. The permittee shall keep records of all monitoring data, equipment calibration, maintenance, and inspections, Data Acquisition and Handling System (DAHS) if used, reports, and other supporting information required by this permit for at least five (5) years from the time the data was gathered or the reports written. Each record shall clearly identify the emissions unit and/or monitoring equipment, and the date the data was gathered. (20.2.70.302.D.2 NMAC)</p> <p>C. If the permittee has applied and received approval for an alternative operating scenario, then the permittee shall maintain a log at the facility, which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating. (20.2.70.302.A.3 NMAC)</p> <p>D. The permittee shall keep a record describing off permit changes made at this source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes. (20.2.70.302.I.2 NMAC)</p>			

## PART 1 B General Conditions

E. Unless otherwise indicated by Specific Conditions, the permittee shall keep the following records for malfunction emissions and routine and predictable emissions during startup, shutdown, and scheduled maintenance (SSM):

- (1) The owner or operator of a source subject to a permit, shall establish and implement a plan to minimize emissions during routine or predictable startup, shutdown, and scheduled maintenance through work practice standards and good air pollution control practices. This requirement shall not apply to any affected facility defined in and subject to an emissions standard and an equivalent plan under 40 CFR Part 60 (NSPS), 40 CFR Part 63 (MACT), or an equivalent plan under 20.2.72 NMAC - Construction Permits, 20.2.70 NMAC - Operating Permits, 20.2.74 NMAC - Permits - Prevention of Significant Deterioration (PSD), or 20.2.79 NMAC - Permits - Nonattainment Areas. (20.2.7.14.A NMAC) The permittee shall keep records of all sources subject to the plan to minimize emissions during routine or predictable SSM and shall record if the source is subject to an alternative plan and therefore, not subject to the plan requirements under 20.2.7.14.A NMAC.
- (2) If the facility has allowable SSM emission limits in this permit, the permittee shall record all SSM events, including the date, the start time, the end time, a description of the event, and a description of the cause of the event. This record also shall include a copy of the manufacturer's, or equivalent, documentation showing that any maintenance qualified as scheduled. Scheduled maintenance is an activity that occurs at an established frequency pursuant to a written protocol published by the manufacturer or other reliable source. The authorization of allowable SSM emissions does not supersede any applicable federal or state standard. The most stringent requirement applies.
- (3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. **Malfunction means** any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.
- (4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

**REMARKS:**

General recordkeeping requirements are met as discussed below:

B109.A and B. Records are maintained for all required sampling activities and measured data. These records are available on-site. The primary measuring

## **PART 1 B General Conditions**

activities applicable to this section are the visible emissions evaluations and emissions stack testing.

B109.C. and D. No alternative operating scenarios or off permit changes occurred at this facility during this certification period.

B109.E. Per Permit Condition A 107 - Allowable SSM emission limits are not imposed at this time. All SSM emissions are at or below allowable routine operating emission limits. LANL sources do not have increased emissions during routine or predictable startup, shutdown, or maintenance, which require a plan under 20.2.7.14.A. No permit limit or applicable threshold was exceeded during this certification period. Operating procedures are in place to minimize emissions during SSM events. The facility does not have allowable malfunction emission limits.

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<b>B110 <u>General Reporting Requirements</u></b> (20.2.70.302.E NMAC)	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below
<p>A. Reports of required monitoring activities for this facility shall be submitted to the Department on the schedule in section A109. Monitoring and recordkeeping requirements that are not required by a NSPS or MACT shall be maintained on-site or (for unmanned sites) at the nearest company office, and summarized in the semi-annual reports, unless alternative reporting requirements are specified in the equipment specific requirements section of this permit.</p> <p>B. Reports shall clearly identify the subject equipment showing the emission unit ID number according to this operating permit. In addition, all instances of deviations from permit requirements, including those that occur during emergencies, shall be clearly identified in the reports required by section A109. (20.2.70.302.E.1 NMAC)</p> <p>C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:</p> <p style="margin-left: 20px;">(1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)</p> <p style="margin-left: 20px;">(2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC).</p> <p>D. The permittee shall submit reports of excess emissions in accordance with 20.2.7.110.A NMAC.</p> <p>E. Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. The number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data shall be used to calculate and report test results in accordance with 20.2.1.116.B and C NMAC. Upon request by the Department, CEMS and other tabular data shall be submitted in editable, MS Excel format.</p> <p>F. At such time as new units are installed as authorized by the applicable NSR Permit, the permittee shall fulfill the notification requirements in the NSR permit.</p> <p>G. Periodic Emissions Test Reporting: The permittee shall report semi-annually a summary of the test results.</p>			

## PART 1 B General Conditions

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| <p>H. The permittee shall submit an emissions inventory for this facility annually. The emissions inventory shall be submitted by the later of April 1 or within 90 days after the Department makes such request. (20.2.73 NMAC and 20.2.70.302.A.1 NMAC)</p> <p>I. Emissions trading within a facility (20.2.70.302.H.2 NMAC)</p> <p>(1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit.</p> <p>(2) The permittee and department shall attach each such notice to their copy of the relevant permit.</p> |  |  |  |
|--|--|--|--|

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**REMARKS:**

B110.A. Monitoring reports are submitted on a semi-annual basis. LANL submitted the July 1–December 31, 2017 on February 12, 2018 and the January 1-June 30, 2018 on August 10, 2018. All non-NSPS and non-MACT monitoring and recordkeeping are maintained on-site and are summarized in the Semi-Annual Monitoring Reports.

B110.B. The monitoring reports submitted identify the subject equipment showing the emissions unit ID number defined in operating permit P100-R2M1, P100-R2M2, and P100-R2M3.

B110.C. One deviation occurred during this certification period. The FGR fan for Boiler 1 (Unit TA-3-22-1) at the TA-Power Plant malfunctioned and did not run while the boiler was in operation from 2:00am-9:30am on December 29, 2018, see Condition 1307.E on page 88 of this report.

B110.D. No excess emissions occurred during this certification period.

B110.E. Emission tests and monitoring results are reported in pounds per hour and tons per year. Opacity readings are reported in percent.

B110.F. All notification requirements under NSR permits have been met.

B110.G. Emissions testing was not conducted during this certification period.

B110.H. The annual emission inventory required under 20.2.73 NMAC was submitted electronically via NMED’s online reporting tool, AEIR, on March 27, 2018.

B110.I. There was no emissions trading during this certification period.

**B111 General Testing Requirements**

A. Compliance Tests

- (1) Compliance test requirements from previous permits (if any) are still in effect, unless the tests have been satisfactorily completed. 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. (20.2.72 NMAC Sections 210.C and 213)
- (2) Compliance tests shall be conducted within sixty (60) days after the unit(s) achieve the maximum normal production rate. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source.
- (3) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least** 60 minutes and each performance test shall consist of three separate runs using the applicable test method. For the purpose of determining compliance with an applicable emission limit, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Department approval, be determined using the arithmetic mean of the results of the two other runs.

	<input checked="" type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>No</b>	<input type="checkbox"/> <b>N/A</b>
	Explain Below	Explain Below	Explain Below

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- (4) Testing of emissions shall be conducted with the emissions unit operating at 90 to 100 percent of the maximum operating rate allowed by the permit. If it is not possible to test at that rate, the source may test at a lower operating rate, subject to the approval of the Department.
- (5) Testing performed at less than 90 percent of permitted capacity will limit emission unit operation to 110 percent of the tested capacity until a new test is conducted.
- (6) If conditions change such that unit operation above 110 percent of tested capacity is possible, the source must submit a protocol to the Department within 30 days of such change to conduct a new emissions test.

### B. EPA Reference Method Tests

- (1) All compliance tests required by this permit, unless otherwise specified by Specific Conditions of this permit, shall be conducted in accordance with the requirements of 40 CFR 60, Subpart A, General Provisions, and the following EPA Reference Methods as specified by 40 CFR 60, Appendix A:
  - (a) Methods 1 through 4 for stack gas flowrate
  - (b) Method 5 for TSP
  - (c) Method 6C and 19 for SO<sub>2</sub>
  - (d) Method 7E for NO<sub>x</sub> (test results shall be expressed as nitrogen dioxide (NO<sub>2</sub>) using a molecular weight of 46 lb/lb-mol in all calculations (each ppm of NO/NO<sub>2</sub> is equivalent to 1.194 x 10<sup>-7</sup> lb/SCF)
  - (e) Method 9 for opacity
  - (f) Method 10 for CO
  - (g) Method 19 may be used in lieu of Methods 1-4 for stack gas flowrate upon approval of the Department. A justification for this proposal must be provided along with a contemporaneous fuel gas analysis (preferably on the day of the test) and a recent fuel flow meter calibration certificate (within the most recent quarter).
  - (h) Method 7E or 20 for Turbines per 60.335 or 60.4400
  - (i) Method 29 for Metals
  - (j) Method 201A for filterable PM<sub>10</sub> and PM<sub>2.5</sub>
  - (k) Method 202 for condensable PM
  - (l) Method 320 for organic Hazardous Air Pollutants (HAPs)
  - (m) Method 25A for VOC reduction efficiency
  - (n) Method 30B for Mercury

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- (2) Alternative test method(s) may be used if the Department approves the change.

### C. Periodic Monitoring and Portable Analyzer Requirements

- (1) Periodic emissions tests (periodic monitoring) may be conducted in accordance with EPA Reference Methods or by utilizing a portable analyzer. Periodic monitoring utilizing a portable analyzer shall be conducted in accordance with the requirements of ASTM D 6522-00. However, if a facility has met a previously approved Department criterion for portable analyzers, the analyzer may be operated in accordance with that criterion until it is replaced.
- (2) Unless otherwise indicated by Specific Conditions or regulatory requirements, the default time period for each test run shall be **at least 20 minutes**.  
  
Each performance test shall consist of three separate runs. The arithmetic mean of results of the three runs shall be used to determine compliance with the applicable emission limit.
- (3) Testing of emissions shall be conducted in accordance with the requirements at Section B108.F.
- (4) During emissions tests, pollutant, O<sub>2</sub> concentration and fuel flow rate shall be monitored and recorded. This information shall be included with the test report furnished to the Department.
- (5) Pollutant emission rate shall be calculated in accordance with 40 CFR 60, Appendix A, Method 19 utilizing fuel flow rate (scf) and fuel heating value (Btu/scf) obtained during the test.

### D. Test Procedures:

- (1) The permittee shall notify the Department's Program Manager, Compliance and Enforcement Section at least thirty (30) days before the test to afford a representative of the Department an opportunity to be present at the test. (40CFR 60.8(d))
- (2) Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.
- (3) Contents of test notifications, protocols and test reports shall conform to the format specified by the Department's Universal Test Notification, Protocol and Report Form and Instructions. Current forms and instructions are posted to NMED's Air Quality web site under Compliance and Enforcement Testing.
- (4) The permittee shall provide (a) sampling ports adequate for the test methods applicable to the facility, (b) safe sampling platforms, (c) safe access to sampling platforms and (d) utilities for sampling and testing equipment.
- (5) The stack shall be of sufficient height and diameter and the sample ports shall be located so that a representative test of the emissions can be performed in accordance with the requirements of EPA Method 1 or ASTM D 6522-00 as applicable.



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<p>(6) Where necessary to prevent cyclonic flow in the stack, flow straighteners shall be installed</p> <p>(7) Unless otherwise indicated by Specific Conditions or regulatory requirements, test reports shall be submitted to the Department no later than 30 days after completion of the test.</p>			
<p><b>REMARKS:</b>          B111.A. EPA reference methods are used during all required compliance testing/sampling.</p> <p>B111.B. No stack testing was required during this certification period.</p> <p>B111.C. All test procedures are followed as specified. EPA reference methods were used to observe visible emissions from various sources at LANL. All testing was done following applicable EPA Methods and NMED Test Procedures.</p> <p>B111.D No stack testing was required during this certification period.</p>			
<p><b>B112 <u>Compliance</u></b></p> <p>A. The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. Required records shall be organized by date and subject matter and shall at all times be readily available for inspection. The permittee, upon verbal or written request from an authorized representative of the Department who appears at the facility, shall immediately produce for inspection or copying any records required to be maintained at the facility. Upon written request at other times, the permittee shall deliver to the Department paper or electronic copies of any and all required records maintained on site or at an off-site location. Requested records shall be copied and delivered at the permittee's expense within three business days from receipt of request unless the Department allows additional time. Required records may include records required by permit and other information necessary to demonstrate compliance with terms and conditions of this permit. (NMSA 1978, Section 74-2-13)</p> <p>B. A copy of the most recent permit(s) issued by the Department shall be kept at the permitted facility or (for unmanned sites) at the nearest company office and shall be made available to Department personnel for inspection upon request. (20.2.70.302.G.3 NMAC)</p> <p>C. Emissions limits associated with the energy input of a Unit, i.e. lb/MMBtu, shall apply at all times unless stated otherwise in a Specific Condition of this permit. The averaging time for each emissions limit, including those</p>	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain Below

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<p>based on energy input of a Unit (i.e. lb/MMBtu) is one (1) hour unless stated otherwise in a Specific Condition of this permit or in the applicable requirement that establishes the limit. (20.2.70.302.A.1 and G.3 NMAC)</p> <p>D. The permittee shall submit compliance certification reports certifying the compliance status of this facility with respect to all permit terms and conditions, including applicable requirements. These reports shall be made on the pre-populated Compliance Certification Report Form that is provided to the permittee by the Department, and shall be submitted to the Department and to EPA at least every 12 months. For the most current form, please contact the Compliance Reports Group at: <a href="mailto:submittals.aqb@state.nm.us">submittals.aqb@state.nm.us</a>. For additional reporting guidance see <a href="https://www.env.nm.gov/air-quality/compliance-submittal-forms/">https://www.env.nm.gov/air-quality/compliance-submittal-forms/</a>. (20.2.70.302.E.3 NMAC)</p> <p>E. The permittee shall allow representatives of the Department, upon presentation of credentials and other documents as may be required by law, to do the following (20.2.70.302.G.1 NMAC):</p> <ol style="list-style-type: none"> <li>(1) enter the permittee's premises where a source or emission unit is located, or where records that are required by this permit to be maintained are kept;</li> <li>(2) have access to and copy, at reasonable times, any records that are required by this permit to be maintained;</li> <li>(3) inspect any facilities, equipment (including monitoring and air pollution control equipment), work practices or operations regulated or required under this permit; and</li> <li>(4) sample or monitor any substances or parameters for the purpose of assuring compliance with this permit or applicable requirements or as otherwise authorized by the Federal Act.</li> </ol>			
<p><b>REMARKS:</b>            B112.A. All required records are maintained on-site and are available for review upon request. LANL cooperates with all Department inspections and provides access to facilities and copies of records as requested.            B112.B. Copies of the most recent permit(s) are kept at the facility and are available to the Department personnel for inspection upon request.            B112.C. Emissions and emission limits are monitored or calculated using the energy input of the unit with one hour averaging times, as specified.            B112.D. Compliance certification reports are completed and submitted to the Department and EPA as required. This compliance certification report meets this requirement.            B112.E. LANL makes every effort to assist NMED with any reasonable request to verify compliance with this permit. There were no NMED inspections in 2018.</p>			
<p><b>B113 <u>Permit Reopening and Revocation</u></b></p>	<input checked="" type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input type="checkbox"/> <b>N/A</b> Explain

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<p>A. This permit will be reopened and revised when any one of the following conditions occurs, and may be revoked and reissued when A(3) or A(4) occurs. (20.2.70.405.A.1 NMAC)</p> <ol style="list-style-type: none"> <li>(1) Additional applicable requirements under the Federal Act become applicable to a major source three (3) or more years before the expiration date of this permit. If the effective date of the requirement is later than the expiration date of this permit, then the permit is not required to be reopened unless the original permit or any of its terms and conditions has been extended due to the Department's failure to take timely action on a request by the permittee to renew this permit.</li> <li>(2) Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Federal Act (the acid rain program). Upon approval by the Administrator, excess emissions offset plans will be incorporated into this permit.</li> <li>(3) The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the terms and conditions of the permit.</li> <li>(4) The Department or the Administrator determines that the permit must be revised or revoked and reissued to assure compliance with an applicable requirement.</li> </ol> <p>B. Proceedings to reopen or revoke this permit shall affect only those parts of this permit for which cause to reopen or revoke exists. Emissions units for which permit conditions have been revoked shall not be operated until new permit conditions have been issued for them. (20.2.70.405.A.2 NMAC)</p>			Below
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**REMARKS:**

Operating permit P100-R2M1 went through an administrative amendment which added Newport News Nuclear BWXT-Los Alamos, LLC (N3B) as an additional operator, in addition to Los Alamos National Security, LLC (LANS). The amendment also changed the permittee to DOE-NNSA. P100-R2M2 was issued on May 7, 2018.

Operating permit P100-R2M2 went through another administrative amendment which replaced LANS with Triad National Security, LLC as joint operator with N3B. P100-R2M3 was issued on October 17, 2018 and is the current permit.

This Annual Compliance Certification report is certifying operation conducted under P100-R2M1 from January 1 - May 6, 2018, P100-R2M2 from May 7 - October 16, 2018, and P100-R2M3 from October 17 - December 31, 2018.

**B114 Emergencies**

Yes   
  No

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<p>(20.2.70.304 NMAC)</p> <p>A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, or careless or improper operation.</p> <p>B. An emergency constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations contained in this permit if the permittee has demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:</p> <ol style="list-style-type: none"> <li>(1) An emergency occurred and that the permittee can identify the cause(s) of the emergency;</li> <li>(2) This facility was at the time being properly operated;</li> <li>(3) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and</li> <li>(4) The permittee submitted notice of the emergency to the Department within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of 20.2.70.302.E.2 NMAC. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.</li> </ol> <p>C. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.</p> <p>D. This provision is in addition to any emergency or upset provision contained in any applicable requirement.</p>	<p>Explain Below</p>	<p>Explain Below</p>	<p>N/A Explain Below</p>
<p><b>REMARKS:</b> No emergency situations occurred during this certification period that caused any impact to air emission sources under this permit.</p>			
<p><b>B115 <u>Stratospheric Ozone</u></b> (20.2.70.302.A.1 NMAC)</p> <p>A. If this facility is subject to 40 CFR 82, Subpart F, the permittee shall comply with the following standards for recycling and emissions reductions:</p>	<p><input checked="" type="checkbox"/> <b>Yes</b> Explain Below</p>	<p><input type="checkbox"/> <b>No</b> Explain Below</p>	<p><input type="checkbox"/> <b>N/A</b> Explain Below</p>

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<p>(1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices, except for motor vehicle air conditioners (MVAC) and MVAC-like appliances. (40 CFR 82.156)</p> <p>(2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment. (40 CFR 82.158)</p> <p>(3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program. (40 CFR 82.161)</p>			
<p><b>REMARKS:</b>  A stratospheric ozone protection program is in place. LANL, through our internal maintenance group, as well as other outside contractors, use appropriately certified technicians and certified recycling and recovery equipment. LANL refrigeration technicians, as well as other outside contractors, are trained and follow LANL procedures to ensure that required service practices found in 40 CFR 82, Subpart F, are followed.</p>			
<p><b>B116</b> <u>Acid Rain Sources</u>  (20.2.70.302.A.9 NMAC)</p> <p>A. If this facility is subject to the federal acid rain program under 40 CFR 72, this section applies.</p> <p>B. Where an applicable requirement of the Federal Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Federal Act, both provisions are incorporated into this permit and are federally enforceable.</p> <p>C. Emissions exceeding any allowances held by the permittee under Title IV of the Federal Act or the regulations promulgated thereunder are prohibited.</p> <p>D. No modification of this permit is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit modification under any other applicable requirement.</p> <p>E. The permittee may not use allowances as a defense to noncompliance with any other applicable requirement.</p> <p>F. No limit is placed on the number of allowances held by the acid rain source. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Federal Act.</p> <p>G. The acid rain permit is an enclosure of this operating permit.</p>	<input type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input checked="" type="checkbox"/> <b>N/A</b> Explain Below

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<p><b>REMARKS:</b> This facility is not subject to the federal acid rain program under 40 CFR 72.</p>			
<p><b>B117</b>   <b><u>Risk Management Plan</u></b> (20.2.70.302.A.1 NMAC)</p> <p>A.    If this facility is subject to the federal risk management program under 40 CFR 68, this section applies.</p> <p>B.    The owner or operator shall certify annually that they have developed and implemented a RMP and are in compliance with 40 CFR 68.</p> <p>C.    If the owner or operator of the facility has not developed and submitted a risk management plan according to 40 CFR 68.150, the owner or operator shall provide a compliance schedule for the development and implementation of the plan. The plan shall describe, in detail, procedures for assessing the accidental release hazard, preventing accidental releases, and developing an emergency response plan to an accidental release. The plan shall be submitted in a method and format to a central point as specified by EPA prior to the date specified in 40 CFR 68.150.b.</p>	<input type="checkbox"/> <b>Yes</b> Explain Below	<input type="checkbox"/> <b>No</b> Explain Below	<input checked="" type="checkbox"/> <b>N/A</b> Explain Below
<p><b>REMARKS:</b> This facility is not subject to the federal risk management program under 40 CFR 68. The volume of chemicals on-site at LANL is tracked through a centralized chemical management system, and specific queries are done monthly on the list of chemicals subject to Section 112r of 40 CFR 68 to ensure LANL does not approach or exceed threshold quantities that could trigger the requirement for a Risk Management Plan.</p>			

Part 2

# ACC Deviation Summary Report for Permit P100-R2M1 & P100-R2M2 & P100-R2M3

1. Are there any deviations identified in Part 1, Column 5. If NO, no further information is required on Part 2 of this form. If YES, answer question 2 below.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Have all deviations identified in Part 1, Column 5 been reported to the NMED as required by 20.2.7 NMAC or in a Semi-Annual Monitoring Report (20.2.70.302.E.1 NMAC)? If Yes, no further information is required on Part 2 of this form. If No, answer question 3 below and enter the required information in the Deviation Summary Table for each deviation not yet reported to the NMED.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3. Did any of the deviations result in excess emissions? For excess emissions deviations that have not previously been reported per requirements of 20.2.7 NMAC, a completed Excess Emission Form for each deviation must be attached to this report.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Deviation Summary Table for deviations not yet reported.**

No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
1	A1307.E	TA-3-22-1 Boiler	<p>On December 29, 2018 from approximately 2:00am-9:30am, Boiler 1 (Unit TA-3-22-1) operated without the FGR fan operating. Upon identification of the FGR fan malfunction, Boiler 1 was immediately taken off-line and shutdown. Maintenance personnel were called in for emergency repairs.</p> <p>Boiler 1 was operating at less than 25% load from 2:00 am – 9:30am. Emissions were calculated using emission factors from stack test results conducted prior to installation of the FGR fans. Due to the low load and low gas flow rate during the time period of the FGR fan malfunction this deviation did not result in excess emissions above the allowed lb/hr limits in the Title V permit.</p>	<p>When the problem was identified the boiler was taken off-line and shutdown. Maintenance personnel were called in for emergency repairs.</p> <p>The Startup/Shutdown Procedure for operating the Boilers is being reviewed to ensure it clearly includes the requirement that the FGR fans are operating at all times when boilers are on. All plant operators will be retrained to this procedure.</p>

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2				
3				
4				
5				



### Deviation Summary Table (cont.)

Deviation Started		Deviation Ended		Pollutant	Monitoring Method	Amount of Emissions	Did you attach an excess emission form?
No.	Date	Time	Date				
1	12/29/2018	2:00am	12/29/2018	9:30	CO, NOx	Daily Log Sheets	No Excess Emissions <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2							<input type="checkbox"/> Yes <input type="checkbox"/> No
3							<input type="checkbox"/> Yes <input type="checkbox"/> No
4							<input type="checkbox"/> Yes <input type="checkbox"/> No
5							<input type="checkbox"/> Yes <input type="checkbox"/> No