

DRAFT Statement of Basis - Narrative
Title V Permit

Type of Permit Action: Title V Minor Permit Modification

Facility: Los Alamos National Laboratory

Company: U.S. Department of Energy National Nuclear Security Administration

Permit No(s): 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 and P100-R2

Tempo/IDEA ID No.: 856 - PRT20160001

Permit Writer: Kirby Olson

Permit Review	Date to Enforcement: N/A-minor mod	Inspector Reviewing: N/A
	Date Enf. Review Completed: N/A	Date of Reply: N/A
	Date to Applicant: 8/10/16, 8/25/16	Date of Reply: 8/12/16, 8/25/16
	Date of Comments from EPA: TBD	Date to EPA: 9/7/2016
	Date to Supervisor: 8/26/16, 10/7/16	

1.0 Plant Process Description:

The Laboratory is an R&D institution owned by DOE/NNSA and operated by Los Alamos National Security, LLC. It falls under the Standard Industrial Classification (SIC) 8733 - Noncommercial Research Organization. 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;
- wastewater treatment; and
- Asphalt production for road repair.

Industrial-type activities are responsible for the majority of the Laboratory's emissions of regulated air pollutants.

2.0 **Description of the Air Quality Permit Revision:**

Evaporative Sprayers at TA-60 SERF:

The change to the Title V permit adds floating evaporative sprayers that are used in the evaporating water holding basins at the sanitary effluent reclamation facility (SERF) located within Technical Area 60. These sprayers enhance the evaporation of the high Total Dissolved Solid (TDS) reverse osmosis reject water from the system that purifies wastewater for reuse in the Strategic Computing Complex Cooling Towers. The sprayers are sources of fugitive (not from a stack) particulate matter emissions of TSP and PM10 (particles that form from the water droplets) as well as Hazardous Air Pollutants (HAPs) and New Mexico Toxic Air Pollutants (NMTAPs) released from the evaporating water. The change to the air quality permit allows up to five evaporative sprayers to be installed. Air emissions from the evaporative sprayers are not subject to minor source construction permit under 20.2.72 NMAC air emission rates from all five sprayers combined is less than 10 pph and 25 tpy of TSP, PM10, and PM2.5. NM TAPs are also not subject to a construction permit since no NM TAP is emitted at the permitting thresholds listed in Table A and B located at 20.2.72.502 NMAC.

The SERF treats water for reuse at the Laboratory which reduces the use of potable water and waste water discharge. The volume of reject water in the evaporation basins must be reduced through mechanical evaporation sprayers since the natural evaporation process does not remove the reject water quickly enough for optimal SERF reclamation process.

TA-54 MDL Soil Vapor Extraction Unit Condition:

This permit revision also removed the conditions in Section A113 of the Title V Operating permit for the TA 54 MDL Soil Vapor Extraction (SVE) unit. This is because the requirement was completed to verify that the SVE air emissions are a Title V Insignificant, activity number 1.a. The condition required that the permittee, using data from the SVE stack, calculate and report the emission rates of HAPs and NM TAPs. The SVE system is not subject to the Title V operating Permit since it is a Title V Insignificant Activity. The Title V Insignificant Activity List can be found here:

https://www.env.nm.gov/aqb/permit/Permit_Apps/Permit_Apps_7_TV.html

3.0 **Source Determination:**

1. The individual stationary air emission sources that are grouped to determine the Laboratory's air emissions for the Title V (20.2.70 NMAC), Prevention of Significant Deterioration (PSD) (20.2.74 NMAC), or Nonattainment (NNSR) 20.2.79 NMAC permit regulations includes all individual stationary sources of regulated air pollutants within the entire set of complexes and Technical Areas that, in total, comprise the Los Alamos National Laboratory (LANL).

The minor source construction permit regulation at 20.2.72.7.EE NMAC defines the entire stationary source differently than the Title V, PSD, and NNSR permit regulations. The minor source regulation requires approval from the Secretary to consider the entire laboratory as one single stationary source. Therefore, for the minor source regulation, sources are grouped by each Complex or Technical Area, not by the entire laboratory.

Here is the source definition from the minor source construction permit regulation: 20.2.72.7.EE "Stationary source" or "source" means any building, structure, equipment, facility, installation (including temporary installations), operation or portable stationary source which emits or may emit any air contaminant. Any research facility may group its sources for the purpose of this part at the discretion of the secretary.

2. Single Source Analysis:

- A. SIC Code: Do the facilities belong to the same industrial grouping (i.e., same two-digit SIC code grouping, or support activity)? Yes, the entire laboratory falls under one SIC code which is 8733 Noncommercial Research Organizations.
- B. Common Ownership or Control: Are the facilities under common ownership or control? Yes, the LANL operator is Los Alamos National Security, LLC and LANL's owner is US DOE NNSA and therefore it is under common ownership and control.
- C. Contiguous or Adjacent: Are the facilities located on one or more contiguous or adjacent properties? All laboratory operations subject to air quality permitting are located on contiguous and/or adjacent properties.

3. Is the source, as described in the application, the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes? Therefore, the entire Los Alamos National Laboratory (LANL) is considered the entire, single source for purposes of Title V 20.2.70, PSD 20.2.74, and Nonattainment 20.2.79 NMAC air permit regulations. However, pursuant to 20.2.72.7.EE NMAC, the source is defined as all stationary sources of regulated air emissions in Technical Area 60 which consists only of the spray evaporators authorized for operation in the evaporation ponds for the Sanitary Effluent Treatment Facility (SERF).

4.0 **PSD Applicability:**

LANL is a Prevention of Significant Deterioration (PSD) minor source. See the History Table for a summary of previous PSD applicability determinations. The additional emissions of TSP (PM) and PM10 from the sprayers are not high enough to trigger a PSD permit.

Hazardous Air Pollutants (HAPs) are not regulated under the PSD permit regulation. HAPs are regulated by source specific National Emission Standards for Hazardous Air Pollutants (NESHAP) promulgated by EPA with all applicable requirements incorporated into a Title V Operating Permit.

5.0 **History (In descending chronological order, showing NSR and TV):** *The asterisk denotes the current active NSR and Title V permits that have not been superseded.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
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Permit Number	Issue Date	Action Type	Description of Action (Changes)
*P100-R2M1	Current action	Title V Minor Permit Modification	<p>TA 54 SVE: This permit revision removed the conditions in Section A113 of the Title V Operating permit for the TA 54 MDL Soil Vapor Extraction (SVE) unit. This is because the requirement was completed to verify that the SVE air emissions are Title V Insignificant, activity number 1.a. The condition required that the permittee, using data from the SVE stack, calculate and report the emission rates of HAPs. The SVE system is not subject to the Title V operating Permit since it is a Title V Insignificant Activity. The requirements of this condition were satisfied and no longer applied as of March 9, 2016.</p> <p>Water Evaporator Sprayers TA-60: Add 5 floating evaporative sprayers to the Title V permit (units TA-60-EVAP-1 to -EVAP-5) for the LANL Sanitary Effluent Treatment Facility (SERF).</p> <p>Existing sprayer unit TA-60-EVAP, model number 420, is not authorized to operate and was decommissioned as of June 28, 2016 as per Voluntary Disclosure and Corrective Action received on 7-18-16.</p> <p>The TSP NMAAQS is not an applicable requirement in title V, however, TSP is a regulated air pollutant subject to Title V permitting (see 20.2.70.7.AC(a)). Also per 20.2.70.302.A(8) NMAC fugitive emissions, as well as stack emissions, from a source are also subject to regulation in the operating permit.</p> <p>Hazardous Air Pollutants (HAPs) from the evaporative sprayers are verified in Condition A1507.A by calculating the tons per year emission rates using hours of operation and the most recent water analysis. Although New Mexico TAP (NM TAP) emission rates are too low to regulate for this source, the permit still requires verification of these emission rates and reporting to the Air Quality Bureau.</p> <p>Numerical air emission limits from the evaporative sprayers are not appropriate since the emission rates are minimal; they are fugitive and cannot be directly measured; TSP and PM10 pollutants from this source do not require air dispersion modeling; and hazardous air pollutants (HAPs), including those from the evaporative sprayers, must be inventoried and reported from the entire Laboratory every 6 months.</p> <p>Air emission rates estimated from ground water samples and reported in the application from the evaporative sprayers are: 1.40 pph/6.12 tpy TSP; 0.07 pph/0.29 tpy PM10; ton per year (tpy) emissions of the following HAPs are: 0.0000000138 PCBs, 0.00000633 chloroform, 0.0000434 chloromethane, 0.000056 bromoform, 0.000129 cyanide, 0.000465 manganese, 0.00022 antimony, and 0.001 total HAPs. NM Toxic Air Pollutants (NMTAPs) are not subject to permit requirements since each TAP is below the regulatory threshold that requires a permit.</p>

Permit Number	Issue Date	Action Type	Description of Action (Changes)
*2195R69	8/5/2016	No Permit Required (NPR)	Addition of an exempt vacuum plasma spraying chamber in Building 66 of Technical Area 3 consisting of a Medicoat AG spray chamber and a GPC Cyclone dust collector.
P100-R2	2/27/15	Title V renewal	<p>Renewal of Title V permit. Incorporates changes since P100R1M3 issued 4/26/13.</p> <p>Petitioners petitioned title V Permit No. P100-R2 to the Environmental Improvement Board and a hearing was completed. See hearing record under EIB 15-02(A). A copy of the final decision is in the permit file.</p> <p>See statement of for P100R2 for information regarding fire fighter training and asbestos as it applies to the open burning regulation at 20.2.60 NMAC.</p>
*2195X	6/20/14	NPR	spray evaporation system (TA-60-EVAP). This unit was decommissioned June 28, 2016.
*2195LR1	5/29/14	NPR	Two soil vapor extraction units (TA-54-SVE, East and West)
*2195PR3	1/3/14	Pre-Construction (NSR) Admin Rev	Temporary relocation of all diesel generators permitted under NSR permit 2195P.
*2195FR4	12/12/13	Pre-Construction (NSR) Tech Rev	Replacement of stationary TA-33-G-1 with a portable unit. Eliminates 40 CFR Subpart ZZZZ applicability.
2195PR2	8/27/13	Admin Rev	Temporary relocation of 2 20KW gensets from TA-33 to TA-39
P100R1M3	4/26/13	Admin Rev	Removal of four retired boilers (TA-48-1-BS-2 & 6 and TA-59-1-BHW-1 &2) from list of regulated sources
P100R1M2	12/26/12	Admin Rev	Retirement of four boilers (TA-48-1-BS-2 & 6 and TA-59-1-BHW-1 &2) from list of regulated sources
*2195PR1	11/20/12	Admin Rev	NOE for two (2) process related, Honda gasoline-fired portable generators, and the capacity of 2.8 hp (2.1 KW) each for Technical Area No.33
*2195NR2	9/25/12	Tech Rev	Remove initial compliance testing on backup fuel oil.
P100R1M1	6/15/12	Title V Significant Modification	Incorporates NSR 2195BM2
*2195B-M2	11/1/11	Tech Rev	Increase allowable annual natural gas fuel consumption by the Combustion Turbine and reduce annual allowable fuel oil usage.
2195U	9/20/10	NPR	RLWTF (TA-50) Thermal Evaporation Unit
2195T	12/16/09	NPR	Emergency Operation Center Portable Generator

Permit Number	Issue Date	Action Type	Description of Action (Changes)
*P100R1	8/7/09	Title V Renewal	Incorporates changes since P100R1: 2195NR1, 2195F-R2, P100M2, and 2195P. Also includes 1081-M1-R6, prior to P100M1. For specific changes see 2.0 Description of this Modification above.
2195B-M1-R2	3/5/09	Technical Rev	Changed the method for monitoring emissions from the CT, from a calculation based on fuel usage to direct measurement of stack emissions using a portable analyzer. This permit supersedes all portions of Permit No. 2195B-M1-R1, except the portion requiring compliance tests.
2195B-M1-R1	10/14/08	Admin Rev	This revision consists of establishing use and exempt status of the following two emergency generators: 1) 1100 kW Cummins Generator, Model KTA50-G2 Location: TA-16 Weapons Engineering Tritium Facility (WETF), Bldg. 980 2) 1250 kW Cummins Generator, Model DFLC-5554001 Location: TA-3 Power Plant, Bldg. 1404
2195F-R3	5/28/08	Technical Rev	Modification to recordkeeping condition 4.a to record the kilowatt-hours produced on a daily basis instead of the hourly basis required by the current permit. This permit supersedes all portions of Air Quality Permit 2195F-R2, except the portion requiring compliance tests.
2195N-R1	12/20/07	Admin Rev - NOE	Processed exempt sources: (3) three 1500 kW Cummins diesel powered generators to be located at Technical Area 55, Chemistry and Metallurgy Research Replacement Facility (CMRR). Request received on Dec. 11, 2007. (<i>Note this letter should have been number 2195N-R2.</i>)
2195S	11/25/07	NPR	NPR for power generation in TA-49-G1. The portable generator shall consist of one 10 kW generator powered by a diesel engine rated at 20.2 kW (27 hp), Cummins Onan diesel fueled generator with a Kubota engine.
2195P	8/8/07	New NSR	Construction and operation of three electrical generator engines at Technical Area 33. The function of the generator engines is to provide electricity for experiments in support of classified research.
P100M2	7/16/07	Admin Amendment	Retired Beryllium operations at the Chemistry and Metallurgy Research Facility at TA-3-29.
2195Q	1/30/07	NPR	NPR for the construction and operation of two micro electric discharge machines used to create small holes in beryllium gaskets at LANL, TA-39-89. This application was submitted as a follow up to the Department's June 22, 2005 determination (See 2195-O) that the micro electric discharge machines required a permit.
2195F-R2	6/26/06	Admin Rev	Corrected a typographical error on the generator serial number and model number.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
P100M1	6/15/06	Title V Modification	Removed the Paper Shredder located at TA-52-11 and replaced it with the Data Disintegrator; removed Boilers TA-16-1485-BS-1 and BS-2, and the portable rock crusher; and installed a new 25 MW simple cycle natural gas turbine at the Power Plant at TA-3. P100M1 supersedes permit P100.
*Various	6/14/06	Admin Rev	Changed the name of the facility operator from the University of California to Los Alamos National Security, LLC (LANS). (632-R1, 634-M2-R1, 1081-M1-R7, NPR 2195A-R1, 2195B-M1R1, 2195F-R1, GCP-3-2195G-R1, 2195H-R1, NPR 2195L-R1, 2195N-R1, 2195R-24, NOI 2597-R1.)
*1081-M1-R6	5/12/06	Technical Rev	Replaced permitted vacuum furnace (1081M1R3) with a CM Model 1712 electric furnace. Modifies 1081-M1.
2195K-R1	1/12/06	Admin Rev – Closed	Canceled permit 2195K due to LANL no longer needing to perform the types of testing and activities authorized by the permit.
2195J-R1	1/17/06	Admin Rev – Closed	Canceled permit 2195J due to LANL no longer needing to perform the types of testing and activities authorized by the permit. Request received on Jan. 12, 2006.
2195N	9/16/05	New NSR	Authorized the construction and operation of phases A and B of the Chemistry and Metallurgy Research Building Replacement (“CMRR”) facility. This facility consists of the Radiological Laboratory /Office Building (“RLOB”) and the Utility Building (“UB”). Together, the two buildings are identified as the RLUOB. The function of the UB is to provide utility infrastructure and support to the CMRR facility.
2195O	6/22/05	Denial of NPR – Closed	The proposed research activity will use Electric Discharge Machines (EDM) to cause a static discharge and form a 50-µm-diameter hole in a beryllium gasket submerged in dielectric fluid. The Micro EDM device meets the definition of a “Machine Shop” found at 40 CFR § 61.31(d) and therefore the proposed research activity is subject to 40 CFR Part 60, Subpart C, National Emission Standard (NESHAP) for Beryllium. Therefore, a construction permit is required.
2195K	3/29/05	New NSR – Closed	This permit application is in response to NMED’s 8/19/03 request that LANL submit a permit application pursuant to 20.2.72 for existing open burning activities which would not be allowed under 20.2.60 <u>Open Burning</u> . Technical Area - 36 (“TA”) Sled Track is part of LANL’s Dynamic Experimentation (“DX”) Division. Permit Closed with 2195K-R1.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
2195J	3/29/05	New NSR – Closed	This permit application is in response to NMED's 8/19/03 request that LANL submit a permit application pursuant to 20.2.72 for existing open burning activities which would not be allowed under 20.2.60 <u>Open Burning</u> . TA-16 Flash Pad uses an open flame generated from propane burners on a concrete pad to ignite or burn residual HE material from equipment used at the LANL (e.g. piping, office furniture etc.). Permit Closed with 2195J-R1.
2195B-M1	7/30/04	Regular Sig. Rev	Authorizes the modification and operation of the Technical Area – 3 Power Plant (TA-3). This permit supersedes all portions of Air Quality Permit No. 2195B-R1
P100	4/30/04	New Title V	New operating permit issued for the facility.
*2195H	10/23/03	New NSR	Authorized the construction and operation of a 1200 lb/hr Data Disintegrator at TA-52.
2195I	08/28/03	NOI – Withdrawn	Withdrawn - NOI proposing to install a screening plant at LANL.
2195B-R2	5/15/03	Admin Rev - NOE	This revision consists of a change in the site support services subcontractor and operator of the TA 3-22 Power Plant. KSL Services will be the new subcontractor and operator effective February 2003. Request received on March 5, 2003.
741-R1	11/25/02	Admin Rev – Closed	Surrendered Air Quality Permit 741 for the facility. Request received on Oct. 25, 2002. The construction never took place; therefore, the permit is no longer needed.
635-R1	11/25/02	Admin Rev – Closed	Surrendered Air Quality Permit 635 for the facility. Request received on Oct. 25, 2002. The final beryllium activities were conducted in the facility in Jan. 2001; thus the machine shop will be decommissioned. No further beryllium activities will occur at the facility and the permit is no longer needed.
2195B-R1	11/21/02	Technical Rev	Revised/Replaced emission limits table 2.1 in Permit 2195B.
*GCP-3-2195G	10/29/02	GCP-3	New General Construction Permit (GCP-3) for Hot Mix Asphalt Plants. An 80 tph asphalt plant
2195F	10/10/02	New NSR	Construction and operation of a diesel fired 1500 kW generator at TA-33.
2195E	7/17/02	NPR – Closed	NPR - Pug mill for soil remediation. The equipment was never installed and dropped from consideration. (Activity closed from Tempo on 6/7/06.)
*1081-M1-R5	02/21/02	Technical Rev	Modification of weld bead dress description
2597	9/6/01	NOI	Replacement of two existing Keewanee 8.368 MMBTU/hr boilers with two Sellers 14.645 MMBTU/hr boilers at TA-55, PF6.
2195A	1/9/01	NOI – NPR	Construction and operation of a new woodshop as a separate facility. Results are too low to trigger 2.72 or 2.73. Second letter issued on Feb. 07, 2002 due to revised application, acknowledges NPR.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
1081-M1-R4	11/27/00	Admin Rev	Removed 77 HP standby generator that was added during revision 2 in Dec. 1998.
2195B	9/27/00	New NSR	Authorized the modification and operation of the Technical Area – 3 Power Plant.
*1081-M1-R3	02/11/00	Technical Rev	Revision 1) limited Beryllium emissions based to throughput instead of cutting / machining time; 2) replaced the one hour emission limit with a 24 hour emission limit from 40 CFR 61, subpart C, section 61.32, i.e., 10 grams of Be per 24 hours; and 3) added a vacuum induction melt furnace operation for melting down classified shapes of machined Beryllium components. Supersedes many portions of 1081-M1 and 1081-M1-R1.
1081-M1-R2	12/1/98	Admin Rev	Added 77 HP standby generator as an exempt source. Request received on Oct. 2, 1998.
*634-M2	11/2/98	Admin Rev	Revision consists of installing a 100 MBTU/hr evaporator for the purpose of reducing the volume of coolant waste generated. No revision number was assigned to this Admin Rev.
*634-M2	10/30/98	Modification	Modified permit for Be machining and foundry operations. Established maximum annual throughput of 10,000 lbs Be, facility-wide 24 hr and annual Be emission limits, Be control requirements, and continuous stack monitoring for Be. Application received on September 23, 1997. This permit supersedes all portions of Permit 634-M1.
*1081-M1-R1	3/11/98	Revision	Required that emissions generated from weld cutting, dressing, and metallography operations be routed through HPA filtration having 99.95% control efficiencies and specified the testing requirements based on accessibility to the HEPA filters.
*1081-M1	7/1/94	Modification	Allowed for the use of lubricant baths instead of kerosene baths in the cutting and grinding operations. The original permit only allowed for grinding to eliminate rough edges. Cutting will produce less fine particles, and therefore is both cleaner and easier to control. Supersedes all portions of 1081, except the portion requiring compliance testing.
1081	11/25/92	New NSR	Authorized beryllium machining operation in TA-55, Building 4.
741	4/26/89	New NSR	Permit to construct a beryllium processing facility within TA 3-35. Closed with 741-R1.
634-M1	9/8/87	Modification	Maximum process rate is limited to 2.0 pph of beryllium and not to exceed the estimated emission rate specified in section 5 of the permit application. Supersedes permit 634.
636	3/19/86	New NSR – Closed	Construction and operation of a beryllium machine shop in TA-3, building 102. LANL surrendered permit 636 on Feb. 20, 2004. Final beryllium activities were conducted at the facility in CY 2000.

Permit Number	Issue Date	Action Type	Description of Action (Changes)
635	3/19/86	New NSR – Closed	Modification of beryllium machine shop in TA 3, building 39. Closed with 635-R1.
634	3/19/86	New NSR	Construction and operation of a beryllium machine shop in TA-3, building 141.
*632	12/26/85	New NSR	Construction and operation of a beryllium machine shop in TA-35, building 213.

6.0 **Public Response/Concerns:** In accordance with 20.2.70.400.A(2), which do not require that administrative and minor permit modifications to be published in a newspaper, the Air Quality Bureau has complied with the requirements for public participation procedures under 20.2.70.401 NMAC and 20.2.70.402.A which include notification to affected programs and to EPA. The Department shall not issue an operating permit (including permit renewal or reissuance), minor permit modification or significant permit modification, until affected programs and the Administrator [EPA] have had an opportunity to review the proposed permit as required under this section.” a notice of this permit modification was provided to EPA and to the affected programs. Several affected programs had to be re-noticed due to changes in their staff email and physical mailing addresses as documented in the permit file “affected programs” sections. **The deadline for comments from both the affected programs and EPA is 10/22/16.** On 9/22/16 AQB received requests from Lisa Hopinkah with San Felipe Pueblo and Cherylin Atcitty with Taos Pueblo for a copy of the draft permit. Copies of the draft permit were emailed to both of them that day. On 9/26/16 the permit writer emailed answers to questions from Ms. Hopinkah. In response to a voice mail, the permit writer emailed a copy of the site plan showing the location of the basins on 10/6/16 to Naomi Archuleta and Noah Kaniatobe (both representing Ohkay Owingeh Pueblo) but was unable to reach them by phone.

San Felipe Pueblo submitted a letter requesting additional information regarding the list of contaminants and monitoring for the Sanitary Effluent Reclamation Facility (SERF).

7.0 **Compliance Testing History:**

N/A- Title V Minor modification to add new evaporative sprayers to evaporate water and reduce water volume in evaporation basins at the SERF. Air emissions from evaporative sprayers cannot be stack tested

8.0 **Startup and Shutdown:**

- A. If applicable, did the applicant indicate that a startup, shutdown, and emergency operational plan was developed in accordance with 20.2.70.300.D(5)(g) NMAC? Yes
- B. If applicable, did the applicant indicate that a malfunction, startup, or shutdown operational plan was developed in accordance with 20.2.72.203.A.5 NMAC? No
- C. Did the applicant indicate that a startup, shutdown, and scheduled maintenance plan was developed and implemented in accordance with 20.2.7.14.A and B NMAC? No

D. Were emissions from startup, shutdown, and scheduled maintenance operations calculated and included in the emission tables? No, there are no emissions from SSM for these units.

9.0 **Compliance and Enforcement Status [Title V only]:** Per email from Jon Lutz (7/27/16) there was a Notice of Corrective Action for the previous spray unit (TA-60-EVAP) but corrective action has been completed and no further action is required. The corrective action was to discontinue using the existing evaporative sprayer as of June 29, 2016.

10.0 **Air Dispersion Modeling:** Not applicable for this permitting action. Emissions from evaporative water sprayers of PM10 (PTE= 0.05 lbs/hr) and PM2.5 (PTE=0 lbs/hr) are below the levels that require air dispersion modeling.

11.0 **State Regulatory Analysis(NMAC/AQCR): [Reproduced from Statement of Basis (SoB) for Title V Operating permit P100R2 issued 2-27-2015. The Evaporative Sprayers are not subject to any source specific State or Federal Air Quality Regulations.]**

20 NMAC	Title	Applies (Y/N)	Unit(s) or Facility	Comments
2.1	GENERAL PROVISIONS	Yes, Always	Entire Facility	The facility is subject to Title 20 Environmental Protection Chapter 2 Air Quality of the New Mexico Administrative Code so is subject to Part 1 General Provisions, Update to Section 116 of regulation for Significant figures & rounding. Applicable with no permitting requirements.
2.3	Ambient Air Quality Standards	No for TV	Entire Facility	20.2.3.9 NMAC, LIMITATION OF APPLICABILITY TO 20.2.70 NMAC. The requirements of this part are not applicable requirements under 20.2.70 NMAC, as defined by that part. This section does not limit the applicability of this part to sources required to obtain a permit under 20.2.72 NMAC, nor does it limit which terms and conditions of permits issued pursuant to 20.2.72 NMAC are applicable requirements for permits issued pursuant to 20.2.70 NMAC.
2.7	Excess Emissions	Yes, Always	Entire Facility	Applies to all facilities' sources
2.11	Asphalt Process Equipment	Yes	TA-60-BDM	The objective of this Part is to establish particulate matter emission standards for asphalt process equipment.
2.33	Gas Burning Equipment - Nitrogen Dioxide	Yes	TA-3-22-1, TA-3-22-2, and TA-3-22-3 at the TA-3 Power Plant.	This facility has existing gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. LANL has existing (installed in 1950 and 1951, prior to 2/17/72) gas burning equipment with a heat input of greater than 1,000,000 million British Thermal Units per year per unit (178.5 MMBtu/hr (site).

20 NMAC	Title	Applies (Y/N)	Unit(s) or Facility	Comments
2.34	Oil Burning Equipment - Nitrogen Dioxide	Yes	TA-3-22-1, TA-3-22-2, and TA-3-22-3 at the TA-3 Power Plant.	This facility has oil burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. Same units and firing capacity as above.
2.38	Hydrocarbon Storage Facilities	No	Facility	LANL does not operate tank batteries or hydrocarbon storage facilities operated in conjunction with petroleum production facilities. (20.2.38.111)
2.60	Open Burning	Yes	All open areas on the Lab property	Per 20.2.60.113 open burning of RCRA hazardous waste is allowed at the TA-16 Burn Ground, which currently operates under RCRA interim status. The rule is applicable if LANL burns vegetative material under the provisions of 20.2.60.111 See the end of this statement of basis for more information about the requirements of this regulation as it applies to fire fighter training.
2.61	Smoke and Visible Emissions	Yes	All stationary combustion sources (except TA-60-BDM and insignificant activities)	Engines, boilers, and heaters are Stationary Combustion Equipment, and unless exempt are subject to this regulation. All units in Table 800.A, 1100.A and 1300.A
2.65	Smoke Management	Yes	All open areas on the Lab property	This regulation would apply if LANL conducted prescribed burning. To date, no prescribed burning has taken place since the rule was adopted.
2.70	Operating Permits	Yes	Entire Facility	LANL is a major source as defined by the rule for NO ₂ , CO, VOC, SO ₂ , TSP, PM ₁₀ , PM _{2.5} , 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.
2.71	Operating Permit Fees	Yes	Entire Facility	Source is subject to 20.2.70 NMAC as cited at 20.2.71.109 NMAC.
2.72	Construction Permits	Yes	Entire Facility	NSR Permits are the applicable requirement, including 20.2.72 NMAC.
2.73	NOI & Emissions Inventory Requirements	Yes, Always	Entire Facility	Applicable to all facilities that require a permit. PER > 10 tpy for all criteria pollutant
2.74	Permits-Prevention of Significant Deterioration	No	Entire Facility	Source is not one of the 28 listed – PTE > 250 tpy LANL has facility-wide emission limits in Title V operating permit that limit the potential to emit for PSD pollutants to below major source status for PSD purposes.

20 NMAC	Title	Applies (Y/N)	Unit(s) or Facility	Comments
2.75	Construction Permit Fees	No	Entire Facility	This facility is subject to 20.2.72 NMAC or TV: No, In accordance with 20.2.75.11.E an annual NSR enforcement and compliance fee shall not apply to sources subject to 20.2.71 NMAC.
2.77	New Source Performance	Yes	Entire Facility (see specifics below)	Applies to any stationary source constructing or modifying and which is subject to the requirements of 40 CFR Part 60 and 40 CFR 60 Subparts Dc, I, GG and IIII apply.
2.78	Emissions Standards for HAPs	Yes	Entire Facility (see specifics below)	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 61 and Subparts C, H, M and Q apply.
2.79	Permits – Nonattainment Areas	No	Entire Facility	This facility is not located in a non-attainment area. Non-attainment Link
2.82	MACT Standards for Source Categories of HAPs	Yes	Entire Facility (see specifics below)	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR 63. This facility has an allowable emission limit of 24 tpy total HAPS. Facility is subject to Subparts T.

12.0 Federal Regulatory Analysis: [reproduced from SoB for Title V Operating permit P100R2 issued 2-27-2015. The Evaporative Sprayers are not subject to any source specific State or Federal Air Quality Regulations]

Air Programs Subchapter C (40 CFR 50)	National Primary and Secondary Ambient Air Quality Standards	Applies (Y/N)	Unit(s) or Facility	Comments
C	Federal Ambient Air Quality Standards	Yes	Entire Facility	Independent of permit applicability; applies to all sources of emissions for which there is a Federal Ambient Air Quality Standard.

NSPS Subpart (40 CFR 60)	Title	Applies (Y/N)	Unit(s) or Facility	Comments
A	General Provisions	Yes	Facility	Applies if any other subpart applies and subparts Dc, I, GG and IIII apply
40 CFR 60.40b, Subpart Db,	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	No	None	The only boilers with capacities greater than 100 MMBTU/hr (or 29 MW) are located at the TA-3 Power Plant, TA-3-22-1 through -3, but were constructed in 1950-1952, prior to the June 19, 1984 applicability date.
40 CFR 60.40b, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional	Yes	TA-55-6-BHW-1, TA-55-6-	Applicable: facility has steam generating units for which construction, modification or reconstruction is commenced after June 9, 1989

NSPS Subpart (40 CFR 60)	Title	Applies (Y/N)	Unit(s) or Facility	Comments
	Steam Generating Units		BHW-2, CMRR-BHW-1 through CMRR-BHW-4	and that have a maximum design heat input capacity of 29 MW or less, but greater than or equal to 2.9 MW.
40 CFR 60, Subpart I	Hot Mix Asphalt Facilities	Y	TA-60-BDM	Asphalt Plant was constructed or modified after the June 11, 1973 applicability date. (40 CFR 60.90) GCP-3 Permit issued 10/30/02.
40 CFR 60, Subpart Kb	Standards of Performance for Storage Vessels for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	No	None	All tanks at the facility are either below the applicable 75m ³ capacity threshold or store liquids that are exempt due to low vapor pressures (e.g. diesel or fuel oil)
40 CFR 60.330 Subpart GG	Stationary Gas Turbines	Yes	TA-2-22-CT-1	The Rolls-Royce combustion turbine at the TA-3 Power Plant, with heat input = 32 MW which is greater than the 2.9 MW (10 MMBtu/hour) threshold. Unit was manufactured in 2003, which is after the October 3, 1977 applicability date.
40 CFR Part 60 Subpart KKKK	Standards of Performance for Stationary Combustion Turbines	N	None	The only gas turbine onsite is Unit TA-2-22-CT-1 which was manufactured in 2003 which is before the applicability date of February 18, 2005.
40 CFR Part 60 Subpart III (Quad-I)	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Yes	RLUOB-GEN-1 through RLUOB-GEN-3, TA-48-GEN-1 and TA-55-GEN-1, 2 & 3	(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

NSPS Emissions Standards

NSPS 40 CFR 60 Subpart III					
Source	40 CFR 60	NOx g/KW-hr (g/HP-hr)	HC g/KW-hr (g/HP-hr)	CO g/KW-hr (g/HP-hr)	PM g/KW-hr (g/HP-hr)
Emergency Generators RLUOB-GEN-1 thru -3 and	Subpart III Table 1	9.2 (6.9)	1.3 (1.0)	11.4 (8.5)	0.54 (0.4)
Emergency Generators	§4202(a)(2)	See Tier 2 Standards for Rated Power kW>560 in 40 CFR §89.112			

TA-55-GEN-3		
Emergency Generators TA-48-GEN-1	§4202(a)(2)	See Tier 3 Standards for Rated Power 130<kW<225 in 40 CFR §89.112
Emergency Generators TA-55-GEN-1 and TA-55-GEN-2	§4202(a)(2)	See Tier 2 Standards for Rated Power 19<kW<37 in 40 CFR §89.112

NESHAP Subpart (40 CFR 61)	Title	Applies (Y/N)	Unit(s) or Facility	Comments
A	General Provisions	Yes		Applies if any other subpart applies and subparts C, H, M and Q apply.
40 CFR 61 Subpart E	National Emission Standards for Beryllium	Yes	Units: TA-3-141, TA-35-213, TA-55-PF4, TA-3-66, TA-16-207, and TA-35-87	LANL houses facilities that contain machine shops which process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight. Applicable to beryllium operations. (61.30)
40 CFR 61 Subpart H	National Emission Standards for Radionuclides other than Radon from DOE Facilities	Yes	Entire Facility	Certain operations at LANL facilities (owned or operated by the Department of Energy) emit radionuclides other than radon-222 and radon-220 into the air and are thus subject to the provisions of this subpart. (61.90)
40 CFR 61 Subpart M	National Emission Standard for Asbestos	Yes	Entire Facility	LANL participates in demolition and renovation activities involving asbestos and operates an active asbestos on-site disposal site. (61.145 Standard for demolition and renovation and 61.154 Standard for active waste disposal sites.)
40 CFR 61 Subpart Q	National Emission Standards for Radon Emissions from DOE Facilities	Yes	Entire Facility	The provisions of this subpart apply to the design and operation of all storage and disposal facilities for radium-containing material (i.e., byproduct material as defined under section 11e(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. (61.190)

MACT Subpart (40 CFR 63)	Title	Applies (Y/N)	Unit(s) or Facility	Comments
A	General Provisions	Yes		Applies if any other subpart applies and Subpart T applies
40 CFR 63	National Emission Standards	Yes	TA-55-	LANL operates a solvent cleaning machine with

MACT Subpart (40 CFR 63)	Title	Applies (Y/N)	Unit(s) or Facility	Comments
Subpart T	for Halogenated Solvent Cleaning		DG-1	regulated solvents at Emission Unit TA-55-DG-1, the degreaser. Use of any solvent that contains methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. Wipe cleaning activities, such as using a rag containing halogenated solvent or a spray cleaner containing halogenated solvent are not covered under the provisions of this subpart. (63.460(a))
40 CFR 63 Subpart ZZZZ (Quad Z)	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT)	N	None	The facility removed the only remaining stationary RICE (TA-33-G-1) that was subject to the regulation. It was removed under NSR permit 2195F-R4. All other RICE engines at LANL are either non-road engines or emergency generators at an institution and are thus exempt from the regulation.
40 CFR 63 Subpart DDDDD	National Emissions Standards for Hazardous Air Pollutants for	N	None	

Miscellaneous	Title	Applies (Y/N)	Unit(s) or Facility	Comments
40 CFR 64	Compliance Assurance Monitoring	No	None	Facility has taken federally enforceable production limits for both the asphalt plant and data disintegrator to limit the PTE below the 100 tpy applicability limit for uncontrolled emission rate for all pollutants.
40 CFR 68	Chemical Accident Prevention	No	None	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

Miscellaneous	Title	Applies (Y/N)	Unit(s) or Facility	Comments
				for Part 68 applicability to ensure the rule is not triggered.
40 CFR 70	Title V- State Operating Permit Programs	No		Operating Permit Program – is not applicable – New Mexico State has full delegated authority and Title V is administered under 20.2.70 NMAC.
Title VI – 40 CFR 82 Subparts B, F, H and I	Protection of Stratospheric Ozone	Yes	Entire Facility	B- LANL maintains motor vehicle air conditioners and is subject to the rule. F - LANL maintains equipment with regulated refrigerants and is subject to the rule. H - LANL maintains equipment with regulated halons and is subject to the rule. I - LANL is subject to the prohibitions on sale or distribution of HCFC containing equipment as specified in the rule.

13.0 **Exempt and/or Insignificant Equipment that do not require monitoring:**

Title V - INSIGNIFICANT ACTIVITIES (Dated March 24, 2005) as defined by 20.2.70.7.P NMAC:

None associated with the Sanitary Effluent Reclamation Facility (SERF) that use evaporative sprayers.

14.0 **New/Modified/Unique Conditions (Format: Condition#: Explanation):**

- A. Added entire section A1500 to Title V Operating Permit for Evaporative Sprayers at the SERF as follows.
- B. Section A1500: Includes 5 regulated units (5 sprayers), 3 of which have been purchased to date.
- C. Section 1502: Emissions of HAPs are verified and must be included in facility-wide (Laboratory Wide) allowable HAP emission limits.
- D. Section 1504: The Sprayers are authorized for continuous operation in the Title V Operating permit since the ton per year emission rates are estimated assuming continuous operation. However, the ground water permit for the SERF limits operation of the sprayers during cold ambient temperatures.
- E. Condition 1507.A: Operational requirements to report HAPs tpy and submit the bi-annual (every 2 year) water analyses used to calculate HAP emissions.
- F. Condition A1507.B: Maintenance and repair requirements to ensure evaporative sprayers are maintained according to the manufacture’s specifications.

15.0 **Permit specialist’s notes to other NSR or Title V permitting staff concerning changes and updates to permit conditions.**

- A. There are no NSPS (40 CFR 60), NESHAPs (40 CFR 61), or MACTs (40 CFR 63) that apply to the evaporative sprayers.

- B. Hazardous Air Pollutants (HAPs) from the water that is evaporated with the sprayers are regulated under the existing facility-wide (Laboratory Wide) emissions cap.
- C. New Mexico Toxic Air Pollutants (NM TAPs) have been detected in the basin water that is being evaporated, but water sampling in 2015 showed that the concentrations were less than the TAP air quality permitting thresholds located in Tables A and B found at 20.2.72.502 NMAC of the Construction Permit Regulation. Fluoride is 13% of the threshold and all other TAPs were at 1% of the threshold. See chart following Table 2-P of the application.
- D. Particulate matter emissions in the form of TSP and PM10 from evaporation of the Total Dissolved Solids (TDS) in the water are fugitive emissions and therefore do require reporting in emissions inventory. However, PM emissions from the new sprayers are lower than PM emissions from the previous sprayer which has since been shut down and decommissioned.
- E. Comparison of water concentrations of TAPs and HAPs from 2012 and 2015 showed consistency in the types of analytes detected and their concentrations to support and require sampling of the basin water every other year (see application, calculation worksheet, and email from Bill Blankenship 8/16/16).
- F. No control equipment or other limitations are required, such as limits on operating hours, since the air emission calculations for the sprayers assumed the sprayers operated at their maximum site rate capacity at 8760 hrs/yr (24 hrs/day x 7 days/week x 365 days/yr) using actual water analysis data.
- G. The permit writer completed a technical review of the evaporative sprayers and verified the methods used to calculate air emissions and found that they emission rates reported in the application were the maximum possible from the evaporation of water. The spray plume height and plume direction of the water spray can be adjusted in order to avoid spraying directly onto the land surface, therefore the permit writer verified that adjusting plume height/direction does not change the water droplet distribution used to calculate air emission rates of TSP and PM10 (email from Bill Blankenship, 8/1/0/16)