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DEC 2013

December 19, 2013

Mr. David Cobrain, Program Manager
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg. 1
By email to: dave.cobrain@state.nm.us

RE: Los Alamos National Laboratory (LANL) TA-16 Open Burn Unit 399
Draft Closure Plan

Dear Mr. Cobrain:

Below are the comments and hearing request on the above referenced closure plan as required under the federal Resource Conservation and Recovery Act (RCRA), implementing regulations contained in Title 40 of the Code of Federal Regulations, and the New Mexico Hazardous Waste Act (NMHWA), NMSA 1978 Section 74-4-1 *et seq.*, which incorporates RCRA by reference and under regulations promulgated as 20.4.1.600 NMAC on behalf of the organization and associations described below:

1. Nature and Scope of the Interest of Commenters and Hearing Requesters.

(a) **Concerned Citizens for Nuclear Safety (CCNS)** is a non-profit public interest membership organization of over a quarter century of demonstrated interest and participation in permitting processes at LANL. CCNS was actively involved in the 2010 permit hearings on TA-16 Open Burn units, demonstrated interest in the permit by participating with expert assistance in over ninety (90) hours of hearings, raised the issue of the need for the closure plan for this and other units at LANL, and is well known to the New Mexico Environment Department (NMED) as a responsible, knowledgeable participant in the public processes on LANL permits, included, as necessary, litigation. CCNS's mission is to assure public knowledge of the environmental, human health and public safety issues connected with LANL legacy waste and continued operations, obtain clean-up of the atomic bomb/plutonium trigger manufacturing legacy waste, stop the continued production of environmentally contaminating waste by LANL, and assure adequate protection for downwind and downstream people by obtaining proper monitoring and permit conditions on LANL operations and clean-up programs. In this matter, CCNS wants to assure that the closure plans are adequate to protect the health and safety of the

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downwind and downstream public and return the natural environment, contaminated by over sixty (60) years of burning and detonations at TA-16, to the condition it was in before LANL and its operations occupied the site, and, therefore, by and through counsel, makes the below comments and requests a hearing on the closure plan.

(b) **Honor Our Pueblo Existence (H.O.P.E.)** is a community-based organization located at the Santa Clara Pueblo who are committed to addressing the issues of concern from past and present LANL operations and concentrating on cleaning up as completely as possible. LANL occupies sacred ancestral lands of the Santa Clara people and other Pueblo tribes, who are Indigenous to this area. Our people continue to utilize the Sacred Jemez Mountains, Pajarito Plateau for sustenance of medicines, plants, wildlife, trees, berries and clean water for ceremonies, as our ancestors before us have done since time immemorial. Taking the knowledge we have gained from over 60 years experience with LANL operations, which include usage of destructive, hazardous and toxic chemicals, verify our grave concerns about the pollution in our land, air and water. H.O.P.E.'s Mission is to embrace the Pueblo teachings of love, respect and care, working together improving the life ways of our people in order to provide an enhanced and sustainable environment for generations to come. H.O.P.E. joins CCNS and TWU in these comments and hearing request as we also want to assure that the closure plans are adequate to protect the health and safety of the downwind and downstream public and return the natural environment, contaminated by over sixty (60) years of burning and detonations at TA-16-399, to the condition it was in before LANL and its operations occupied the site, and, therefore, by and through counsel, makes the below comments and requests a hearing on the closure plans.

(c) **Tewa Women United (TWU)** is an organization of Indigenous Women united in heart, mind and spirit. TWU is a collective intertribal women's voice in the Tewa homelands of Northern New Mexico. The name Tewa Women United comes from the Tewa words *wi don gi mu* which translates to "we are one." Tewa Women United (TWU) was started in 1989 as a support group for women concerned with the traumatic effects of colonization leading to issues such as alcoholism, suicide, and domestic and sexual violence. In the safe space women created, we transformed and empowered one another through critical analysis and the embracing and re-affirming of our cultural identity. In 2001 TWU transitioned from an informal, all volunteer group to a formal 501(c)3 non-profit organization, Tewa Women United was incorporated for educational, social and benevolent purposes, specifically for the ending of all forms of violence against Native Women and girls, Mother Earth and to promote peace in New Mexico. As part of our mission of ending all forms of violence against Mother Earth and promoting peace in New Mexico, TWU is dedicated to seeing that the violence Los Alamos National Laboratory has done and continues to do to Mother Earth and places sacred to Tewa people which LANL took, polluted and poisoned and continues to occupy making weapons of mass destruction, comes to an end. TWU believes that sovereignty is living truth from the heart. Our vision is embodied in the Tewa words *wo watsi* the breath of our work. In other words, our path of life follows us into daily work. That work includes social activism to assure the health and safety of our families, our communities, our people, our sacred places and all of Mother Earth. LANL must use their intelligence to do practices that

protect life givers to the ultimate of what is possible For these reasons, we join with CCNS and H.O.P.E. United in making these comments and hearing requests as we also want to assure that the closure plans are adequate to protect the health and safety of the downwind and downstream public and return the natural environment, contaminated by over sixty (60) years of burning and detonations at TA-16-399, to the condition it was in before LANL and its operations occupied the site, and, therefore, by and through counsel, makes the below comments and requests a hearing on the closure plans.

2. Names and Addresses of Commenters/Hearing Requesters:

(a) Concerned Citizens for Nuclear Safety, Inc.
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Santa Fe, NM 87501

(b) Honor Our Pueblo Existence (H.O.P.E.)
Rt. 5, Box 474
Española, NM 87532

(c) TEWA Women United
912 East Fairview Lane
Española, NM 87532

3. Objections To The Draft Closure Plan and Issues For Consideration At Hearing.

(a) General Objections -- Basis For Hearing Request:

CCNS, H.O.P.E. and TWU (Commenters) contend that information which is both necessary and useful for the New Mexico Hazardous Waste Bureau (HWB) to carrying out the requirements of the Resource Conservation and Recovery Act (RCRA) and the U.S. Environmental Protection Agency regulations implementing the RCRA in Title 40 of the Code of Federal Regulations as adopted by the New Mexico Hazardous Waste Act (HWA) and state regulations implementing the HWA is missing from portions of the closure plans for the TA-16-399 burn unit at the Los Alamos National Laboratory (LANL). Commenters request that the HWB require LANL to remedy these deficiencies prior to the adoption of the permit. In the event that HWB and LANL do not eliminate these deficiencies, Commenters request a public hearing with an opportunity to present evidence and direct testimony, cross examine witnesses, and raise and challenge issues of law in relation to these deficiencies and other deficiencies that may be revealed during the hearing process.

The TA-16-399 Burn Tray and the TA-16-388 Flash Pad are co-located within the TA-16 Burn Ground. The units began operations in 1951 and have operated under interim status for decades. 40 CFR Part 265, Subpart P. The units have been used for waste disposal operations at the top of a tributary watershed that flows to the southeast to Water Canyon. Historically, the open burn units have been addressed together. However, there are two separate Class 3 Permit Modification Requests (PMR) administrative processes going on concurrently: the PMR for TA-16-388 Flash Pad and the closure plan for the TA-16-399 Burn Tray unit. In order to efficiently address both units, CCNS, H.O.P.E. and

TWU respectfully request that NMED combine this permit modification request (PMR) and the TA-16-399 closure plan into one administrative process as has always been done before. For example, Attachment H, "Technical Area 16 Burn Ground Human Health and Ecological Risk-Screening Assessment" to the TA-16-388 Flash Pad application is for the TA-16 Burn Grounds, which encompasses both units.

Commenters are concerned that with the bifurcation of the administrative processes for the units, there will be duplication of efforts during any public hearing process. Commenters object to the fact that TA-16-399 Burn Tray Unit operated only under the interim status regulations, even though it began operations in 1951. The Applicants, the U.S. Department of Energy (DOE)/National Nuclear Security Administration (NNSA), owners of the facility, and the operators, DOE/NNSA and Los Alamos National Security (LANS), have had years to bring the Unit into the permitting process.

Although Commenters are grateful NMED has proposed to expand the analytical suite for soil sampling because the Permittees did not provide the required documentation of the waste treatment from 1951 to 1980. However, Commenters know that there are elevated levels of dioxins and furans in the soils surrounding both units and contend that the closure plan does not adequately address assessment and clean-up of these highly toxic chemicals.

(b) Specific Objections -- Additional Basis A Public Hearing:

1. **Necessary and Useful Information Missing from the Tables**. COMMENT: The 2013 draft closure plan for TA-16-399 ("Closure Plan") omits the following useful tables from the 2010 draft: (1) Summary of Analytical Methods; (2) Recommended Sample Containers, Preservation Techniques, and Holding Times; (3) Recommended Quality Control Sample Types, Applicable Analyses, Frequency and Acceptance Criteria. Commenters contend these are both necessary and useful information for overseeing the closure process and the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act (NMHWA) require provision of such information. LANL should be required to produce this information as it had been in the 2010 draft closure plan.

2. Necessary and Useful Information Missing from the Figures. COMMENT: The 2013 draft closure plan omits useful and necessary figures from the 2010 draft: (1) additional soil sampling locations; (2) surface water sampling locations. Although the 2013 draft closure plan does include a figure called "Storm Water Monitoring Station", the necessary and useful information provided from additional surface water sampling locations is now absent as are the additional soil sampling locations. Commenters contend these are both necessary and useful information for overseeing the closure process and the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act (NMHWA) require provision of such information. NMED should LANL should be required to produce it for the final permit as it had been in 2010.

3. Necessary and Useful Information Missing from Section 2.2. COMMENT: Although the 2013 closure plan at Section 2.2. lists the type of materials incinerated in the

burn tray, the draft permit of 2010 provided a statement of the quantity of High Explosives that had been burned since 1980 (Section 3.0). Knowing the actual quantities of the materials burned at the site necessary and useful information in assessing the success of final site remediation. Commenters contend that this information is required to be provided in order for the New Mexico Hazardous Waste Bureau (HWB) to carry out the duties the RCRA and the HWA.

4. Necessary and Useful Information Missing from Section 2.3 and 3.0. COMMENT: The closure plan states that kerosene was used to fuel combustion to dispose of explosives. Although the closure plan states the percentage composition of the explosive materials incinerated and also states that each burn utilized approximately 1/2 gallon of kerosene, there is no statement of the total amount of kerosene burned during the combustion processes between 1980 and 2012 when records were kept of such activities. Missing from the data LANL has provided in the closure plan is the total number of burns that took place. This prevents an accurate calculation of the likely amount of kerosene used during that 32 year period. Kerosene and its combustion by-products are hazardous substances in addition to the hazardous constituents of the explosives burned at this site. It is likely that some amount well over 1,000 gallons of kerosene was partially burned during the process of outdoor incineration of some 255,685 pounds of High Explosives type explosives between 1980 and 2012 (32 years). Given that the burn tray was used between 1951 and 2012, it is likely that significantly more kerosene was utilized during the "undocumented" period from 1951 to 1980 (29 years). LANL should be required to search for documentation of the total amount of kerosene utilized in initiating combustion at the burn unit and account for the likely total by-products of such combustion. All such incineration produces highly toxic, carcinogenic by-product chemicals:

> Polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans (PCDD/PCDF) have never been produced intentionally but are unwanted byproducts of many chemical industrial processes and of all combustion processes. Almost all possible 210 congeners are released from these sources and, due to chemical, physical, and biological stability and long-range transport, are ubiquitous and have been detected in all environmental compartments. Due to the persistence of the 2,3,7,8-substituted congeners and the lipophilicity of these compounds, PCDD/PCDF accumulate in fatty tissues and in carbon-rich matrices such as soils and sediments.
>
> PCDD/PCDF exhibit biological effects commonly associated with chlorinated organic chemicals. Dioxin exposures are associated with an increased risk of severe skin lesions, altered liver function and lipid metabolism, general weakness associated with drastic weight loss, changes in activity of various liver enzymes, depression of the immune system, and endocrine and nervous system abnormalities. 2,3,7,8-Cl4DD is a potent teratogenic and fetotoxic chemical in animals and a potent promoter in rat liver carcinogenesis; it also causes cancers of the liver and other organs in animals.

United Nations Inter-Organization Program for the Sound Management of Chemicals, *Dioxin and Furan Inventories: National and Regional Emission of PCDD/PCDF*, UNEP Chemicals (1999) at 1 (emphasis added).

Commenters contend that all of the areas downwind and downstream of TA-16-399 require continued monitoring LANL's use of TA-16-399 for over sixty (60) years produced unknown quantities of dioxins, furans, soaked the ground with kerosene, and emitted and scattered the combustion products related to kerosene ignition (including, but not limited to, benzenes, xylenes, toulenes), in addition to emitting and scattering the by-products of the known High Explosives and unknown (1951-1980) by-products of undocumented hazardous materials in undocumented quantities. This area requires continued monitoring in order to comply with the requirements of RCRA and its implementing regulations under Title 40 of the Code of Federal Regulations.

5. NMED's proposal that no surface water and groundwater samples will be collected and analyzed as part of the Closure Plan "since sampling would be duplicative of sampling practice already in place for the unit under the Inter[im] Facility-Wide Ground Water [Monitoring] Plan (IFGWMP) is not protective of human health, safety and the watershed, and will not assure that closure of the site adequately remediates the natural and human environment. Fact Sheet (November 19, 2013) at 3. COMMENT: The unit 399 site is located at the top of the watershed. In order to protect the watershed, all of these wells should be monitored along with surface water monitoring. Use of TA-16-399 for over sixty (60) years produced unknown quantities of dioxins, furans, soaked the ground with kerosene, and emitted and scattered the combustion products related to kerosene ignition (including, but not limited to, benzenes, xylenes, toulenes), in addition to emitting and scattering the by-products of the known High Explosives and unknown (1951-1980) by-products of undocumented hazardous materials in undocumented quantities. This area requires continued monitoring in order to comply with the requirements of RCRA and its implementing regulations under Title 40 of the Code of Federal Regulations.

6. **Section 6.4.1 Base Flow. See App. B and Table 6.4-1** The Permittees state, "Because extensive data were collected during the past decade, continued semiannual monitoring for metals, VOCs, and explosive compounds released from TA-16 is recommended for surface water and groundwater in the watershed." 2009 IFGWMP, EP2009-0143, p. 24. COMMENT: As stated above, this is a site at the top of the watershed. All of these wells along with surface water must be monitored for releases of hazardous constituents from the site. Use of TA-16-399 for over sixty (60) years produced unknown quantities of dioxins, furans, soaked the ground with kerosene, and emitted and scattered the combustion products related to kerosene ignition (including, but not limited to, benzenes, xylenes, toulenes), in addition to emitting and scattering the by-products of the known High Explosives and unknown (1951-1980) by-products of undocumented hazardous materials in undocumented quantities. This area requires continued monitoring in order to comply with the requirements of RCRA and its implementing regulations under Title 40 of the Code of Federal Regulations.

7. **Section 6.4.2 Alluvial Groundwater.** There are three alluvial wells in Fishladder Canyon (FLC-16-25278, FLC-16-25279, and FLC-16-25280); but only one alluvial water in lower Water Canyon (WCO-2) will be monitored. 2009 IFGWMP, EP2009-0143, p. 25. COMMENT: All of these wells should be monitored. Use of TA-16-399 for over sixty (60) years produced unknown quantities of dioxins, furans, soaked the ground with kerosene, and emitted and scattered the combustion products related to kerosene ignition (including, but not limited to, benzenes, xylenes, toulenes), in addition to emitting and scattering the by-products of the known High Explosives and unknown (1951-1980) by-products of undocumented hazardous materials in undocumented quantities. This area requires continued monitoring in order to comply with the requirements of RCRA and its implementing regulations under Title 40 of the Code of Federal Regulations.

8. **Section 6.4.3 Intermediate-Perched Groundwater.** "The screening, described in section 1.7, identified several metal constituents (arsenic, beryllium, chromium, iron, manganese, and nickel) above the threshold." 2009 IFGWMP, EP2009-0143, p. 25. COMMENT: There needs to be monitoring of the intermediate perched ground water below gradient of TA-16-399 as use of TA-16-399 for over sixty (60) years produced unknown quantities of dioxins, furans, soaked the ground with kerosene, and emitted and scattered the combustion products related to kerosene ignition (including, but not limited to, benzenes, xylenes, toulenes), in addition to emitting and scattering the by-products of the known High Explosives and unknown (1951-1980) by-products of undocumented hazardous materials in undocumented quantities. This area requires continued monitoring in order to comply with the requirements of RCRA and its implementing regulations under Title 40 of the Code of Federal Regulations.

9. **Section 6.4.5 Springs**. Because of their proximity to SWMUs and AOCs and the presence of explosive compounds and barium contamination at TA-16-399, Burning Ground Spring, Peter Spring, Fish Ladder Spring, SWSC Spring, and Martin Spring are included in the Interim Plan." 2009 IFGWMP, EP2009-0143, p. 26. COMMENT: The closure plan needs to require continued, consistent, regular and frequent monitoring of these springs as for over sixty (60) years LANL's use of TA-16-399 produced unknown quantities of dioxins, furans, soaked the ground with kerosene, and emitted and scattered the combustion products related to kerosene ignition (including, but not limited to, benzenes, xylenes, toulenes), in addition to emitting and scattering the by-products of the known High Explosives and unknown (1951-1980) by-products of undocumented hazardous materials in undocumented quantities. This area requires continued monitoring of both ground water and surface water in order to comply with the requirements of RCRA and implementing regulations in 40 CFR.

10. Section 5.3 Structural Assessment. COMMENT: In over 60 years of operating this burn unit utilizing kerosene poured over excelsior to ignite explosives, there were undoubtedly accumulations of kerosene on the ground and concrete pad. There is no indication in the description of testing performed on July 19, 2012, that LANL drilled through the concrete pad to sample the soil below the unit. Given the nature of combustion utilized to dispose of explosive materials, the owner/operator should be required to

thoroughly test the pad and ground below it for kerosene and its combustion by-products as well as dioxins and furans, particularly as some of these are listed in Table 2. The soil below the concrete pad could provide a ground water pathway for chemical pollutants to migrate into the regional aquifer. Commenters contend that to comply with RCRA, the soils below the pad should be thoroughly tested for constituents of concern based upon the material combusted with kerosene over more than sixty (60) years.

11. Section 5.6 Decontamination of Structures and Related Equipment. COMMENT: The requirements of the same section in the draft 2010 closure plan were more thorough-going than those in the 2013 draft closure plan. No justification is provided in this section to indicate that LANL has done something to warrant easing the requirements set forth in the 2010 draft permit. Commenters contend that to comply with RCRA, the language in the 2010 closure plan should be in the current closure plan.

12. Section 6.0 Sampling and Analysis Plan. COMMENT: The requirements of the same section in the draft 2010 closure plan were more thorough-going than those in the 2013 draft closure plan. No justification is provided in this section to indicate that LANL has done something to warrant easing the requirements set forth in the 2010 draft permit. Commenters contend that to comply with RCRA, the language in the 2010 closure plan should be in the current closure plan.

13. Section 6.1 Sampling Activities. COMMENT: The requirements of the same section in the draft 2010 closure plan were more thorough-going than those in the 2013 draft closure plan--nor do the Section 4.1 performance standards and procedures in sections 6.2, 6.3 and 6.4--provide the requirements of the 2010 draft closure plan. No justification is provided in this section to indicate that LANL has done something to warrant easing the requirements set forth in the 2010 draft permit. Commenters contend that to comply with RCRA, the language in the 2010 closure plan should be in the current closure plan.

14. Section 6.1.2 Soil Sampling. COMMENT: This section is commendable in that it provides more thorough requirements for sampling than the 2010 draft closure plan. Commenters commend NMED for having expanded the scope of required soil sampling under the closure plan.

15. Section on Wipe Sampling no longer present: COMMENT: In the draft 2013 closure plan there was a description of and requirement for wipe sampling under section 6.2.3. This requirement stated:

> Surface wipe samples will be collected and analyzed to determine if residual hazardous constituents remain in the surfaces or related equipment at the unit. Samples will be collected in accordance with the National Institute of Occupational Safety and Health (NIOSH) Manual of Analytical Methods (NIOSH, 1994). The appropriate wipe sample method will consider the type of surface being sampled, the type of constituent being sampled, the solution used, and the desired constituent concentration

> detection limit. The NIOSH method includes wiping a 100 square centimeter area at each discrete location with a gauze wipe wetted with a liquid solution appropriate for the desired analysis (e.g., deionized water for lead). For wipe sampling, guidance from the analytical laboratory shall be obtained prior to wipe verification sampling to confirm that the solution chosen for each analysis is appropriate for the analysis to be conducted and that wipe sampling is a proper technique for the analysis.

Id. Commenters contend that this requirement is necessary to achieve the objectives of RCRA and should be in the 2013 closure plan for the unit.

16. Section 6.3.1 Chain-of-Custody. COMMENT: The requirements of the same section in the draft 2010 closure plan identified therein as 6.3.1.1) were more thorough-going and explicit and related to standard EPA requirements. Those in the 2013 draft closure plan lack that specificity and conformance to EPA standards. No justification is provided in this section to indicate that LANL has done something to warrant easing the requirements set forth in the 2010 draft permit. Commenters contend that to comply with RCRA, the chain-of-custody language in the 2010 closure plan should be in the current closure plan.

17. Section 6.4 Sample Handling, Preservation, and Storage. COMMENT: The requirements of the same section in the draft 2010 closure plan (identified therein as 6.3.2) were more thorough-going and explicit and related to standard EPA requirements. Those in the 2013 draft closure plan lack that specificity and conformance to EPA standards. No justification is provided in this section to indicate that LANL has done something to warrant easing the requirements set forth in the 2010 draft permit. Commenters contend that to comply with RCRA, the sample handling, preservation and storage language in the 2010 closure plan should be in the current closure plan.

18. Section 6.5 Sample Analysis Requirements. COMMENT: The requirements of the same section in the draft 2010 closure plan (identified therein as 6.4) were more thorough-going and explicit and related to standard EPA requirements. Those in the 2013 draft closure plan lack that specificity and conformance to EPA standards. No justification is provided in this section to indicate that LANL has done something to warrant easing the requirements set forth in the 2010 draft permit. Commenters contend that to comply with RCRA, the sample analysis requirements in the 2010 closure plan should be in the current closure plan.

19. Section 8.0 Closure Certification Report. COMMENT: The requirements of the same section in the draft 2010 closure plan (identified therein as 8.0) were more thorough-going and explicit and related to standard EPA and NMED regulatory requirements. Those in the 2013 draft closure plan lack that specificity and conformance to EPA standards. No justification is provided in this section to indicate that LANL has done something to warrant easing the requirements set forth in the 2010 draft permit. Commenters contend that to comply with RCRA, the closure certification report requirements should be at least as specific and complete as those set forth in the 2010 draft

closure plan and, significantly, contain language specifying the timing of the provision of the report, documentation supporting the independent registered professional engineer's certification tied to release from the closure financial assurance requirements in 40 CFR Section 265.143.

20. Section 9.0 Department Closure Assessment. COMMENT: Commenters commend NMED for including this requirement of a final agency inspection in the 2013 closure plan.

Respectfully submitted for the above organizations:

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