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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

May 30, 2017

Karen Armijo
Permitting and Compliance Manager
Los Alamos Field Office
3747 West Jemez Road, MS A316
Los Alamos, NM 87544

John Bretzke
Division Director
Environmental Protection and Compliance Division
Los Alamos National Laboratory
P.O. Box 1663, MS-M991
Los Alamos, NM 87545

U1700764

RE: APPROVAL
CLASS 2 PERMIT MODIFICATION FOR THE ADDITION OF THREE HAZARDOUS WASTE MANAGEMENT UNITS AT TECHNICAL AREA 55, THE LOS ALAMOS NATIONAL LABORATORY ("LANL")
HAZARDOUS WASTE PERMIT
EPA ID #NM0890010515
HWB-LANL-17-003

Dear Ms. Armijo and Mr. Bretzke:

The New Mexico Environment Department ("Department") has received from the United States Department of Energy and Los Alamos National Security, LLC, (collectively, the "Permittees") a *Request for Class 2 Permit Modification Request for the Addition of Three Hazardous Waste Management Units at Technical Area 55, Los Alamos National Laboratory Hazardous Waste Facility Permit* ("PMR") and referenced by EPC-DO-17-016 and LA-UR-16-29615. The Permittees submitted this PMR on January 31, 2017, seeking to modify the Permit to add three additional hazardous waste storage areas to Technical Area 55 ("TA-55"). The Department hereby approves this PMR.

The Department has reviewed the PMR in accordance with 20.4.1.900 NMAC (incorporating 40 CFR 270.42 (b)). The Class 2 PMR was subject to a 60-day public comment period, running from February 5 through May 5, 2017, during which the Department received written comments

from some individuals and organizations. Pursuant to 40 CFR 270.42(b)(6)(i), the Department notified the Permittees on April 28, 2017 that the Department would provide a decision on the PMR by May 31, 2017.

Attached is the Department' Response to Public Comments submitted on the PMR. An electronic version of the Permit that incorporates the modifications is enclosed with this letter. The modified Permit is also available on the Department's Hazardous Waste Bureau website at http://www.env.nm.gov/HWB/lanlperm.html.

The New Mexico Hazardous Waste Management Regulation at 20.4.1.901.A(10) NMAC states, "A final permit decision shall become effective thirty (30) days after the notice of the decision has been served on the applicant..." The Department approves this modification on May 30, 2017; hence, the effective date of the modification shall be June 30, 2017.

If you have any questions regarding this correspondence, please contact Neelam Dhawan at (505) 476-6042 or John Kieling at (505) 476-6035.

Sincerely,

Butch Tongate

Butch Tongate
Secretary
New Mexico Environment Department

Attachments:

1) Response to Public Comments
2) Electronic Copy of the Modified Permit

cc: J.C. Borrego, NMED Deputy Secretary
J. Hower, NMED OGC
J. Kieling, NMED HWB
N. Dhawan, NMED HWB
S. Briley, NMED HWB
L. King, USEPA Region 6, Dallas, TX
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S. Martinez, ADEM-MA M992
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locatesteam@lanl.gov

File: 2017 LANL, Approval for Class 2 PMR for TA-55
LANL-17-003

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New Mexico Environment Department
Response to Public Comments Submitted on the Draft LANL Permit Associated with the January 31, 2017 LANL Class 2 Permit Modification Request for Additional Storage at Technical Area 55

May 2017

On January 31, 2017, the Department of Energy (DOE) and the Los Alamos National Security, LLC. (collectively, the Permittees) submitted a Class 2 Permit Modification Request (PMR) to the New Mexico Environment Department (the Department) requesting to modify the Resource Conservation and Recovery Act (RCRA) Hazardous Waste Facility Permit (Permit) for the Los Alamos National Laboratory (LANL) Facility to add three hazardous waste storage units to Technical Area 55 (TA-55). The three units include two rooms in Building TA-55-4 and a conversion of the existing TA-55-0355 High Efficiency Neutron Counter (HENC) Pad into a hazardous waste outdoor storage pad. The addition of the three proposed units will result in up to a 1.84% increase in the storage capacity at the Facility. The Permittees have submitted the PMR in accordance with 40 CFR 270.42(b).

In accordance with the 40 CFR 270.42(b)(6)(vi), all written comments submitted on the PMR are considered in formulating a final decision and the Department responds to all written public comments received during the public comment period, briefly describing all comments and identifying all related changes made to the permit.

The public comment period regarding the proposed PMR on the LANL Hazardous Waste Permit was first solicited by the Permittees on February 5, 2017. The public comment period lasted for 60 days; from February 5, 2017 until April 5, 2017. The Permittees held a public meeting on March 8, 2017 at Fuller Lodge, Los Alamos, New Mexico. This document is the Department's response to public comments received on this Class 2 PMR as required by 40 CFR 270.42(b)(6)(vi).

The Department is sending this Response to all persons who provided written comments during the comment period. The Department's Response includes a General Response to Comments and a Response to Comments Matrix. The General Response to Comments addresses comments on seven major issues raised by the public, and the Response to Comments Matrix addresses specific comments received. The Department's Response will also be posted on the Department's Hazardous Waste Bureau webpage at https://www.env.nm.gov/HWB/Permit.htm

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Class 2 Permit Modification Request for Addition of Three Hazardous Waste Storage Units at Technical Area-55 to Los Alamos National Laboratory Permit

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1. Permit Modification Class Determination

Public comment

The Department has received several comments requesting that the Department change this PMR from a Class 2 to a Class 3. Commenters have requested that the Class determination for this permit modification should be based on the percent increase at an individual unit (*i.e.*, TA- 55) and not on the percent increase at the entire Facility (*i.e.*, LANL).

Department response.

In the Class 2 PMR, the Permittees cite 40 Code of Federal Regulation (CFR) 270.42 Appendix I Item F.1.b, which identifies a change resulting up to a 25% increase in a facility's container storage capacity as being a Class 2 modification. The regulations also identify that a change resulting in increase of greater than a 25% in container storage capacity should be a Class 3 modification.

The commenters contend that Resource Conservation and Recovery Act (RCRA) regulations must be interpreted that a change of more than a 25% increase in container storage capacity at any Technical Area, and not the entire LANL facility, should be a Class 3 modification of the permit.

The term "Facility" is defined in 40 CFR 260.10 as "[a]ll contiguous land, and structures or other appurtenances, and improvements on the land, used for treatment, storing, or disposing of hazardous waste or for managing hazardous secondary materials prior to reclamations. A facility may consist of several treatments, storage or disposal operating units (e.g., one or more landfills, surface impoundments or combinations of them)."

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This definition is consistent with the definition in Section 1.8 of the current LANL Permit that states, "Facility means the Los Alamos National Laboratory site comprised of approximately 40 square miles, located on the Pajarito Plateau in Los Alamos County in north central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe, and owned by the United States Department of Energy."

The Department has determined, based on the regulatory definition of facility in the LANL Permit and in the federal RCRA regulations, that the Permittees appropriately requested the Class 2 modification for less than 2% increase in the storage capacity at LANL. In addition, TA-55 is already permitted to store containerized hazardous waste and the increase in storage capacity would not result in significant programmatic changes to TA-55. Two storage units will be in the basement of an existing building (TA-55-4), which already has rooms designated for hazardous waste storage, and an existing permitted High Efficiency Neutron Counter Pad will be converted into a hazardous waste outdoor storage pad.

Changes to Permit
None.

2. **Request for a Public Hearing**

Public comment
Some of the commenters have requested an opportunity for a public hearing.

Department response
The Department has determined that this PMR is appropriately classified as a Class 2 PMR (*See* General Response 1 above). In accordance with the provisions set forth in 40 CFR 270.42(b), a Class 2 PMR requires that a 60-day public comment period be provided but does not require an opportunity to request a public hearing. The 60-day comment period was provided to the public from February 5, 2017 to April 5, 2017. Pursuant to the requirements of 40 CFR 270.42(b)(4), the Permittees hosted a public meeting on March 8, 2017 at Fuller Lodge in Los Alamos.

Changes to Permit
None.

3. **Request to Extend the Comment Period for an Additional 30-Days**

Public comment
The Department received requests to extend the comment period for an additional 30-days. The commenters stated that Attachment B of the PMR was not available in the electronic public reading room (EPRR). The extension request was to provide them additional time to review seismic information provided in Attachment B.

Department response

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The Department did not grant the request to extend the public comment period for an additional 30-days. Direct links to the PMR and Attachment B were provided to the commenters via the email notification on February 7, 2017, as required by the Permit. The PMR and Attachment B were both available in the EPRR. Attachment B was electronically listed as a separate document because of the size of the document. The Department received the hard copy of PMR which included Attachment B. The public notice sent to all the people including commenters listed on LANL's facility mailing list also stated that the permit modification request was available for public review weekdays from 8:00 am to 5:00 pm at the Department's Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe NM 87505-6313 and at LANL Hardcopy Public Reading Room weekdays from 9:00 am to 4:00 pm at Northern New Mexico Citizens' Advisory Board Office, 94 Cities of Gold Road in Pojoaque, NM. However, as a courtesy, the Department did provide the commenters an additional seven days to review Attachment B and provide additional comments.

Changes to Permit
None.

4. **Concern Regarding Increased Production of Waste at LANL**

Public comment
The Department has received comments expressing concern about DOE's scope of work, which will result in an increase in the generation of radioactive waste at the LANL. Commenters suggest that the DOE should not be allowed by the Department to generate additional radioactive waste prior to managing existing waste at LANL.

Department response
The Department does not regulate the radioactive component of hazardous waste generated and stored at LANL, nor does the Department determine the overall mission at LANL. The Department regulates the storage, treatment, and disposal of hazardous waste, including the hazardous portion of mixed waste (*i.e.*, hazardous waste that also contains radioactive waste) at LANL. The proposed increase in container storage of hazardous waste is within the limits allowed by RCRA regulations.

Changes to Permit
None.

5. **Concern Regarding Off-site Disposal of Waste and Corrective Action at LANL**

Public Comment
The Department has received comments expressing concern with the Permittees' rate of off-site waste disposal and the clean-up of contaminated sites at the Facility.

Department response

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The Permittees continue in their efforts to reduce the volume of waste currently stored at LANL. These efforts were halted following the Waste Isolation Pilot Plant (WIPP) event in 2014, in which a LANL waste drum stored at WIPP breached contaminating the WIPP repository so that repository could no longer accept waste. The Department is continuing to monitor actions taken by the Permittees to prevent the reoccurrence of activities related to the 2014 WIPP event through weekly meetings, monthly technical reports and following up on Compliance Order (HWB-14-20) requirements. The Permittees' violations related to the 2014 WIPP event are documented in the Settlement Agreement and Stipulated Final Order issued on January 21, 2016. The Department is monitoring the actions and steps taken by LANL to repackage and re-certify the waste prior to shipment to WIPP.

Clean-up activities at legacy sites are ongoing at LANL, the Department has issued certificates of completion for several solid waste management unit (SWMUs) and areas of concern (AOCs) where corrective action is complete. More information on the schedule and process of on-going clean-up activities is provided in the 2016 Compliance Order on Consent. Documents associated with these clean-up efforts are available at the Hazardous Waste Bureau's library in Santa Fe and at LANL's Electronic Public Reading Room: http://eprr.lanl.gov/oppie/service.

Changes to Permit
None.

6. **Restrictions on Storage of Waste for Longer than One Year**

Public Comment
The Department has received comments requesting that the Department restrict waste storage at the three hazardous waste units to no longer than one year, since it is not clear when WIPP will begin accepting waste from LANL.

Department Response
The prohibition on storage of waste over a year is a requirement in the LANL RCRA Permit; Permit Part 2, Section 2.2.1(4)(c), which states "all mixed waste sealed sources described in this Permit shall not be stored at the Facility for longer than one year". The waste stored for more than one year is currently tracked under the provisions of the Federal Facility Compliance Order (FFCO) which was issued in October 1995, and by the Site Treatment Plan (STP).

The Waste Isolation Pilot Plant reopened on January 4, 2017, and accepted its first shipment of waste on April 10, 2017. LANL is currently scheduled to begin shipping waste to WIPP later this year. The Department will be monitoring the progress of shipments of waste to WIPP.

Changes to Permit
None.

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7. Comments Regarding Concern with Seismic Hazards at TA-55

Public comment

Some commenters suggest that the Department should not allow further hazardous waste operations at TA-55 due to seismic hazards. Commenters cite the *2007 Update of Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory Report* (PSHA) and Defense Nuclear Facilities Safety Board recommendations as the basis for their suggestion.

Department response

The Permittees have demonstrated that the TA-55-0355 Pad and rooms B13 and G12 at TA-55-4, proposed for additional container storage areas, are in compliance with the seismic location standards required by 40 CFR §270.14(b)(11) and 264.18(a). Specifically, the Permittees have presented information from published geologic studies at and around TA-55, aerial reconnaissance of the area within a five-mile radius from the facility suite, an analysis of aerial photographs, and field reconnaissance of lineaments and contact elevations that demonstrate that no faults with Holocene displacement are present within 200 feet of the proposed structures.

The Department finds that the Permittees have met the seismic requirement as required by 40 CFR § 264.18(a)(1) that states that "Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time" as well as the parameters set forth in 270.14(b)(11).

During the Permit renewal in 2010, the Department reviewed the Permittees' seismic studies associated with TA-55. The Department's assessment of the seismic concerns was documented in *LANL Renewal Permit (November 2010), General Response to Comments* issued on November 30, 2010. The information provided in Attachment B of this PMR does not alter the Department's previous evaluations of seismic hazards at LANL. Please see General Response to Comment #6 at the following link at the Department's website: https://www.env.nm.gov/HWB/documents/General_Comment_Response_11-30-2010_revised.pdf

In addition to fulfilling the applicable regulatory provision listed above, the Permittees are required to follow several provisions in the current Permit that were written in the interest of safety in event of seismic activity. For instance, in Permit Part 3, Section 3.5.1 limits Permittees to "stack containers greater than or equal to 30 gallons of hazardous waste to no more than three containers high." The Permit also requires that "stacked containers of this volume shall be palletized, and each layer shall be bound together" to ensure that the containers are a rigid unit, resistant to toppling. Further, the Permit requires that "the Permittees shall ensure that hazardous waste containers stored outdoors are not stored within than five feet of the perimeter (*i.e.,* permitted unit boundary) fence, within five feet of any permanent structure" such as a wall or building to reduce the chance of damage to the container in case a collapsed wall.

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Changes to Permit
None.

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8. Response to Comments Matrix

No.	Comments	NMED Response	Changes to the Permit
	Comments from Carson Forest Watch		
1.a	On behalf of our citizen's group in rural Northern New Mexico, the following are comments regarding LANL's Request to increase its storage of Hazardous and Radioactive waste on-site: 1) We are concerned regarding the increase in Plutonium Pit production at LANL, and any programs which would result in an increase of waste on-site.	See General Response to Comments #4.	None
1.b	2) Because of the failure to adequately clean up numerous past waste areas as LANL-going back to the Manhattan Project-We do not support production of additional waste.	See General Response to Comments #4.	None
1.c	3) There is a huge back-log of waste sites which require remediation and clean -up -and local communities want this waste addressed before any additional waste is produced.	See General Response to Comments #4 and 5.	None
1.d	4) LANL has a very poor track record in health and safety regarding its dealing with waste and because past waste is continuing to contaminate air and waste quality resources it is critical that NM Environment Dept. require these waste areas to be completely cleaned up before allowing LANL to produce new waste.	See General Response to Comments #4 and 5.	None
1.e	5) Because of on-going problems at WIPP, it is not clear how long this new additional waste will remain at LANL and this must be clarified before proceeding with any new storage.	See General Response to Comments #5 and 6.	None
1.f	6) The N.M. Environment Dept. has a legal responsibility to the citizens of New Mexico to protect our natural resources and comply with the law. LANL has been found in numerous cases to be in non-compliance and we request that NMED enforce the law and address past contamination by LANL before accepting this new LANL proposal.	See General Response to Comments #4 and 5.	None
	Comments from Patti Blair and Mona Ruark		
2	Please reclassify the recent DOE permit modification request to add three hazardous waste management units at the Plutonium Facility at Los Alamos National Laboratory from a Class 2 to a Class 3. Clearly, DOE is proposing a significant 53 percent increase in the storage capacity at the Plutonium Facility. The request asks for a 94,545-gallon increase. The existing permitted waste storage volume is 177,887 gallons. See Attachment J-1, Active Portion of the Facility, to the LANL hazardous waste facility permit. DOE is proposing a 53 percent increase in storage, requiring that the request be designated as a Class 3 permit modification request. Please notify DOE that it must resubmit its request as a Class 3 permit modification request.	See General Response to Comments # 1.	None
	Comments from Concerned Citizens for Nuclear Safety		

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3	**1. Attachment B: TA-55 Seismic Report, Unavailable to Public.** The submittal is incomplete. The publicly available version to download from the Permittees' EPRR was only 288 pages and did not include Attachment B: Seismic Report for the TA-55 Facility. Attachment B is an essential report that must be reviewed in order for the public to provide informed public comments to NMED. **The Public, Therefore, Unable to Provide Informed Comments.** The public, therefore, is unable to provide informed public comments about the permit modification request (PMR). Over the decades, CCNS has provided extensive comments about the increasing seismic risk on the Pajarito Plateau, including plutonium operations at TA-55. The Rendija and Guaje Mountain Faults lie east and west of TA-55, which necessitate the need for the report to be made available to the public before the end of the comment period. Further, we understand that the Permittees are proposing to store the containers containing respirable particles of plutonium in the proposed storage areas – very bad ideas in a seismic zone with increasing risk from an earthquake and for the Facility that blew up WIPP in February 2014. The Defense Nuclear Facilities Safety Board (DNFSB) has raised these issues on a number of occasions. CCNS remains concerned that the Permittees do not have quality assurance/quality control (QA/QC) procedures in place to ensure the EPRR postings are complete. This is not the first time that CCNS has had to raise this issue with the Permittees and NMED.	See General Response to Comments # 3.	None
4	**Request for Thirty-Day Extension of Time.** CCNS respectfully requests that NMED extend the comment period an additional thirty (30) days following the Permittees making Attachment B available on the EPRR. Only after reviewing the TA-55 Seismic Report will be public be able to provide fully informed public comments.	See General Response to Comments #3.	None
5	**Deny Class 2 PMR.** NMED must deny the PMR because the Permittees' have not properly classified it as required by the Resource Conservation and Recovery Act (RCRA). It is not a Class 2 PMR, which provides the public comment. It should be a Class 3 PMR, which requires public comment, opportunity for public hearing and judicial review. Clearly, DOE/LANS is requesting a significant fifty-three percent (53%) increase in the storage capacity at the TA-55 Plutonium Facility by asking for a 94,545 gallon increase. NMED permitted 177,887 gallons of waste storage at the facility TA-55 – no more, no less. See NMED HWP for LANL, Attachment J-1, Active Portion of the Facility. This is the "facility" from which to measure the increase, not as the Permittees have suggested. DOE/LANS is disingenuous by comparing the increase by using the "Facility" as defined as: "Facility" means the Los Alamos National Laboratory site comprised of approximately 40 square miles, located on the Pajarito Plateau in Los Alamos County in north central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe, and owned by the United States Department of Energy. Section 1.8 of the NMED HWP for LANL. RCRA requires that the PMR be designated as a Class 3 permit modification request. 40 CFR §270.42, Appendix 1, F.1.a states a modification is a Class 3 that results "in greater than 25% increase in the facility's container storage capacity." The request is obviously a Class 3 PMR, which requires public comment, opportunity for public hearing and judicial review. The Department, therefore, should require the Permittee to resubmit the PMR as a Class 3.	See General Response to Comments #1.	None

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6	**Request for Public Hearing.** CCNS respectfully requests a public hearing about the proposed, or a future Class 3, permit modification request to increase the storage capacity at TA-55. Since the early 1990s, CCNS has actively participated in the NMED PMR processes involving LANL, including the negotiations and hearing for the current NMED Hazardous Waste Permit for LANL. Further, and prior to any notice of public hearing, pursuant to 20.4.1.901.A.(4) NMAC, CCNS requests that NMED, the Permittees, CCNS, and other parties conduct negotiations to attempt to resolve issues related to the draft permit. CCNS believes that other parties and NMED would agree with some of the concerns and objections raised in the following comments and that a revised draft permit could be developed prior to the public hearing. If the Secretary issues a Draft Permit, and a timely written notice of opposition to the Draft Permit and a request for a public hearing is received, the Department, acting in conjunction with the applicant, will respond to the request in an attempt to resolve the issues giving rise to the opposition. If such issues are resolved to the satisfaction of the opponent, the opponent may withdraw the request for a public hearing. 20.4.1.901.A.(4) NMAC.	See General Response to Comments #2.	None
7	**CCNS Appreciates the Department Providing Additional Time to Provide Comments about the Seismic Report/Memo.** We thank the Department for clarifying that Attachment B: TA-55 Seismic Report, was posted on February 7, 2017 to the Permittees' Electronic Public Reading Room (EPRR), along with the main document. It would be helpful if there were an additional alert in the postings that an attachment to the main document is posted separately. Something as simple as indenting the attachment listing under the main document would be sufficient.	Comment noted.	None
8.a	**Seismic "Memo" Inadequate to Address Regulatory Requirements.** Over the decades, CCNS and Independent Registered Geologist, Robert H. Gilkeson, have successfully raised concerns about the increasing seismic danger on the Pajarito Plateau to the Department, the Permittees, the Defense Nuclear Facilities Safety Board, congressional offices, the Northern New Mexico Citizens' Advisory Board, the Regional Coalition of LANL Communities, and others, including the media. We have documented those concerns in comments to documents released by the Department, to the Permittees, and the DNFSB for public comment. Below is a listing of some of our concerns about Attachment B to the Class 2 PMR. (1) It is entitled, "Seismic Report for the TA-55 Facility," but it is in fact a "Memorandum."	Comment noted.	None

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8.b	(2) Figure 1, the February 29, 2016 "Map of the Pajarito Fault System in the Vicinity of LANL," misrepresents the current knowledge of the seismic setting at LANL. Compare Figure 1 to Figure 4-9 "Mapped Faults in the Los Alamos National Laboratory Area" found in the May 2008, Department of Energy *Final Site-Wide [Environmental Impact Statement] for Continued Operations of Los Alamos National Laboratory, Los Alamos, New Mexico*, p. 4-22. Attachment 1. Notice the difference the thickness of the Rendija Canyon Fault horsetail to the west of the proposed storage sites. The horsetails indicate that the faulting system is developing.	Figure 4-9 represents the general fault geometry of the Pajarito fault system in the vicinity of LANL. The variation in the spatial distribution of mapped surficial traces of the Rendija Canyon Fault horsetail splay at its southern end, depicted in the two figures results from the addition of data to Figure 1 (2016) collected after Figure 4-9 (2004) was produced. Additional information regarding the geometry of the Parjarito fault system can be found within an open, peer-reviewed journal article (Lewis et al., 2009) in which a detailed discussion is presented on relationships between surficial geometries of Pajarito fault system elements, and the inferences made from those geometries on developmental patterns and linkages of the elements of the fault system.	None
8.c	Granted the Department regulates the hazardous portion of the waste. But this waste contains respirable particles of plutonium, a deadly radionuclide that can cause cancer if inhaled or ingested. The Permittees have relied on the RCRA requirements for determining whether the proposal meetings the regulations. They have not included their own regulations and orders to protect the public and the environment from exposure to the plutonium and other dangerous radionuclides in the waste containers in case of a seismic event. We don't need to remind the Department that the Permittees, as former Secretary Ryan Flynn stated on many occasions, "Blew up WIPP!" As a result of the documented mismanagement at LANL, CCNS and our members who live downwind and downstream of LANL have heightened concern about the Department permitting the Permittees to store plutonium waste drums outside in an seismic zone, in a wildfire zone, above the sole drinking water aquifer for the Los Alamos community, above the Rio Grande, a source of drinking water, recreation, livelihood, habitat and beauty. The Permittees must withdraw their PMR. Further, what is the purpose of the Transuranic Waste Facility ("TRUWF") at TA-52. The August 2007 PMR reveals that the maximum storage capacity is estimated to be 105,875 gallons, or the equivalent of 1,925 55-gallon drums. This volume is more than that proposed in this Class 2 PMR, which is 94,545 gallons, or the equivalent of 94,545 gallons. Wouldn't the TRUWF fulfill the storage need?	See General Response to Comments #4 and 5. The Transuranic Waste Facility (TWF) at TA-63 is not yet operational. TWF is permitted to store only newly generated mixed waste (i.e., generated after December 31, 2015). WIPP Waste Acceptance Criteria has changed and several containers currently stored at TA-55 are not compliant for shipment to WIPP and would require repackaging prior to shipment.	None
8.d	We do not understand why the Permittees needed to reference *The Dictionary of Geological Terms* (Bates and Jackson, eds., 1984) when the primary definitions are provided in 40 CFR 264.18. We do not understand why the Permittees did not include the definition of "offset" as they reference it in the definition of "displacement."	The word "offset" has the same meaning as "displacement". Not all the geologic terms defined by the Permittees are defined in 40 CFR 264.18.	None

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8.e	Throughout the memo describes detailed field examinations, but the data results of these examinations are not presented, nor are they referenced.	The Department understands that the memo provided is a summary of seismic investigations. The Permittees provide references for the documents that contain the data collected during field examinations on pages 11 and 12 of the memorandum. Field reconnaissance at TA-55 was conducted by the Permittees in the summer of 2008. This field reconnaissance was initially performed in support of memorandum EES16-SHG-2009-002-R1, Evaluation of potential seismic hazards from Holocene-age surface-rupturing faults at Building 185, Technical Area 55, Los Alamos National Laboratory. The Permittees checked select regions again in November 2015 and did not identify any changes.	None
8.f	There is reference to the 2007 LANL seismic report – FINAL REPORT – *Update of the Probabilistic Seismic Hazard Analysis And Development of Seismic Design Ground Motions at the Los Alamos National Laboratory*, (URS Corporation, May 25, 2007), "2007 PSHA." We cite our joint comments to the Final SWEIS for LANL, DOE- 0380, May 2008, which cites our public comments to the draft Complex Transformation Supplemental Programmatic Environmental Impact Statement (Draft C-T SPEIS): However, the Draft C-T SPEIS fails to describe that the 2007 [PSHA] report presents findings that the seismic hazards are significantly higher than previously believed (roughly 50% increase in PC-3 seismic criteria) and that **the 2007 report identified a great uncertainty in the seismic hazard at LANL because of inadequate field studies for mapping faults and for measurements of basic seismic properties.** [Emphasis added.]	See General Response to Comments #7.	None
8.g	A very important issue that the Draft C-T SPEIS did not bring attention to is that the 2007 seismic hazard report presented the following recommendations to improve the knowledge of the seismic hazard at LANL: 1. Recalculate the seismic hazard using the newly developed NGA ground motion attenuation relationships. The new relationships display significant differences with the ones used in the LANL report.	See General Response to Comments #7.	None
8.h	2. Conduct additional detailed/high-precision mapping and displacement measurements along the Santa Clara Canyon (SCC) segment of the Pajarito Fault System (PFS). A purpose for this mapping is to better define long-term displacements and slip rates for the SCC.	See General Response to Comments #7.	None
8.i	3. Conduct paleoseismic trenching studies of the SCC to determine the timing and size of prehistoric surface-faulting earthquakes. This may help determine maximum magnitudes and recurrence intervals for rupture scenarios.	See General Response to Comments #7.	None

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8.j	4. Reevaluate the entire dataset for the Rio Grande Rift fault slip rate analysis using only data for complete seismic cycles and more complete documentation of long-term data (both displacements and applicable time periods). This more robust analysis will likely reduce slip rate uncertainties and result in a more symmetric RGR slip rate distribution.	See General Response to Comments #7.	None
8.k	5. Conduct Vs (velocity) measurements of dacite - the reference rock. There are no reliable velocity data for the dacite. Thus the acquired velocity data would confirm the (assumed) value used in this report.	See General Response to Comments #7.	None
8.l	6. Conduct additional studies to better constrain kappa. Kappa is a key parameter in assessing the hazard at LANL. Focused efforts should be made to evaluate kappa using data from the LANL seismographic network. Improvements in the network may be necessary to improve data quality [emphasis supplied]. The large number of the recommendations and the importance of the recommendations for gaining the required knowledge of the LANL seismic hazard show that it was a mistake for the Draft C-T SPEIS to describe the 2007 seismic hazard report as "a comprehensive update." Instead, the 2007 report is a work in progress with many deficiencies. The list of recommendations shows that DOE managers and LANL scientists have been irresponsible over the last twenty [thirty] years in meeting the industry standard for assessment of seismic hazards and the required practices for building design and construction and routine laboratory operations to protect the safety of workers and the public.	See General Response to Comments #7.	None
8.m	The failure to acquire the needed data to accurately calculate the seismic hazard is illustrated by the poor knowledge of the fundamental property "kappa." Kappa is determined by establishing a reliable network of seismographs and collection of reliable data over a period of many years. **The recommendation for improvements in the seismic network and improvements in the data quality is evidence of careless work. Similarly, pointing out the need for additional field study to map faults and measure the velocity of dacite are examples of careless attention to acquire required data by DOE and LANL.** [Emphasis added.]	See General Response to Comments #7.	None
8.n	Dacite is not the "reference rock" below much of LANL. Another deficiency that was not presented in the list of recommendations is that the authors of the 2007 report failed to realize that dacite has limited presence beneath LANL. Further, the geologic information shows that the dacite will possess a great range in velocity values. The 2007 report calculated the seismic hazard for every facility based on an assumption that dacite was the reference rock everywhere and that the dacite only had one value for seismic velocity. However, the geologic knowledge from the 10-year drilling project to install characterization wells is proof that dacite is only present in the northwestern region of the LANL site and that the velocity values in the dacite vary greatly. Calculating an accurate value for the seismic hazard at any LANL facility will require deep drilling to characterize the velocity values of the reference rock.	See General Response to Comments #7.	None

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8.o	These comments include four cross-sections from the final report for the LANL characterization well project (Figures 2-12, 2-13, 2-14, and 2-17) to illustrate the limited presence of dacite below LANL and the complex geology below LANL which results in a need to characterize the unique properties of the reference rock at each facility where there is a need to calculate the seismic hazard. The Permittees have not taken the recommendations seriously. Otherwise, the references to the Wong report, or the PSHA report, would have also provided information as to the research findings. We do not find such information in the memorandum.	See General Response to Comments #7.	None
8.p	A decade later, the Permittees have not conducted the required investigation to understand the increasing seismic hazard at LANL. Further, going to the link to the Los Alamos Seismic Network reveals that the site does not provide publicly accessible data. The data that has been mapped reflects the periods 1973 through 2001 and through 2007. It is uncertain whether the Permittees have established a seismic monitoring network using weak and strong monitors. **Now is the time for the Department to use its regulatory power to require actual, current data from the Permittees about the seismic hazard on the Pajarito Plateau.**	See General Response to Comments #7.	None
8.q	**DOE adopted industry standards for seismic risk, but has not conducted the extensive field investigation required by new DOE Standard 1020-2012.** DOE has not addressed the much larger ground motion of 1.68 g from a Seismic Design Category -5 (SDC-5) earthquake at LANL – a three-fold increase in earthquake ground motions on the Pajarito Plateau.	See General Response to Comments #7.	None
8.r	On August 20, 2013, at the invitation of the DNFSB for a private meeting in Santa Fe, Gilkeson prepared a 19-page paper, which we incorporate into these comments as Attachment 2, regarding: **Comments for the August 20, 2013 Meeting with the Defense Nuclear Facilities Safety Board in Santa Fe, New Mexico. Our comments are primarily concerned with the requirement to shut down the LANL 1970's Era Plutonium Facility PF-4 for the foreseeable future (and possibly permanently) because of (1) the long history on record of unsafe work practices at the PF-4, and (2) the very large dose of plutonium to the public from an earthquake resulting in collapse of the PF-4. The earthquake hazard at the PF-4 was described in the testimony of DNFSB Chairman Winokur to Congress on May 9, 2013**: *Earthquake Hazard at Los Alamos National Laboratory* The risk posed by the Plutonium Facility (PF-4) at Los Alamos National Laboratory remains among the Board's greatest concerns. An earthquake resulting in collapse of the facility would likely result in very high radiological doses to the public in nearby towns. The Board continues to urge DOE to take meaningful, near-term action to mitigate this risk.	See General Response to Comments #7.	None
8.s	***The great danger to the public from earthquake damage to the PF-4 and the deficiencies in knowledge of the seismic hazard require the immediate shutdown of all activities at the 1970's Era Plutonium Facility PF-4 at LANL until the extensive field investigations required by the new DOE Standard 1020-2012 are performed and reported. We estimate that this activity will require a minimum of five years and possibly even longer if Congress provides the required funding in a timely and consistent manner.**	See General Response to Comments #7.	None

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8.t	***The recently completed and the planned future structural upgrades to the LANL PF-4 are deficient because they are based on the far too low ground motions of approximately 0.5 g (1 g is the force of gravity at land surface). DOE Standard 1020-2012 requires the structural upgrades to the LANL PF-4 to survive the much larger ground motions of 1.68 g from a Seismic Design Category-5 (SDC-5) earthquake.**	See General Response to Comments #7.	None
8.u	***The greater than three times increase in earthquake ground motions requires major modifications to the existing PF-4 as required by DOE Standard 1020-1012. The large increase in ground motions in DOE Standard 1020-2012 results in a very large increase in total costs for the required upgrades to the PF-4 structure, systems and components (SSC) that are not known. Further, Federal Law 10 CFR 830 and DOE Standards require accurate knowledge of the seismic hazard for an estimated cost for the structural upgrades to the PF-4 to provide safety to the workers and the public for a SDC-5 earthquake.**	See General Response to Comments #7.	None
8.v	Further, we understand that the Permittees are proposing to store the containers containing respirable particles of plutonium in the proposed storage areas – very bad ideas in a seismic zone with increasing risk from an earthquake and for the Facility that blew up WIPP in February 2014. The Defense Nuclear Facilities Safety Board (DNFSB) has raised these issues on a number of occasions.	Comment noted.	None
	Comments from Nuclear Watch New Mexico		
11	**Request For A 30-day Extension.** We respectfully request the New Mexico Environment Department provide an additional thirty (30) day period of time for the public to provide informed comments. We request that the thirty (30)-day additional comment period begin from the time the TA-55 Seismic Report is made available to the public on the Permittees' Electronic Public Reading Room. The reason for our request is that the Department of Energy, Los Alamos National Laboratory and Los Alamos National Security, LLC (the Permittees) omitted an essential report from the request that was publicly available to download from their Electronic Public Reading Room. Attachment B, the Seismic Report for the TA-55 Facility, was not included in the 288-page download, nor was it on the LANL Permit page. https://www.env.nm.gov/HWB/Permit.htm. What is the seismic rating of the TA-55-0355 Pad?	See General Response to Comments #3. Also, see Response to Comments # 19 below.	None

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12	**Reclassify this PMR as a Class 3.** Please reclassify the recent Department of Energy (DOE) permit modification request (PMR) to add three hazardous waste management units at the Plutonium Facility at Los Alamos National Laboratory from a Class 2 to a Class 3. Clearly, DOE is proposing a significant 53 percent increase in the storage capacity at the TA-55. The request asks for a 94,545-gallon increase. The existing permitted waste storage volume is 177,887 gallons. *See* Attachment J-1, *Active Portion of the Facility,* to the LANL hazardous waste facility permit. DOE is proposing a 53 percent increase in storage, requiring that the request be designated as a Class 3 permit modification request. Please notify DOE that it must resubmit its request as a Class 3 permit modification request. We are familiar with the argument that Resource Conservation and Recovery Act (RCRA) regulations can be interpreted to mean that the storage capacity of all of the hazardous waste storage units at Los Alamos Laboratory should be considered when calculating the storage capacity percentage increase at any one Tech Area. But this interpretation has a fatal flaw. Consider that the whole of Los Alamos Lab has a storage capacity of 5.1 million gallons. RCRA regulations allow up to a 25% increase under a Class 2 PMR, which would appear to allow up to 1,275,000 gallons of additional storage capacity. So, the Lab could request a 1.2 million gallon increase at PF-4, which would be a SEVEN TIMES jump in the capacity without a Class 3 PMR. Or 1.2 million gallons of storage could be added ANYWHERE on the whole of the Lab, even at Tech Areas with little or no storage capacity, at anytime without a Class 3 PMR! Or 1.2 million gallons of storage could be added ANYWHERE on the whole of the Lab, even at Tech Areas with little or no storage capacity, at anytime without a Class 3 PMR! By agreeing to the 94,545-gallon increase at TA-55 without a Class 3 PMR, NMED would essentially be agreeing to 1.2 million gals as far as any percentage increase goes. And by agreeing to the 94,545-gallon increase without a Class 3 PMR, NMED would effectively be agreeing to any and all storage increases in the future. By allowing this additional storage capacity as a Class 2, NMED would basically be saying that there are no storage limits. If NMED allows the percentage increase to be based on the current amount for the whole of all Laboratory, 1.2 million gallons could be allowed anywhere. Without a doubt, the RCRA regulations must be interpreted that more than a 25% increase at any one Tech Area requires a Class 3 PMR, which requires a public comment period, as well as an opportunity to request a public hearing and judicial review of the final decision. A public hearing is also necessary because of the age of the Plutonium Facility, which was built more than 50 years ago; and the on-going public health concerns about the inadequate ventilation system for containing respirable particles of plutonium in emergency situations, among other issues. What are the potential impacts of having 50% more plutonium waste at TA-55 on the public and the environment if there is a fire or and accident? How much plutonium, including all the operational plutonium, is at TA-55?	See General Response to Comments #1, 2 and 4.	None

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13	**Please State In The Permit Why WIPP Was Closed and Is Not Fully Operational** Los Alamos National Laboratory (LANL) is proposing to increase the storage of hazardous and radioactive waste to support continued mission operations. The PMR proposes to add three hazardous waste storage units – one outside and two inside of Plutonium Facility-4. The reason given was because TRU waste shipments from LANL are not expected to resume until September 2017. And it was stated that the number of shipments available to LANL would not meet projected generation rates until the new ventilation is completed at Waste Isolation Pilot Plant (WIPP), which is currently forecasted for 2020. Projected waste shipment estimates are much less than historic practices at WIPP because that facility is struggling to reopen fully. With the TA-55 current inventory and projected waste generation rate of one shipment per week, it will take years to dispose LANL's TRU and mixed transuranic (MTRU) waste inventory. Improper waste handling at Los Alamos closed WIPP for three years and WIPP will struggle to reopen fully for many years. LANL's violations of its Hazardous Waste Permit are the reason LANL needs more storage space. Please state that LANL caused this problem in the Permit.	Comment noted. The Permit is not the appropriated document to state that additional storage is required because of problems caused by LANL. The violations related to the 2014 WIPP event are documented in the Compliance Order HWB-14-20. The Department is continuing to monitor the Permittees progress on shipment of waste to WIPP. See General Response to Comments # 5.	
14	**A PMR Is Needed For The Combustible Pipe Overpack Containers** A large number of the TRU waste inventory at TA-55 includes 300 Pipe Overpack Containers (POCs) containing combustibles that exceed new limits. According to the new criteria, updated in July 2016, POCs containing combustible material above the new limits are not accepted at WIPP. Apparently, new testing on the POC "integrity" led to this ban. There were 300 of these non-compliant, combustible POCs sitting around waiting to be re-packaged. This was half of this type of container that is in inventory at TA-55. And LANL did not want to move the non-compliant POCs down to their new TRU waste storage, TA-63, because that would be "ineffective." But, in addition to not being allowed at WIPP, the 300 POCs are not currently allowed at the Lab's new TRU Waste Facility, TA-63. Whether or not these 300 POCs will ever be allowed at TA-63 depends on the outcome of "ongoing fire testing." (DNFSB Los Alamos Report for Week Ending December 9, 2016, below) So LANL plans to store, at its nuclear bomb component production facility, containers with combustibles that are too dangerous to ship to WIPP, a 2100-foot deep geological repository. LANL continues to have waste-handling problems. Re-packaging the 300 noncompliant, combustible POCs should be the priority, not looking for somewhere to store them until who-knows-when. NMED should not allow any delay in repackaging these POCs and should not approve any additional storage for these POCs. LANL must deal with the POCs immediately and NMED should not enable LANL to continue to make mistakes without any real consequences.	The POCs are being stored in Type A containers in compliance with 40 CFR 173.465. WIPP's Waste Acceptance Criteria has changed, and the containers are awaiting certification or re-packaging. Also, see General Response to Comments # 4 & 5.	
15	**Please State How Possible Unexpected Releases Will Be Detected The PMR states - 3.4.4 Preventing Releases To The Atmosphere** Releases to the atmosphere are not anticipated from the waste stored on the TA-55-0355 Pad or rooms B13 and G12. All waste containers meet DOT Class A shipping container standards and will be fully inspected before placement at the units. All containers will be kept closed during handling and storage. No waste repackaging is allowed at any of the permitted units. During storage, waste containers will be inspected in accordance with Attachment E Inspection Plan requirements. In the event of an unexpected release, all personnel working within or near the area would be notified immediately to evacuate. Are there continuous air monitors (cams) on the TA-55-0355 Pad?	Radiological continuous air monitor's (CAM) are not located on TA-55-355 (HENC) pad. The reason no CAMs are situated in the outside storage areas is because the waste is contained in Type A shipping containers that are engineered DOT containers designed for shipping nuclear material.	None

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16	**Please Clearly State That Wastes Will Not Be Stored For Longer Than One Year** RCRA regulations state that waste shall not be stored at a permitted unit for more than one year (see 40 CFR § 270.32(b)(2)). Is this the case for all wastes proposed for the new units?	See General Response to Comments # 6.	None
17	**Request for a Hearing** Nuclear Watch New Mexico formally requests the opportunity for a hearing on this Permit Modification Request. Thank you for your careful consideration of my request.	See General Response to Comments # 2.	None
18	**No additional storage at PF-4 should be allowed until all seismic upgrades, including those proposed and those being designed, are completed and until all seismic issues are resolved.** LANL and PF-4 have ongoing seismic issues. The DNFSB gives us a glimpse of the planned work to make the Plutonium Facility (PF-40) at TA-55 needed to make it safe. As stated below, future activities include "completion of seismic evaluations for safety significant systems, structures, and components in order to complete the project to identify the totality of seismic vulnerabilities that began in 2008." Although the Lab management has been working on this since 2008, it still does not know the totality of the seismic issue problem. It would seem unwise to add more waste to this problem.	See General Response to Comments #7.	None
19	Los Alamos Report for Week Ending January 6, 2017. **Plutonium Facility Infrastructure:** Last month, LANL management transmitted to the NNSA Field Office for information the fiscal year 2017 TA- 55 Project Execution Strategy (PES). Planned work for this year includes: a number of continued seismic structural activities; completion of walk-downs for the firewater pump houses; completion of the preliminary evaluation of the cast iron fittings issue for the fire suppression system; installation of concrete pads for a future diesel generator to support the electric firewater pumps; continuation of the development of an execution strategy for glovebox fire suppression systems; and identification of equipment and components needed to support a potential Performance Category 3 ventilation system. Notable out-year activities include: determination of a path forward to remediate seismic interaction issues (2 over 1), particularly with the fire suppression system; completion of seismic evaluations for safety significant systems, structures, and components in order to complete the project to identify the totality of seismic vulnerabilities that began in 2008; modifications to achieve 2-hour fire barrier status for certain walls; removal of non-seismic loads from the safety class firewater loop; and an active confinement ventilation system. As a matter of fact, Lab management has reduced and limited the amount of nuclear materials at PF-4 when there are safety issues. Los Alamos Report for Week Ending April 22, 2016 **Plutonium Facility–Safety Basis:** Last Friday, LANL management submitted to the NNSA Field Office for review and approval a Safety of the Situation (ESS) to address the Potential Inadequacies of the Safety Analysis (PISA) associated with the use of cast iron and malleable iron fittings in the fire suppression system (see 2/12/16 weekly). The ESS indicates the fire suppression system may not meet its required performance category 2 seismic criteria and additional testing is required. LANL has implemented additional material-at-risk limits as a compensatory measure until the results of the analysis are complete. What is the seismic rating of the TA-55-0355 Pad and structure?	Per the facility's engineering department, the HENC Canopy is designed to be rated at Performance Category 2 (PC-2) for wind and seismic. This is in accordance with DOE-STD-1020-2002, Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities. PC-2 for seismic requires that the design follow the requirements of the International Building Code, IBC 2000.	None

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20	**No additional storage at PF-4 should be allowed until all improvements to the criticality safety program at the Lab are completed and until all criticality issues are resolved.** PF-4 has recently restarted all operations after being shut down since June, 2013, due to criticality safety issues. And still, according to NNSA, "necessary improvements to the criticality safety program are not proceeding at an acceptable pace." Nuclear materials handling at the Lab must be proved safe before any more storage is allowed. Los Alamos Report for Week Ending January 6, 2017 **Federal Oversight–2016 Performance Evaluation Report:** On Tuesday, NNSA posted its 2016 Performance Evaluation Report for LANL. In the Operations and Infrastructure goal, NNSA acknowledged that LANL exceeded expectations for operational resumption activities at the Weapons Engineering Tritium Facility and the Plutonium Facility. NNSA identified a number of areas under this goal where LANL did not meet expectations that included: (1) necessary improvements to the criticality safety program are not proceeding at an acceptable pace; (2) although improving, the contractor assurance system continues to have significant deficiencies, and (3) weaknesses in the emergency management program continue to be identified by both internal and external reviews.	See General Response to Comments #7.	None

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To:	karen.armijo@nnsa.doe.gov; Bretzke, John Clifford
Cc:	Tongate, Butch, NMENV; Borrego, Juan Carlos, NMENV; Kieling, John, NMENV; Dhawan, Neelam, NMENV; Briley, Siona, NMENV; Murphy, Robert, NMENV; "king.laurie@epa.gov"; Haagenstad, Mark P; Martinez, Saundra; locatesteam
Subject:	Letter to Ms. Armijo and Mr. Bretzke
Date:	Tuesday, May 30, 2017 2:36:57 PM
Attachments:	LANL 2017- Approval for Class 2 PMR for TA-55 LANL-17-003.pdf

Good Afternoon All,
Please open attached document.

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